ENVIRONMENT PROTECTION AUTHORITY

NPI industry survey report

collation of responses 2006

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SUMMARY

The South Australian Environment Protection Authority (SA EPA) conducted a survey of industry National Pollutant Inventory (NPI) reporters to determine their current and future needs in relation to the NPI. The survey was aimed at companies who are currently submitting NPI reports for South Australian facilities.

This report explains the background and design of the survey, and addresses responses to each survey question.

Based on the results of the survey, a number of recommendations have been made that the SA EPA will consider for incorporation into an industry communication plan. This plan will be designed to ensure the needs of industry NPI reporters in South Australia are met.

1 INTRODUCTION

The National Pollutant Inventory (NPI) is an internet database[1] that provides information to the community, industry and government on the type and amounts of pollutants (90 substances[2]) emitted to the environment (air, land and water) throughout Australia. The NPI provides pollutant emission estimates for industrial and commercial sources, and for diffuse emissions.

Industry is required to estimate the pollutants emitted from their facility on an annual basis and report them to the relevant environmental authority in their state. To assist industry with reporting, a number of tools have been developed, both on a state and national basis, including:

- *National Pollutant Inventory Guide*[3] (to provide an overview of NPI reporting requirements and general information)
- industry specific manuals and handbooks (including calculation methods and default emission factors)
- calculation tools (designed to assist industry estimate their emissions from various parts of their facility).

The guide, manuals and calculation tools are updated when required.

In South Australia, the number of facilities reporting emissions has increased each year since the introduction of the NPI (for the 1998–1999 financial year) as shown in Figure 1.

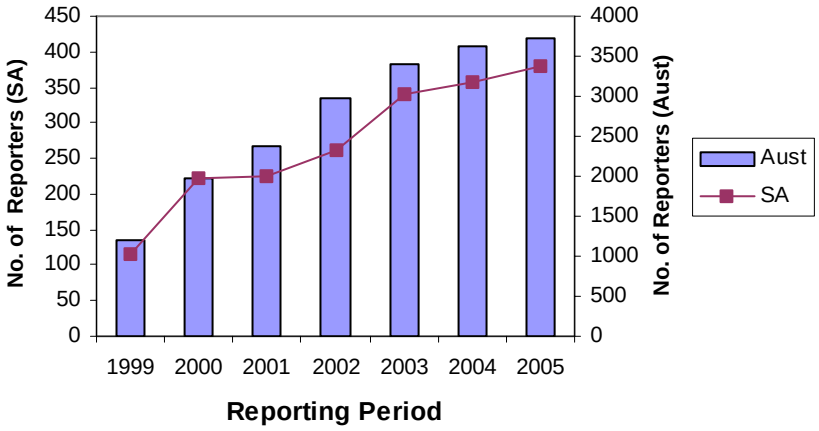

Figure 1: Number of industry NPI reporters in South Australia and Australia

[1] Located at <www.npi.gov.au>

[2] The list of substances reported to the NPI is currently under review

[3] Located at <http://www.npi.gov.au/handbooks/guidetoreporting.html>

2 SURVEY BACKGROUND AND DEVELOPMENT

Since the introduction of the NPI, the SA EPA has focused on:

- contributing to the development and maintenance of manuals and handbooks
- informing industry of the existence of the NPI
- contacting potential industry NPI reporters
- assisting facilities with their NPI reports
- developing and implementing procedures for validation of industry NPI reports
- contributing to the development and testing of the calculation tools.

While the manuals, reporting and validation process will require continual review and maintenance, the SA EPA has recognised the need for targeting its efforts in relation to industry reporting. It has become apparent that there is a need to increase industry's awareness of the NPI and assist facilities with the NPI reporting process.

In response to this, a survey was prepared based on a similar questionnaire conducted in Queensland and Northern Territory (Appendix A). The layout, wording and some questions were adopted to allow for possible interstate comparison later, if required.

The scope of the survey is to determine where improvements can be made to the NPI reporting process so that the needs of industry are met. The 203 companies, reporting on 381 facilities for the 2005–2006 reporting year, provided a reasonable number of potential respondents for the survey.

Issues on a larger scale, such as overall benefits of the NPI program which industries should report, and threshold levels, were not considered in this survey. These larger issues were addressed via a survey and subsequent review of the NPI program and the National Environment Protection Measure (NEPM) conducted by the Australian government. This survey was completed in 2005 with the review currently underway.

3 SURVEY RESPONSES

Surveys were distributed to 201 industry NPI reporters on 8 December 2005 with reminders sent on 16 and 30 January 2006. Submissions officially closed on 31 January 2006. However, completed surveys were accepted and included in this report after that date. Completion of the surveys was voluntary and the response rate was 59.1% (120 out of 203 surveys).

3.1 Technical support

The first section of the survey focused on technical support that would assist industry, and looked specifically at how industry rates current support and what future support would be appropriate.

NPI website

Question 1: I have used the NPI website <*www.npi.gov.au*> [and if so] *I have found the website useful*.

The NPI website is managed and maintained by the Australian government and the SA EPA provides input to the website.

Of the 120 respondents to this questionnaire, 83% had used the website with 73% of those finding it useful (Figure 2). It was of some concern that 17% of respondents had never used the NPI website even though it contains valuable information on the requirements for reporting to the NPI. Upon further consideration, it is thought that there may be some valid reasons for this such as:

- company has no access to the internet
- relevant calculation methods and requirements have been determined by a previous employee and are applied annually
- all required information is supplied by the SA EPA upon contacting new reporters.

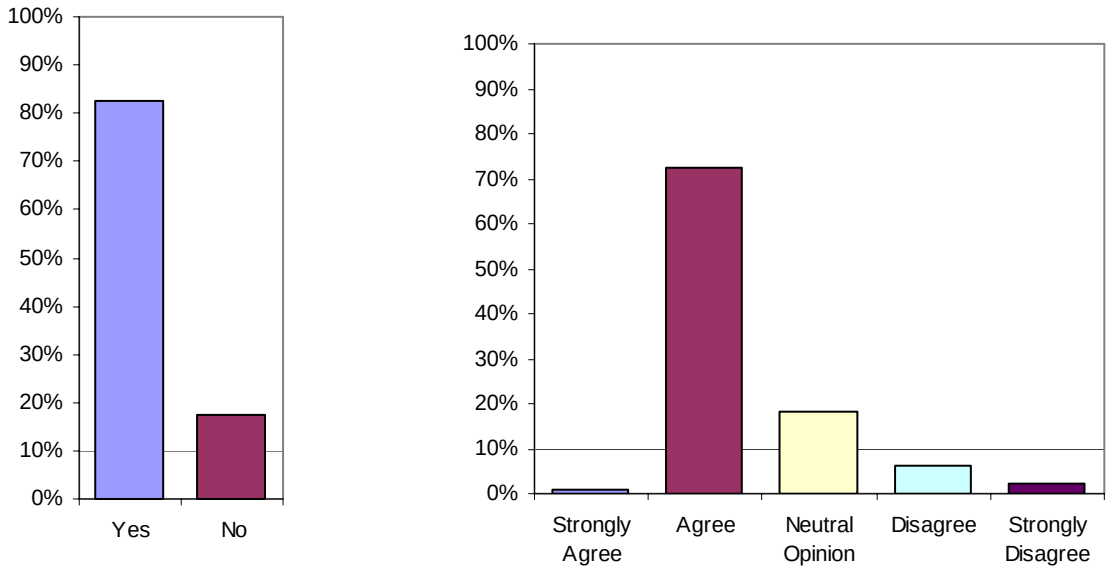

Figure 2: I have used the NPI website and I have found the website useful

Only 8% of respondents who used the NPI website did not find the site useful. This indicates that, for the majority of industry NPI reporters, the current information is sufficient. Therefore, updating the website in relation to reporter information should not be a high priority for SA EPA.

SA EPA website

Question 2: I have used the SA EPA website <www.epa.sa.gov.au> [and if so] *I have found the website useful*.

A section of the SA EPA website has been dedicated to providing information on the NPI <www.epa.sa.gov.au/npi.html> including general introductory information, quick links to the NPI website for industry, and SA-specific summary data.

A total of 73% of respondents had used the SA EPA website (Figure 3). However, as the question did not specify the NPI section of the website, it is impossible to determine how many used that section. Of the SA EPA website users, 78% found the site useful, 16% were of neutral opinion and only 6% did not find the site useful.

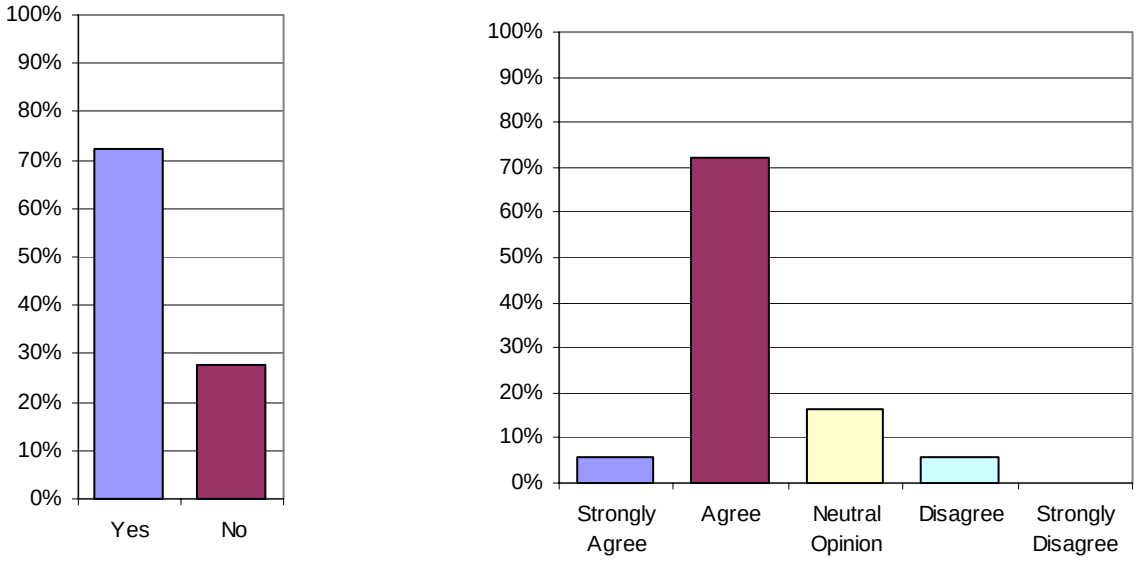

Figure 3: I have used the SA EPA website and I have found the website useful

While this indicates that updating the NPI section of the SA EPA website is not necessarily an urgent priority, the SA EPA has recognised the need for a review of the entire website. A review and update of the NPI portion of the website will occur during this review. In addition, all NPI web pages are reviewed every six months as part of an ongoing process.

Emission Estimation Technique Manual(s)

Question 3: I have used the NPI Emission Estimation Technique Manual(s) for my industry sector [and if so] *I found the manual to be useful.*

There are 93 Emission Estimation Technique (EET) Manuals available for download from the NPI website. An industry sector may require one or more EET Manuals and nine of the manuals are commonly used across multiple industry sectors.

A large majority, 77% of respondents, had used the EET Manual relevant to their industry sector (Figure 4). While it is of concern that 23% have not used an EET Manual,

this may be due to the development of calculation tools (which contain all the required equations from the manual) specifically those for wineries and piggeries. The calculation tools provide the equations and emission factors from the EET Manuals in an Microsoft Excel spreadsheet. These tools, combined with the National Reporting Tool (NRT) or paper reporting form, provide the means for NPI reporting required of wineries and piggeries. It is possible that previous employees established the method for NPI emission calculation themselves and their method has continued to be used since.

While these are valid reasons, it is of some concern that some companies do not use the EET Manuals and therefore may not be aware of any updates to the manuals. Thus, the SA EPA should provide regular updates to its reporters to ensure they are aware of updates to any of the manuals. It is recommended that this be an ongoing process and of medium priority.

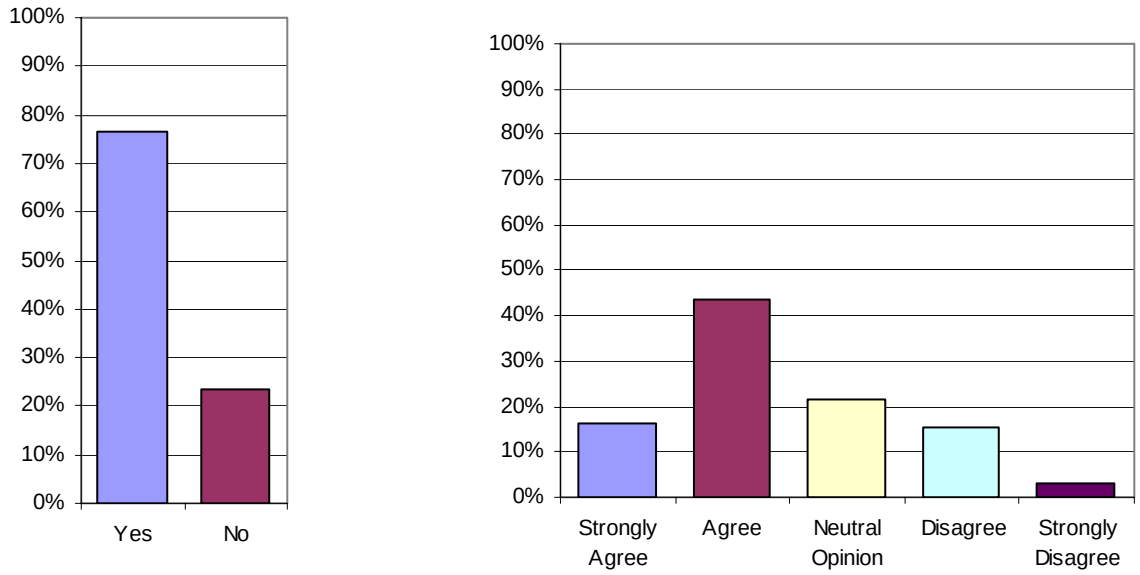

Figure 4: I have used my industry's EET Manual and I found the manual to be useful

Of the EET Manual users, 18% found that their manual was not useful. These respondents were from a range of industry sectors indicating that there may be an issue with the layout and information contained in the manuals. The Australian government is currently working on a shortened version of the manuals to simplify them to the minimum information required for reporting. Explanation would still be available in the extended version of the manuals if required. The cross-industry response to the usefulness of manuals indicates that this project should be supported. However, as 59% of reporters found the manuals useful, it should be of medium priority.

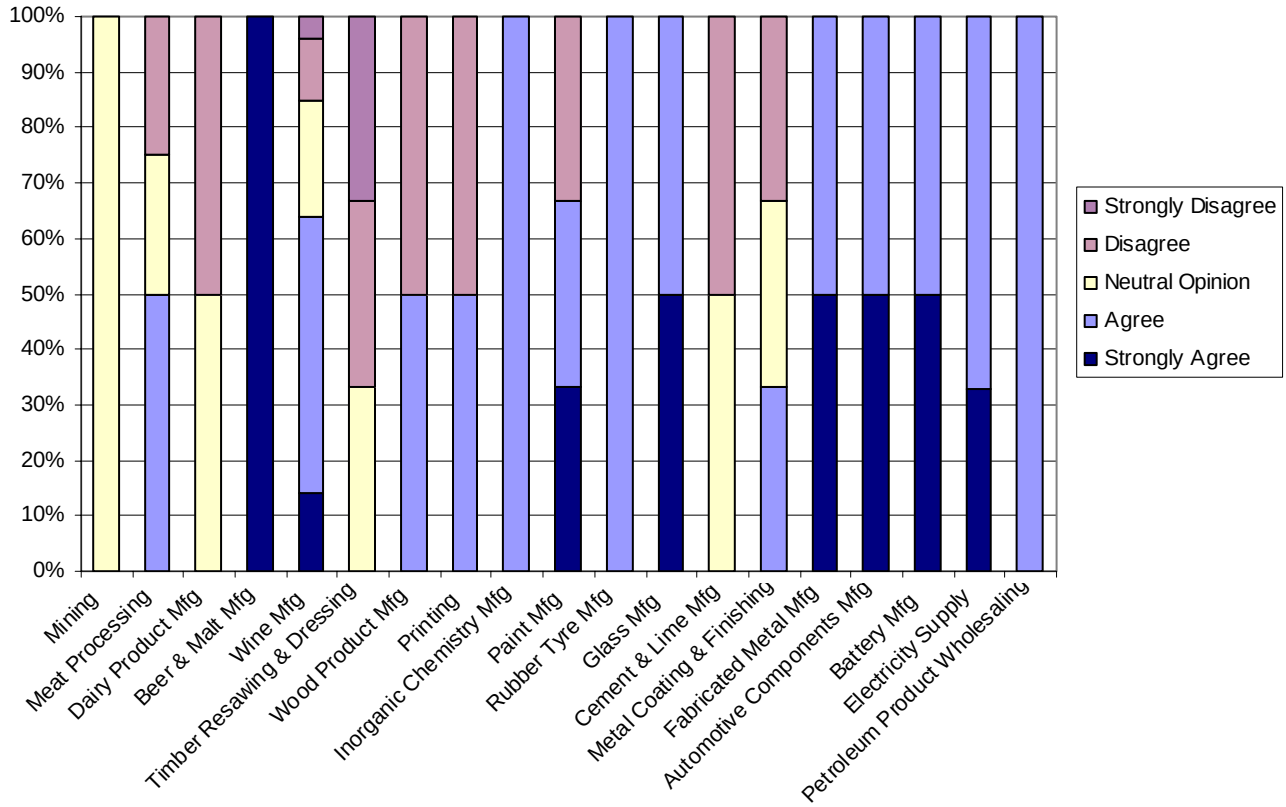

Figure 5: Usefulness of manuals as per ANZSIC code

For some industry sectors (based on the ANZSIC code) there were multiple respondents who were not satisfied with their manual. Therefore, it was possible to identify those manuals for which there are significant issues. It can be seen from Figure 5 that respondents from Mining, Dairy Product Manufacturing, Timber Resawing and Dressing, and Cement and Lime Manufacturing were not satisfied with their respective manuals (Figure 5). Therefore, these related manuals should be targeted for review and take priority over manuals with which the majority of respondents indicated their satisfaction.

As the industry survey was designed to provide only a general overview, an in-depth look at what was not useful about the EET manuals would be useful. This could be done by carrying out a follow-up survey of industry sectors not satisfied with their manuals, or by contacting respondents individually. As the Commonwealth is currently initiating a review of all manuals, conducting additional surveys at this time would duplicate workload. It would be more productive for the SA EPA to focus on supporting the Commonwealth in its review process.

	Recommendations for SA EPA	Priority
1	Send out information to industry NPI reporters on EET Manual updates	Medium
2	Send new industry NPI reporters a 'starter pack' including hard copy and electronic resources of NPI information	High
3	Support and assist the Commonwealth with the provision of 'short version manuals'	Medium
4	Support the Commonwealth during its review of manuals by providing information, and by contacting SA respondents if requested by the Commonwealth	Medium

Emission factors

Question 4: I have used the emission factors for my industry sector [and if so] *I found the factors to be representative.*

A number of methods for calculating emissions are outlined in the EET Manuals, one of which is emission factors. This involves multiplying a measurable aspect of an industry (e.g. amount of wood treated or kL of wine produced) by an emission factor to estimate an emission for the facility.

Of the 120 respondents, 71% had used emission factors for their emission calculations (Figure 6). The remaining 29% used other emission calculation techniques (mass balance, direct monitoring or engineering calculations).

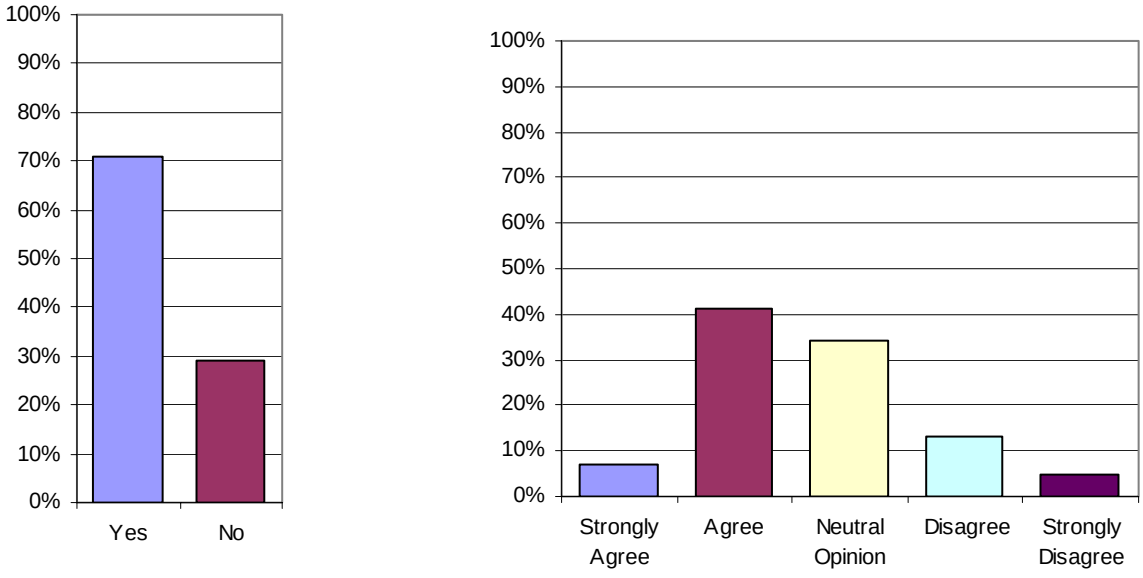

Figure 6: I have used emission factors and I found the factors to be representative

While 48% of emission factor users thought the relevant factors were accurate, 18% did not and 34% were of neutral opinion. There was a range of industry sectors whose respondents were not convinced of the representativeness of emission factors intended for their industry. In addition, some industry sectors provided more than one negative

response in relation to accuracy of emission factors. Five wineries and two timber processing facilities had negative responses. Negative responses received from wineries are outweighed by positive responses from 18 wineries that found the factors to be representative. However, a similar trend was not found for the timber and wood processing sector.

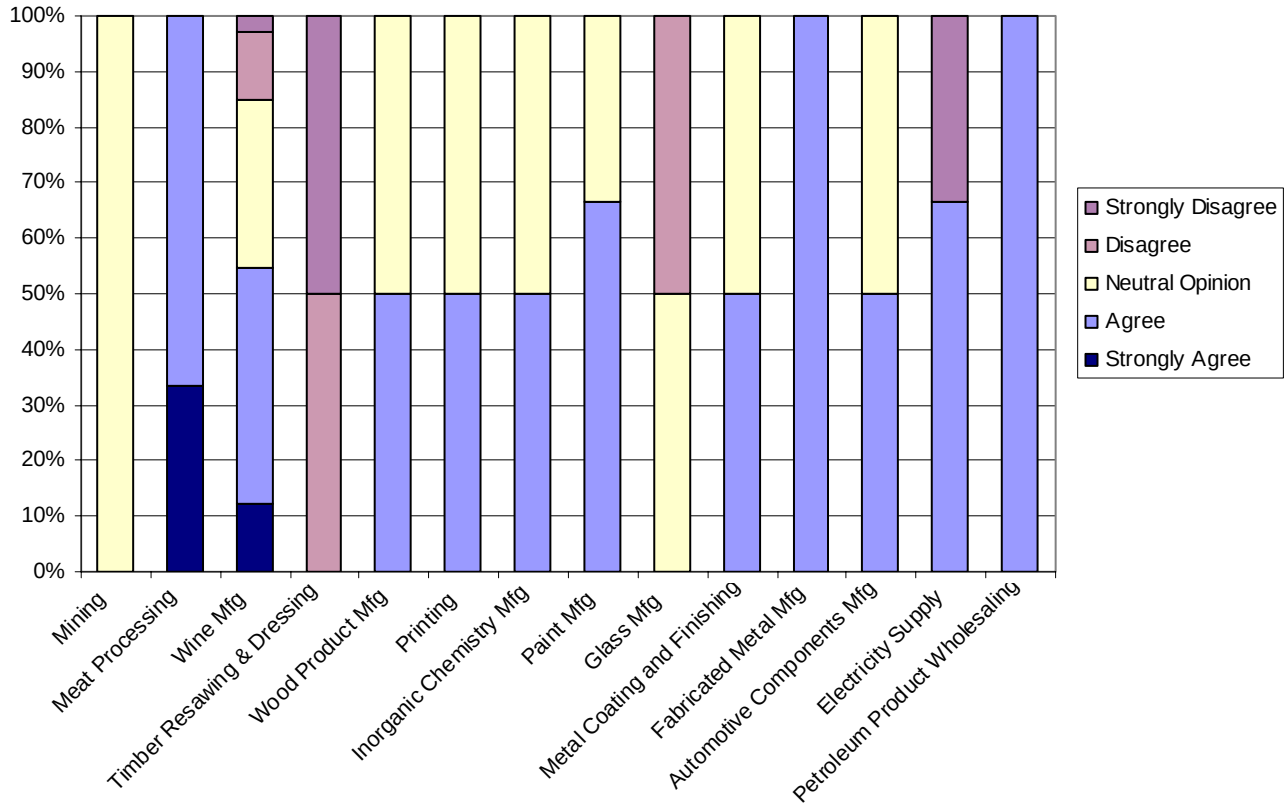

Figure 7: Representativeness of emission factors as per ANZSIC Code

Other sectors requiring investigation into their emission factors include Glass Manufacturing and Electricity Supply, although the Timber Resawing and Dressing sector has a higher priority (Figure 7). Negative and neutral responses from other industry sectors should also be studied further at a later date.

	Recommendations for SA EPA	Priority
5	Investigate emission factors for the timber resawing and dressing industry sector	Medium
6	Investigate emission factors for the winery industry sector	Low
7	Conduct a more comprehensive investigation into reasons why remaining industry sectors were not satisfied with emission factors intended for their industry	Low

NPI Guide

Question 5: I have used the NPI Guide [and if so] *I found the guide to be useful.*

The NPI Guide is available on the NPI website and provides an overview of the NPI including threshold calculations, general information on emission calculations, reporting requirements and methods, the substances, useful equations and unit conversion factors.

Three quarter (77%) of respondents had used the NPI Guide (Figure 8). The guide provides much of the base information for reporting to the NPI. Thus, it was assumed that the 23% who had not used the guide gained the required information from other sources such as previous employees and SA EPA staff.

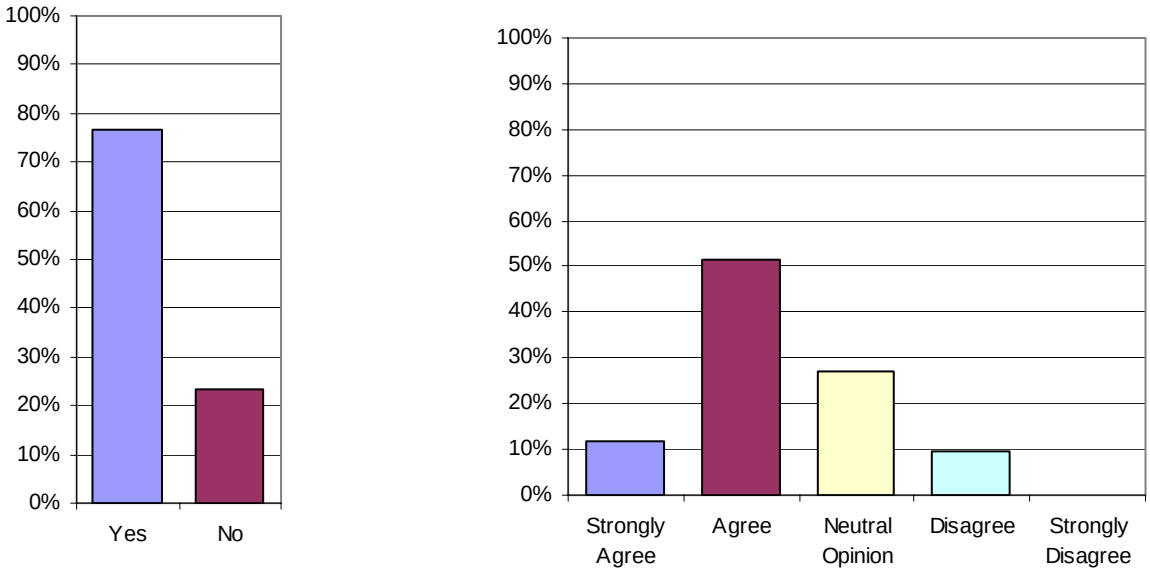

Figure 8: I have used the NPI Guide and I found the guide to be useful

The guide itself seems to be satisfactory in its current format with 74% of respondents who had used the guide finding it to be useful. Thus no action on this is currently required.

Calculation tools

Question 6: I am aware of the following calculation tools and have found them useful:

- *combustion in boilers*
- *FOLS (fuel and organic liquid storage)*
- *LABS (emissions for landfills)*
- *winery emissions*
- *piggery emissions*
- *WATER9 (emissions from wastewater treatment).*

There are currently five calculation tools available on the NPI website: combustion in boilers, FOLS, LABS, winery emissions and WATER9. In addition, the SA EPA has developed a piggery emissions calculation tool available from the NPI team.

Combustion in boilers

In addition to being available on the NPI website, the combustion in boilers tool is incorporated into the NRT. Fifty-seven per cent of respondents reported using the tool with 70% of those finding the tool useful (Figure 9). Due to the positive response in relation to this tool, combined with the fact that this tool is maintained by the Victorian EPA, no action on it is currently required.

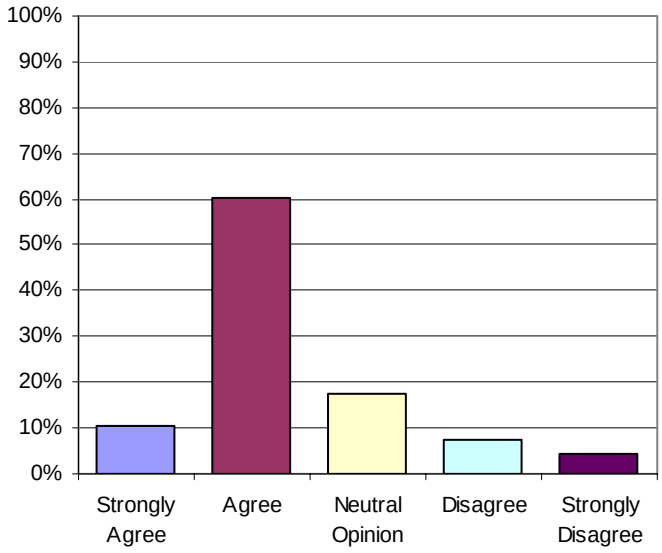

Figure 9: Usefulness of the combustion in boilers tool

Fuel and organic liquid storage

There are two tools available for the estimation of emissions for fuel and/or organic liquid storage: TANKS, the more complicated of the two, and FOLS. This survey focuses on FOLS. The FOLS tool was used by 31% of respondents, with 65% finding it useful (Figure 10). Only 11% did not find it useful, thus no action is currently required for this tool.

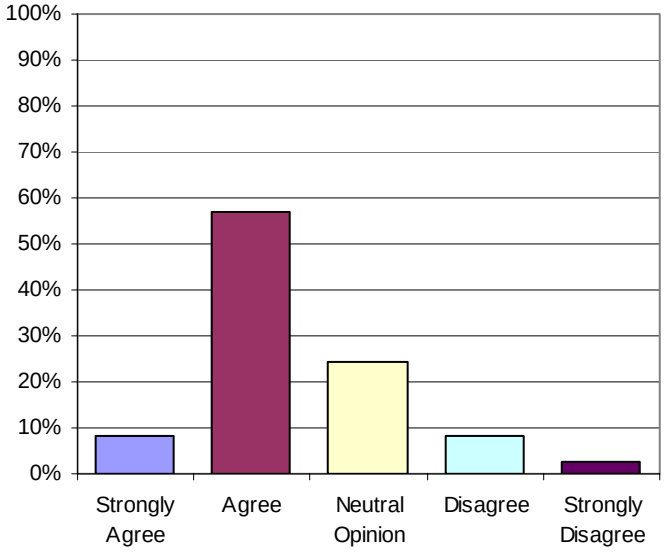

Figure 10: Usefulness of the FOLS tool

Emissions from landfills

Only 8% of respondents reported using the LABS calculation tool and the distribution of positive and negative responses to this tool was similar (Figure 11). This is also an area for which it is believed that additional facilities should be reporting. Therefore, this tool requires further reviewing and updating.

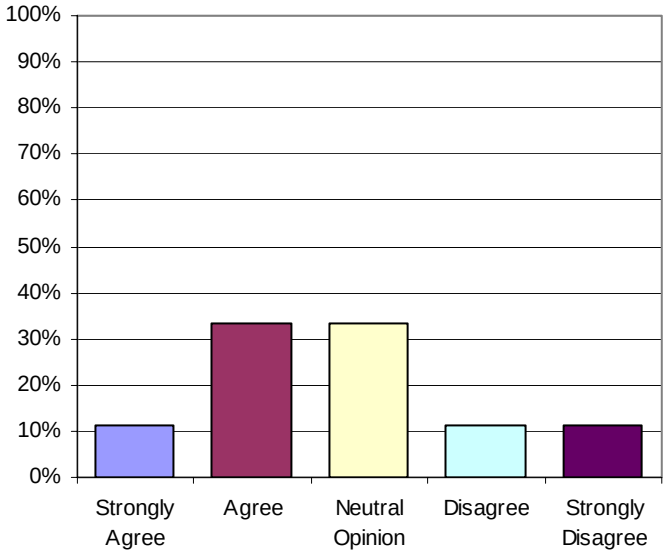

Figure 11: Usefulness of the LABS tool

Winery tool

Wineries make up one of the largest NPI reporting industry sectors in South Australia. Some 37% of respondents used the winery calculation tool with 71% of them finding the tool useful and only 10% reporting it was not useful (Figure 12). Thus, no immediate action is required for this tool. However, it should be reviewed on a regular basis to ensure its usability.

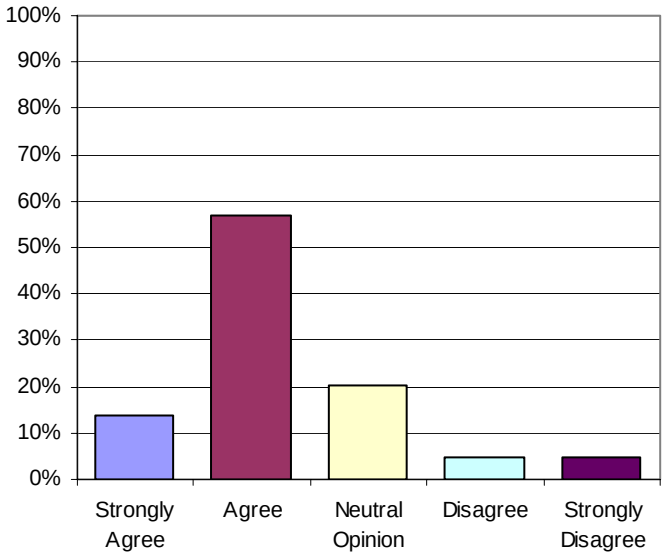

Figure 12: Usefulness of the winery tool

WATER9

It was found that 18% of respondents used WATER9 with 50% finding the tool useful, 36% having a neutral opinion and 14% finding it was not useful (Figure 13). As this is an American tool and half the respondents are satisfied with it, no action will be taken at this time.

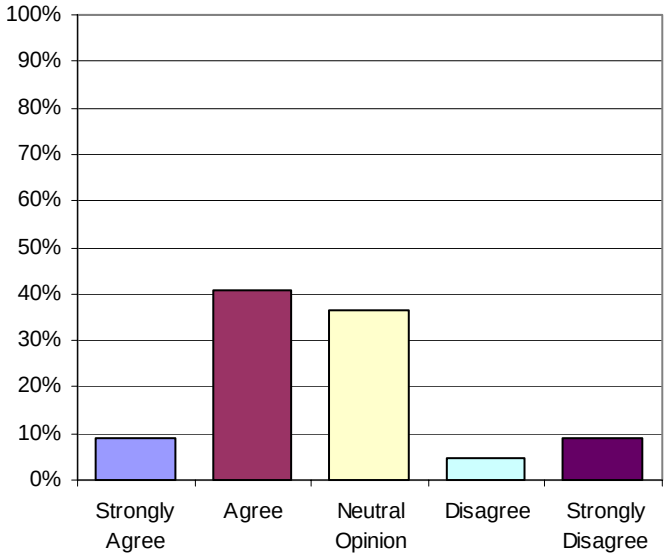

Figure 13: Usefulness of the WATER9 tool

Piggery tool

The SA EPA has only recently initiated and contacted the piggery industry sector in advising them of their NPI reporting requirements. So far only 3% of respondents had used the tool. One quarter found the tool useful, another quarter found it not useful and half had a neutral opinion (Figure 14). As this will be an expanding area for the next reporting period, this tool should be updated and placed on the NPI website.

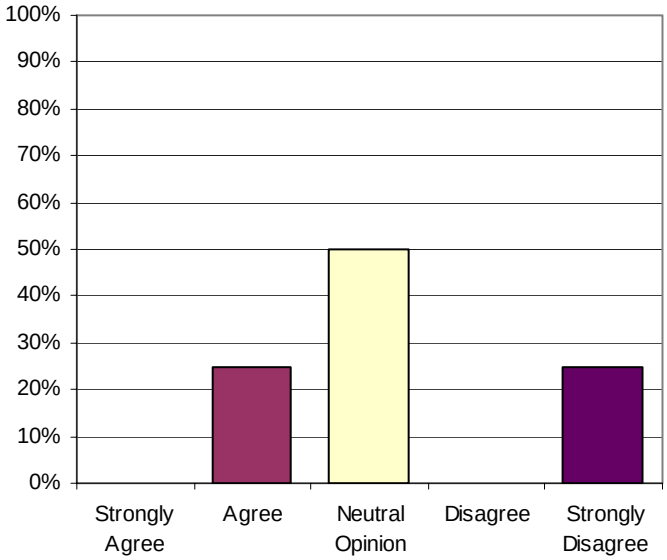

Figure 14: Usefulness of the piggery tool

	Recommendations for SA EPA	Priority
8	Update the LABS calculation tool	Medium
9	Maintain the winery calculation tool and update as necessary	Low
10	Update the piggery calculation tool and place on the NPI website	High
11	Include training on the use of tools as part of the NPI workshops	Medium

NPI Workshop

Question 7: If an NPI workshop was available, I would attend [and if so] *I would like the workshop to include:*

a) using the NRT

b) estimating emissions

c) summary of previous data

d) other.

Currently, the SA EPA does not conduct workshops on the NPI and instead runs one-on-one sessions for interested companies to assist with their reporting. Some workshops are conducted by interstate agencies with varying degrees of success.

Some 70% of respondents indicated that they would attend an NPI workshop if one was offered (Figure 15). Topics respondents would like included are:

- using the NRT (91%)
- estimating emissions (87%)
- summary of previous data (75%).

Thus, there seems to be merit in the SA EPA running workshops for NPI reporters.

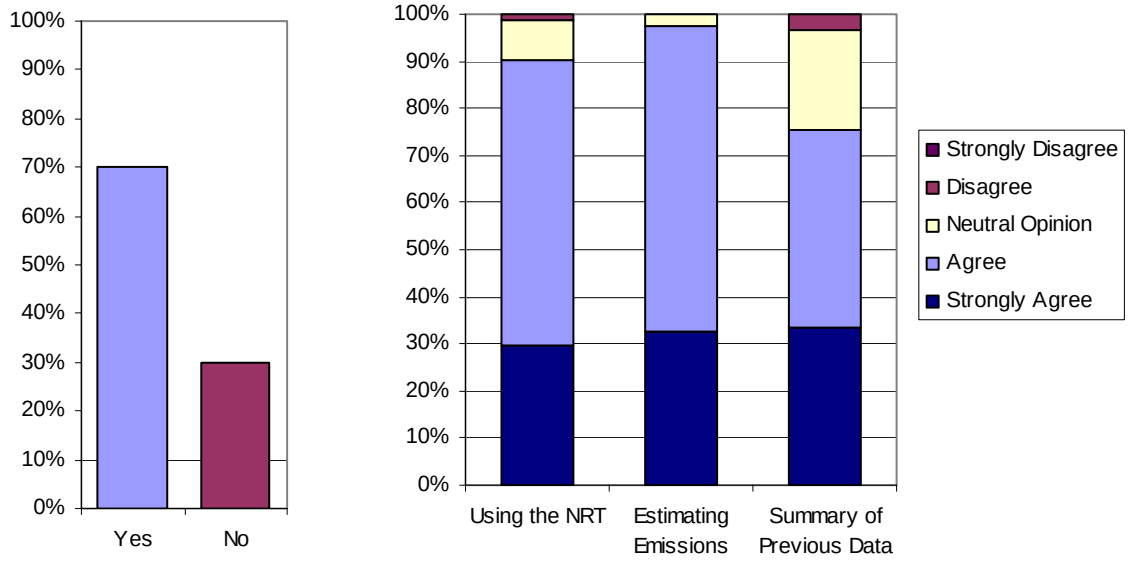

Figure 15: I would attend the workshop and the workshop should include…

Additional workshop information requests were for:

- the combustion tool
- estimation techniques (current and for industries that have no specified technique)
- estimation tools/models
- news about online reporting
- validity and accuracy of tools and EETs
- dioxin reporting
- development of tool to allow for minimal input.

Some facilities indicated they had previously attended workshops in other states. The additional comments support the need for including emissions estimation in a workshop and include the combustion tool, estimation techniques and estimation tools as possible discussion topics.

While the topics of the validity and accuracy of tools and EETs, dioxin reporting and additional tool development are valid issues, a workshop may not be the most suitable forum for dealing with these, as they will often be specific to the facility. However, issues common to an industry sector could be incorporated into workshop discussion. Site-specific issues should be taken up with the individual facility.

	Recommendations for SA EPA	Priority
12	Organise and run NPI workshops for industry	Medium
13	Contact facilities that have site-specific concerns	Medium

NPI team member

Questions 8a and 8b: I have spoken with an NPI team member (SA EPA) [and if so] *I have found the interaction useful. If the interaction was not useful please provide details on why and how it can be improved.*

Industry reporters are able to access assistance from the SA EPA via a dedicated NPI phone line (08–8204 9095) and email <npi@epa.sa.gov.au>. Of the 77% of respondents who had spoken with an NPI team member, 92% found the interaction to be useful (Figure 16). Only 2% did not find the interaction useful and while this is a small percentage, the SA EPA should aim for this to be rectified.

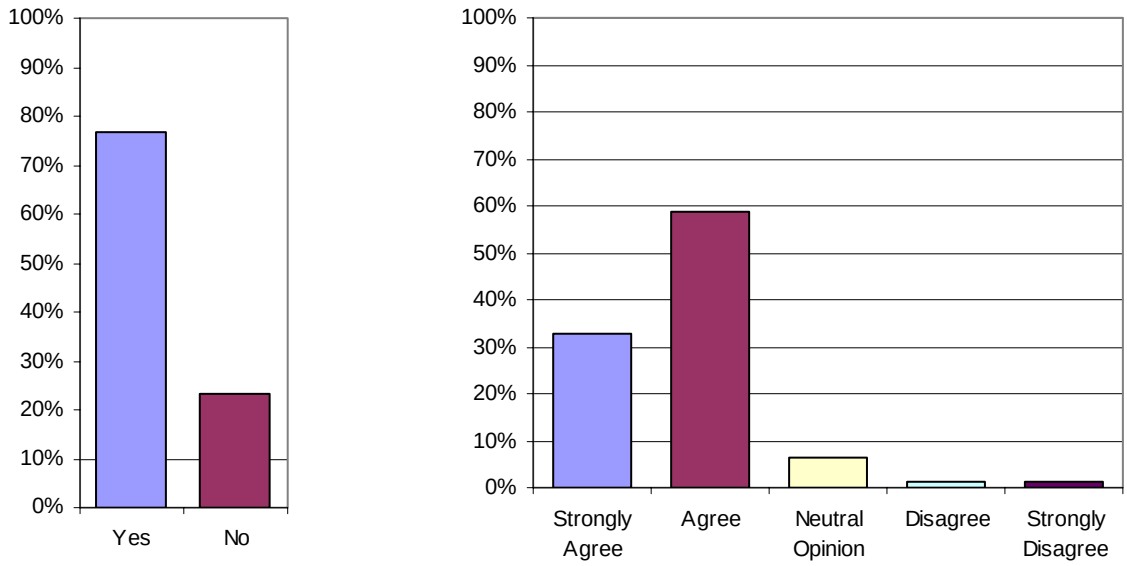

Figure 16: I have spoken to an NPI team member and I found the interaction useful

Additional comments about interactions with NPI team members:

- national NPI reporter is Melbourne-based, thus contacts Victorian EPA
- difficult to contact the SA NPI staff
- process frustrating
- very little assistance for specific industry.

While the dedicated phone line is not manned constantly, there is an additional option to leave a message or send an email. SA EPA attempts to respond to queries promptly. The respondent who commented on a lack of assistance for the specific industry did so as they have difficulty reporting each year as there are currently no emission factors for this facility. This issue will be addressed through a review of the manuals currently being conducted on a national level.

	Recommendations for SA EPA	Priority
14	Increase reporter assistance by responding to all queries within two working days	High
15	Form closer ties with industry groups, and supply information to them on NPI reporting and the assistance that is available	Medium

NPI publications

Question 9: I am interested in receiving NPI publications, [and if so] *I would like to receive information on:*

a) summary data

b) changes to manual(s)/emission factors

c) how to use the data

d) other.

Currently, SA EPA publications are made available on the NPI sporadically. The Australian government publishes NPI Summary Reports on an annual basis.

In Figure 17, respondents indicated that they would like to receive NPI publications (85%) including:

- summary data (92%)
- changes to manuals/emission factors (93%)
- how to use data (88%).

The summary data can be accessed through the NPI Summary Reports which are published on a national level by the Commonwealth and at a state level by SA EPA. Changes to manuals/emission factors are reported in the newsletter sent out by the SA EPA. The aim is to send newsletters to industry annually, at a minimum. The *Interpretive Guide for the NPI* (2005) has been published to provide detail on how to use the data.

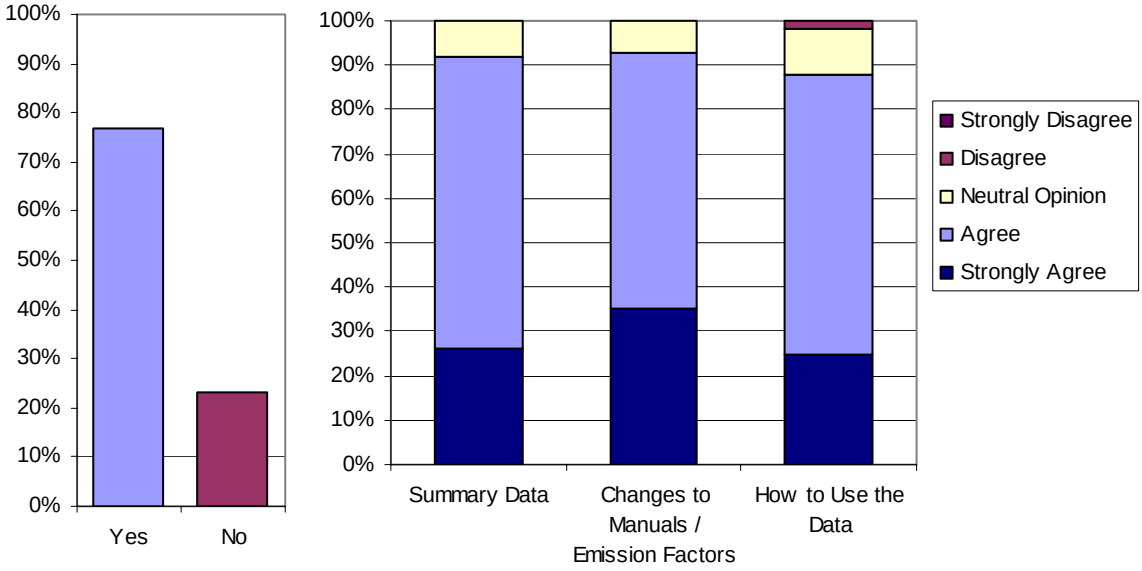

Figure 17: I would like to receive NPI publications and receive information on…

Additional comments in relation to NPI publication material:

- new EETs
- news about online reporting
- rulings on estimation or reporting emissions specific to South Australia.

Additional information requested by respondents for inclusion in publications should be incorporated into future publications.

	Recommendations for SA EPA	Priority
16	Continue to produce state NPI Summary Reports and newsletters, produce them on an annual basis rather than sporadically and include information requested by respondents	Medium

	Recommendations for SA EPA	Priority
17	Investigate the possibility of writing industry specific reports where sufficient reporters exist within the industry sector	Low
18	Advertise the release of the Interpretive Guide for the NPI to industry	High

Reminder

Question 10: I would like to receive a reminder before the reporting due date [and if so] *I would like to receive it:*

- *via e-mail*
- *via letter.*

Currently, the SA EPA sends out reminder emails to facilities prior to the submission date. Companies registered for the NRT also receive an additional reminder in the form of the NRT support file (attached to an email).

Figure 18 shows that 89% of respondents indicated that they would like to receive a reminder, with 91% preferring email, 4% a letter and 6% both.

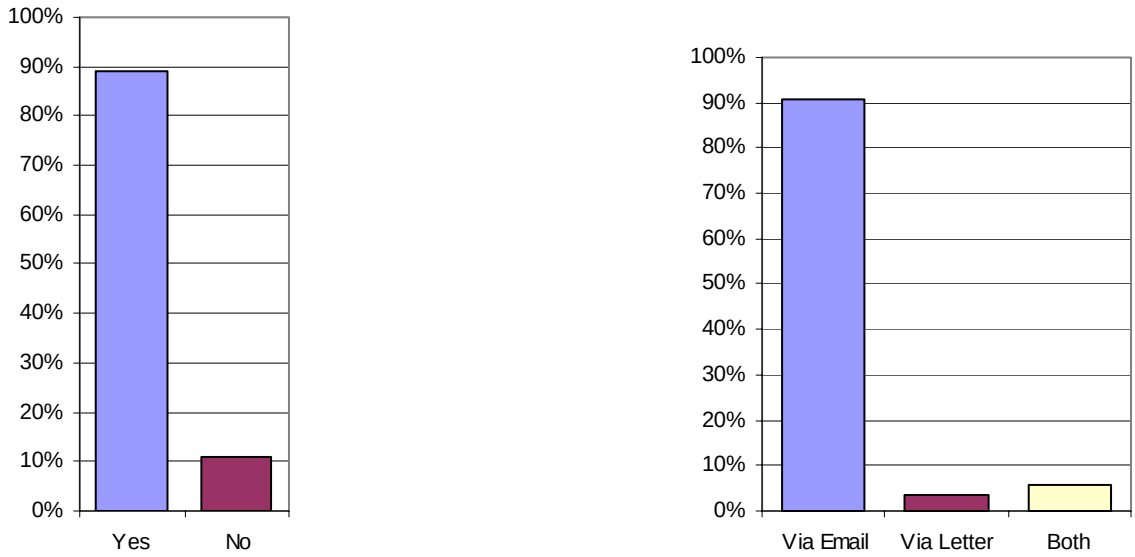

Figure 18: I would like to receive a reminder and I would like to receive it via…

As the majority of respondents would like a reminder, the SA EPA reminder email should continue as a high priority. While the EPA would prefer to issue all reminders electronically, previous attempts at this resulted in some companies not receiving them. This was due to companies either not having email access or a change in staff resulted in use of an outdated email address. Thus the letter reminder should commence as a high priority.

	Recommendations for SA EPA	Priority
19	Continue to send reminder emails	High
20	Commence sending reminder letters	High

Future technical support

Question 11: In future, an important form of technical support for me will be:

a) the website
b) NPI publications
c) workshops/seminar
d) the manuals
e) additional calculation tools
f) contact with NPI team member
g) a consultant
h) another form of technical support.

A large proportion of respondents supported all options for technical support for the future, with the exception of use of a consultant (Figure 19). The degree to which respondents indicated interest in future technical support is as follows:

- the NPI website (92%)
- additional calculation tools (85%)
- the EET manuals (81%)
- NPI publications (79%)
- contact with a NPI team member (79%)
- workshops/seminars (68%)
- a consultant (30%).

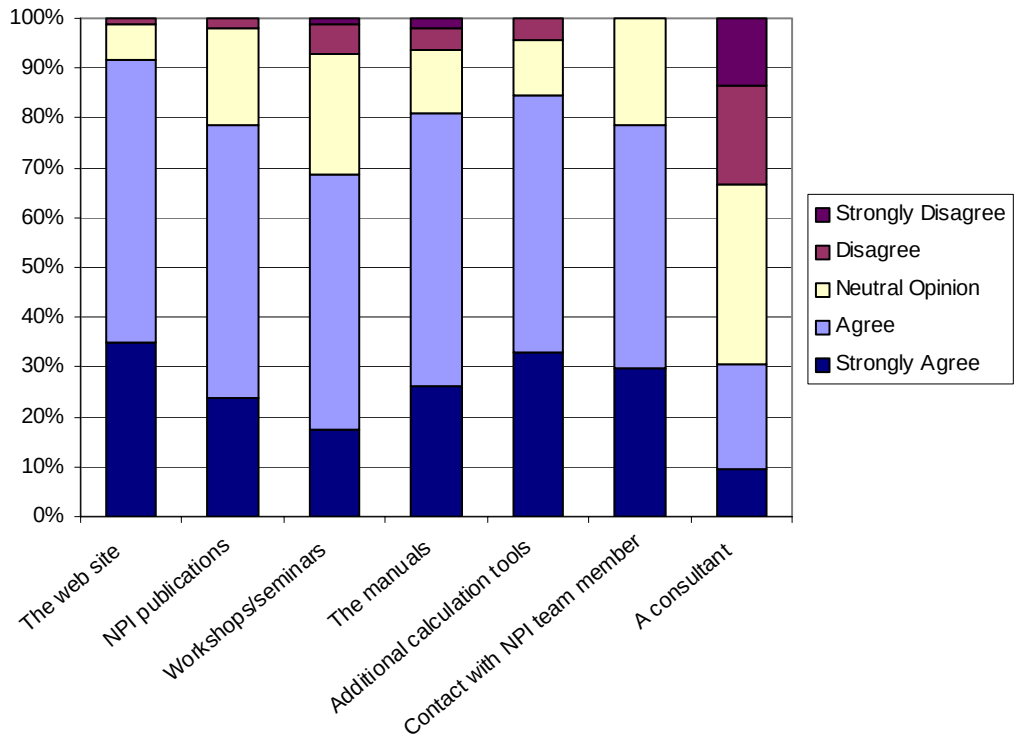

Figure 19: In future an important form of technical support will be…

Progressing with the EET Manuals, NPI publications, contact with an NPI team member and workshops/seminars have previously been addressed in this report. While earlier comments indicate that the NPI website is useful, it is important that the SA EPA continue to influence the Australian government in the updating of the NPI website. The development of additional calculation tools should also be investigated.

	Recommendation for SA EPA	Priority
21	Investigate and develop additional calculation tools	High

Greenhouse gases

Question 12: In future, if NPI reporting includes calculations of greenhouse gas emissions, I will require specific technical support.

The current NEPM review is considering the inclusion of greenhouse gases in the NPI. A total of 76% of respondents indicated that if this is implemented, they would need assistance (Figure 20).

This is a low priority as greenhouse gases are not currently included in the NPI NPEM. However, it would increase in priority if the outcomes of the NEPM review include the incorporation of greenhouse gases in the NPI.

It is assumed that training material for this would be produced on a national level. However, the actual training of industry NPI reporters would be conducted on a state level.

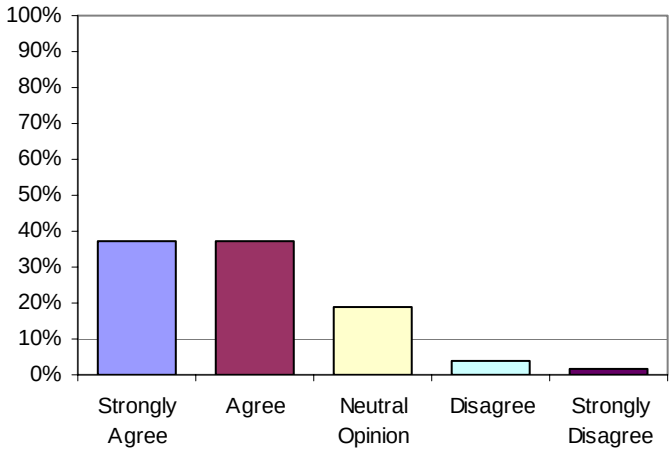

Figure 20: Assistance with greenhouse gases required

	Recommendation for SA EPA	Priority
22	If greenhouse gases are incorporated into the NPI, distribute training packages for NPI reporters. Training packages could include printed material, workshops/seminars and phone support	Low[4]

Waste transfers

Question 13: In future, if NPI reporting includes calculations for waste transfers[5], I will require specific technical support.

The NEPM review is assessing the possibility of including waste transfers in the NPI program. Seventy-one per cent of respondents indicated that if this occurs, they will need assistance with including waste transfers in their report (Figure 21).

As is the case with greenhouse gases, the issue of technical support regarding waste transfers will increase in priority if the NEPM review determines that they will be included in the NPI.

[4] Priority to change to 'high' if greenhouse gases are incorporated into the NPI

[5] 'Transfer' is the transport or movement, on-site or off-site, of substances contained in waste for:
(a) containment
(b) destruction
(c) treatment which leads to:
(i) reuse, recycling or reprocessing
(ii) purification or partial purification
(iii) remediation
(iv) immobilisation.
(d) energy recovery.

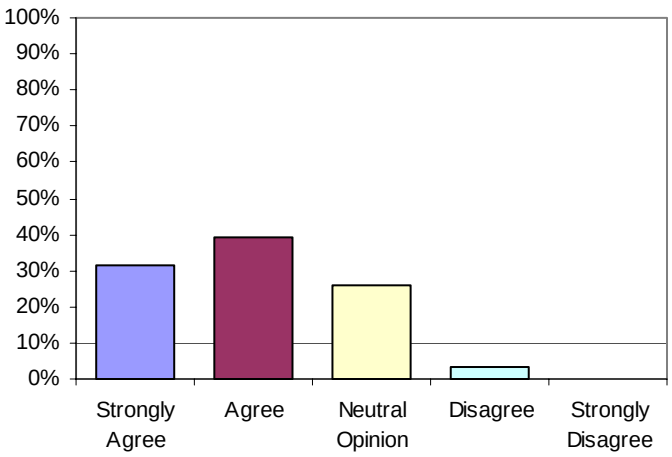

Figure 21: Assistance with waste transfers required

	Recommendation for SA EPA	Priority
23	If waste transfers are incorporated into the NPI, distribute training packages for NPI reporters. Training packages could include printed material, workshops/seminars and phone support	Low[6]

Additional comments

Question 14: Further comments on technical support.

Additional comments provided by the respondents ranged from general comments on issues with the NPI to comments specific to South Australia. Comments in relation to the process being difficult to understand and time consuming will hopefully be addressed through the introduction of the online reporting system.

Additional comments in relation to technical support:

- NPI reporting process is difficult to understand
- process is time consuming
- process requires more accuracy
- technical support hotline during business hours required
- technical information should be available on the internet
- NPI contact person required
- technical support should be as industry specific as possible
- rulings specific to South Australia should be provided
- if greenhouse gases are included, should be consistent with reporting requirements to Australian Greenhouse Office
- need to look at waste transfers linkage with waste transport currently reported to EPA
- need to look at data provided to EPA under licence versus NPI.

[6] Priority to change to high if waste transfers are incorporated into the NPI

The comments in relation to having an NPI contact person and technical information being available on the internet were of some concern as these currently exist. Raising awareness of these should be incorporated into the workshops.

Unfortunately, some information currently reported to the SA EPA is not in a suitable format for use in the NPI as the requirements between the two differ slightly[7]. The requirements for reporting greenhouse gases and waste transfers will be looked at on a national basis once the decision is made about whether to include them or not.

	Recommendation for SA EPA	Priority
24	Include training on the NPI website in the workshops	Medium

3.2 Reporting

The second section of the survey deals with NPI reporting including usage, threshold and emission calculations, reporting method (current and future) and post submission feedback.

Applying thresholds

Question 1: I am satisfied with my level of understanding of how to apply the following thresholds for reporting:

a) *NPI substances*
b) *volatile organic compounds (VOCs)*
c) *fuel*
d) *nitrogen and phosphorus.*

There are three categories of thresholds for determining reporting requirements for the NPI. These are: substance usage (10 tonnes for most substances and 25 tonnes for TVOCs or total volatile organic compounds), fuel and electricity usage (400 and 2000 tonnes of fuel or 60 000 mega Watt Hours of electricity); and nitrogen and phosphorus emissions (15 tonnes total nitrogen and 3 tonnes total phosphorus to water).

NPI substances

The 10-tonne usage (Category 1) threshold applies to 83 of the 90 NPI substances. The NPI Guide defines 'use' as the handling, manufacture, import, processing, coincidental production or other use of a substance. Seventy-one per cent of respondents indicated they were satisfied with their level of understanding of this threshold (Figure 22). However, 7% disagreed and felt a greater understanding was required, and 22% were of neutral opinion.

[7] For example, the EPA may require emission concentration data. This information alone is not sufficient to calculate emission loads.

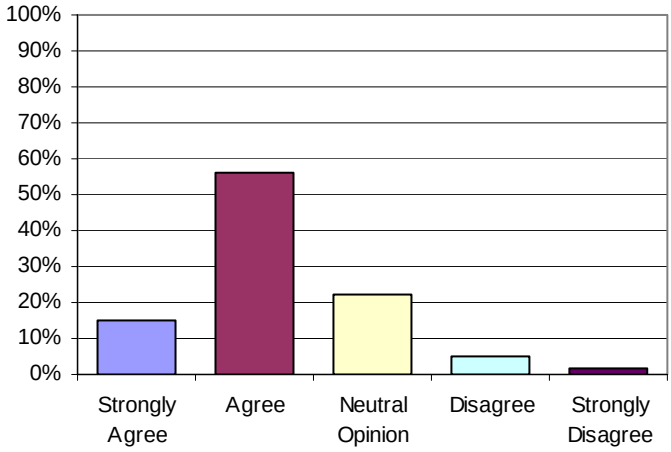

Figure 22: Understanding of NPI substances threshold

Volatile organic compounds

The Category 1a threshold only applies to volatile organic compounds. This threshold relates to usage, as does Category 1, but has a limit of 25 tonnes. Most respondents (62%) indicated that they were satisfied with their understanding of this threshold (Figure 23). However, 26% were not sure and 12% were not satisfied with their level of understanding.

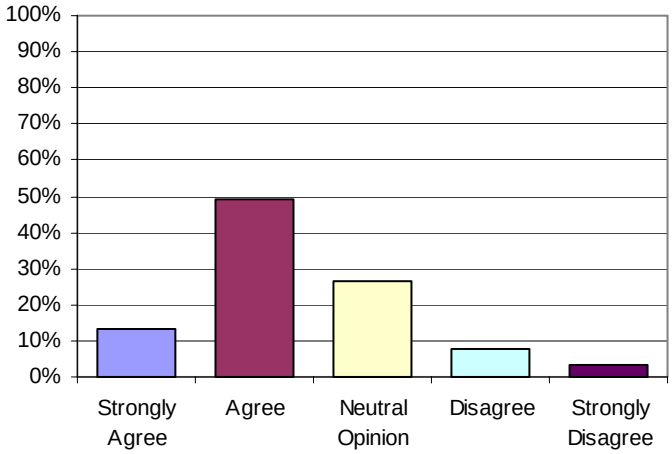

Figure 23: Understanding of TVOC threshold

Fuel

Fuel usage is important for both Category 2a and 2b thresholds. If a facility uses more than 400 tonnes of fuel (e.g. wood, petrol, LPG) they are required to report on all Category 2a substances[8]. If the fuel usage exceeds 2000 tonnes, reporting on all Category 2b substances[9] is required. The emissions of these substances from anywhere in the facility must be reported (not just the portion that results from fuel burning).

[8] Category 2a substances—carbon monoxide, fluoride compounds, hydrochloric acid, oxides of nitrogen, particulate matter 10 µm and less, polycyclic aromatic hydrocarbons, sulfur dioxide, total volatile organic compounds

[9] Category 2b substances—arsenic and compounds, beryllium and compounds, carbon monoxide, cadmium and compounds, chromium (III) compounds, chromium (VI) compounds, copper and compounds, fluoride compounds, hydrochloric acid, lead and compounds, magnesium oxide fume, mercury and compounds, nickel and compounds, nickel carbonyl, nickel subsulfide, oxides of nitrogen, particulate matter 10 µm and less, polychlorinated dioxins and furans, polycyclic aromatic hydrocarbons, sulfur dioxide, total volatile organic compounds

While 9% of respondents were not satisfied with their level of understanding of this threshold, 71% were, and only 20% had a neutral opinion (Figure 24).

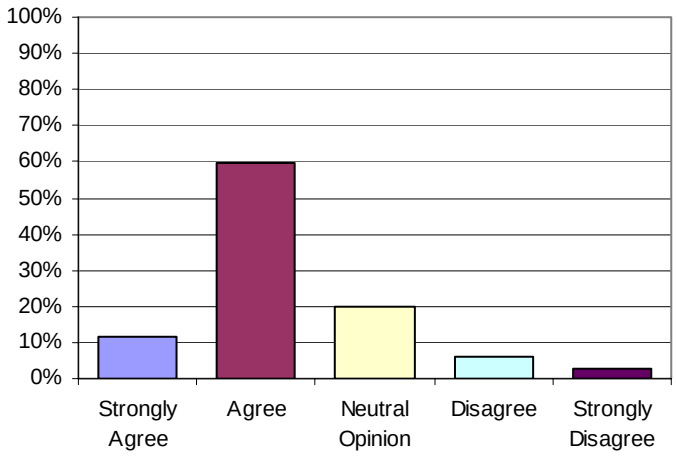

Figure 24: Understanding of fuel usage thresholds

Nitrogen and phosphorus

The Category 3 threshold is the only threshold related to the emission level. If more than 15 tonnes of nitrogen or 3 tonnes of phosphorus are emitted to water, these substances must be reported on. Only 44% of respondents indicated they understood this, 14% felt they didn't and 42% were of neutral opinion (Figure 25). While this indicates a lower level of understanding for this threshold, in South Australia the majority of facilities are not legally allowed to discharge to water, and therefore the number of facilities for which this threshold is relevant is minimal.

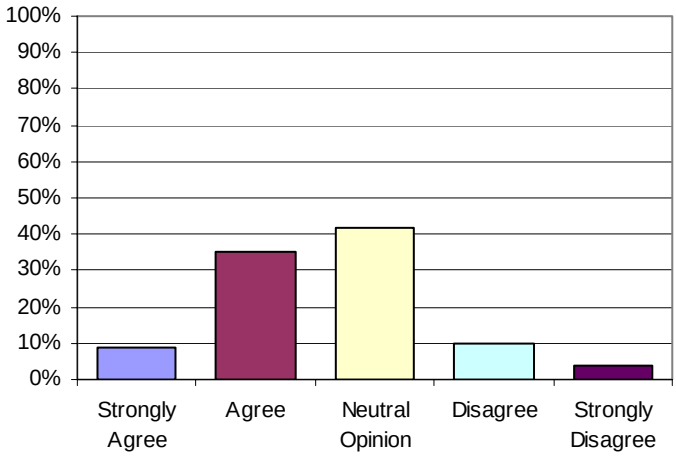

Figure 25: Understanding of nitrogen and phosphorus thresholds

Overall, the general understanding of the thresholds is good. However, there is an indication that this could be improved. The NPI thresholds should be covered in the workshops.

	Recommendations for SA EPA	Priority
25	Include a discussion on NPI thresholds in the NPI workshops	Medium
26	Provide more easily understood information on the thresholds on the SA EPA website	Medium

Technique selection

Question 2: I am satisfied with my level of understanding of which technique to use for emissions estimation at my facility (e.g. mass balance, emission factors, engineering calculations, direct measurement).

There are a number of methods available for calculating NPI emissions including mass balance, engineering calculations, emission factors and direct measurement. In addition to these, facilities are able to develop their own method and, with approval from the SA EPA, calculate emissions using that method.

Once again, over half of the respondents (59%) indicated satisfaction with their level of understanding of which technique to use for their emissions (Figure 26). However, 24% were of neutral opinion and 17% required further information. Technique selection should be included in the workshops.

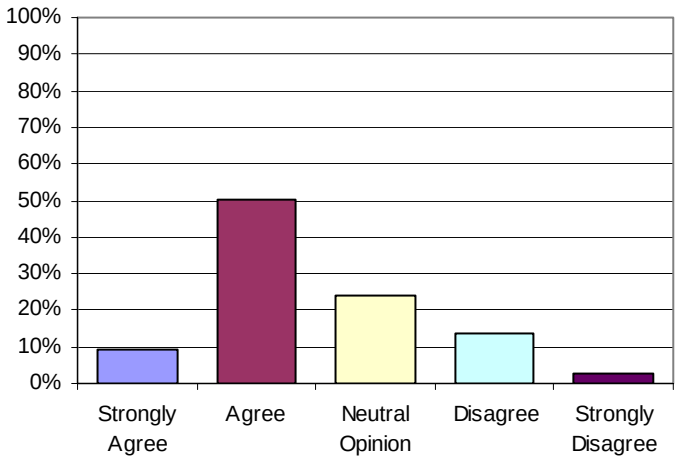

Figure 26: Understanding of technique selection

	Recommendation for SA EPA	Priority
27	Include a discussion on technique selection in the NPI workshops	Medium

EET calculations

Question 3: I am satisfied that I can perform the calculations necessary for each of the following emission estimation techniques:

a) *mass balance*
b) *emission factors*
c) *engineering calculations*
d) *direct measurement.*

Each calculation method (mass balance, engineering calculations, emission factors and direct measurement) requires different equations, input values and calculations.

Mass balance

Mass balance calculations involve calculating the amount of a substance going into and coming out of a facility (or process or piece of equipment) and determining the difference (which gives the emission).

Only 40% of respondents felt they could perform mass balance calculations with 26% believing they could not satisfactorily do this (Figure 27).

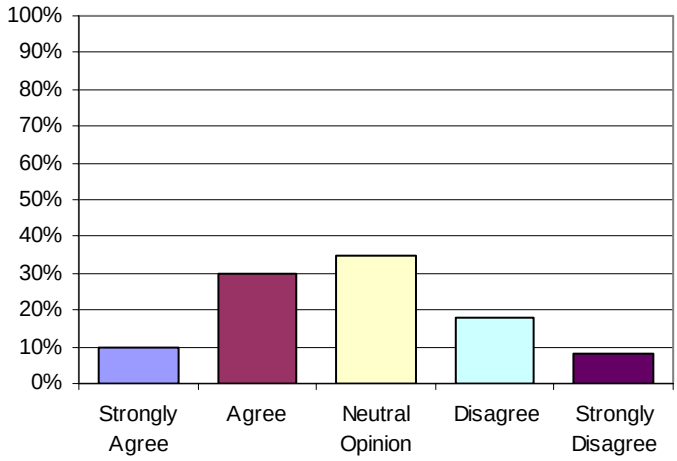

Figure 27: Understanding of mass balance EET

Emission factors

As previously mentioned, emission factors involve multiplying a measurable aspect of an industry (e.g. amount of wood treated or kL of wine produced) by an emission factor to give an emission. The factors are obtained from the relevant EET Manual.

More than half (61%) of respondents were confident with this method while 15% were not satisfied they could perform the necessary calculations (Figure 28).

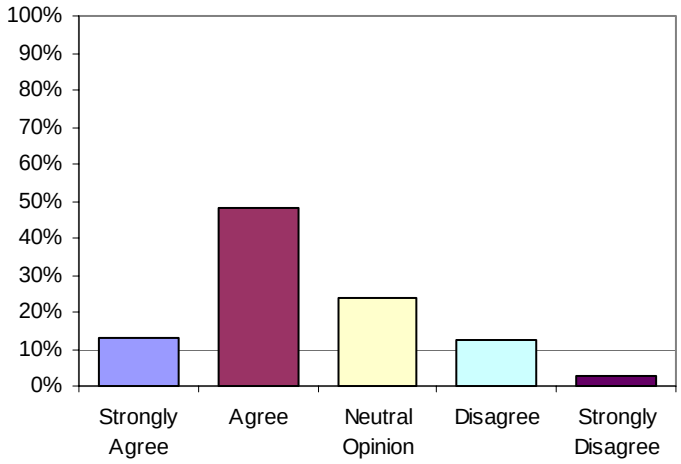

Figure 28: Understanding of emission factors EET

Engineering calculations

This method uses the chemical and physical properties of substances to calculate emissions (e.g. vapour pressure of a substance and surface area can be used to calculate evaporation rates and thus emissions).

This method was the least understood by the respondents with only 37% indicating they believed they could satisfactorily perform these calculations (Figure 29). However 28% felt they could not use engineering calculations to determine their emissions.

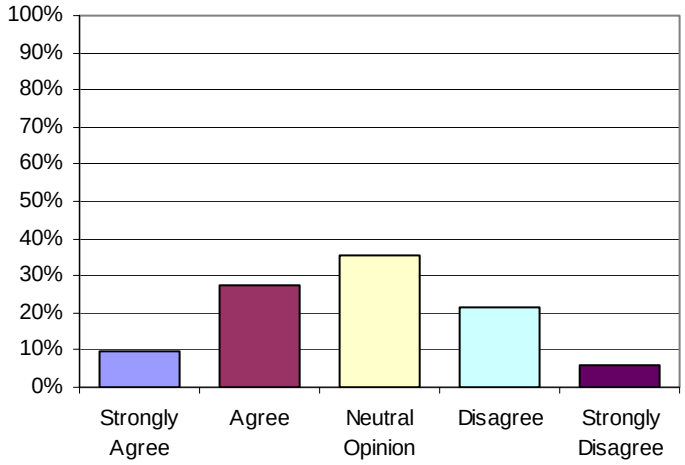

Figure 29: Understanding of engineering calculations EET

Direct measurement

The last method available for NPI emission calculations is direct measurement where a facility monitors (periodically or continuously) the concentrations of a substance and the volumes of the waste stream discharged to the environment. From this, an amount of the substance discharged can be calculated. Over a quarter (27%) of respondents were not satisfied they could perform direct monitoring emission calculations, while 44% of respondents believed they could (Figure 30).

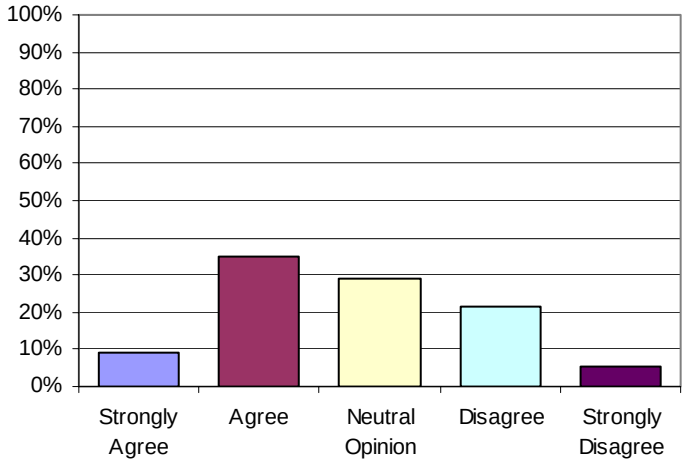

Figure 30: Understanding of direct measurement EET

While it is not necessary for all facilities to have a complete understanding of all emission techniques, as not all will be relevant to their site, facilities should have a basic understanding of the methods. The responses indicate that none of the methods are universally understood, thus the different techniques should be explained in the workshops.

	Recommendations for SA EPA	Priority
28	Include in the NPI workshops a discussion on the different emission estimation techniques and how to use them	Medium
29	Investigate the possibility of putting examples of emission calculations on the SA EPA website and in the newsletters	Medium

Reporting Method

Question 4: I report using:

- *electronic National Reporting Tool*
- *paper reporting form*
- *other*

and I find the method easy to use.

Currently there are two forms of reporting available for NPI reporters in South Australia—the electronic NRT and paper reporting.

For the 2004–05 reporting year, nearly two thirds of reporters used the NRT to submit their NPI report. This is reflected in the survey responses with 66% of respondents indicating they used the NRT and the remaining 34% indicating they use the paper form (Figure 31).

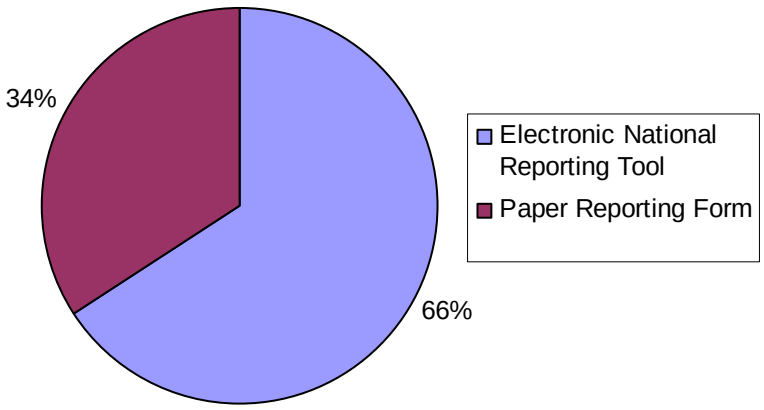

Figure 31: Reporting method

The majority of NRT users (70%) who responded to second part of this question found the method easy while only 57% of paper form users indicated the same for that method (Figure 32). Furthermore, 18% and 17% of respondents respectively found the NRT and paper form difficult to use respectively (Figure 33).

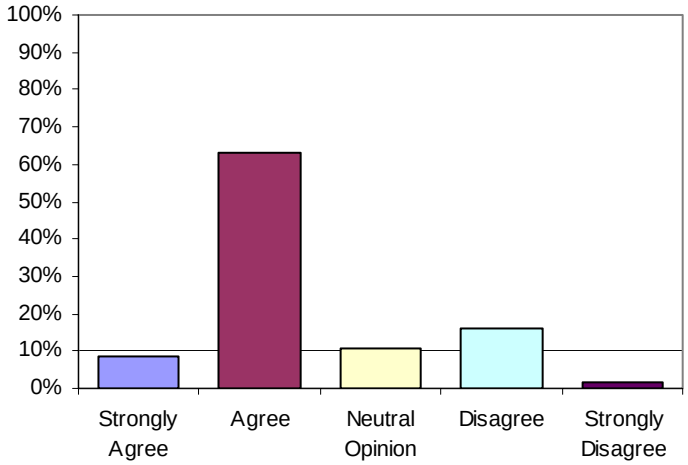

Figure 32: Usability of the NRT

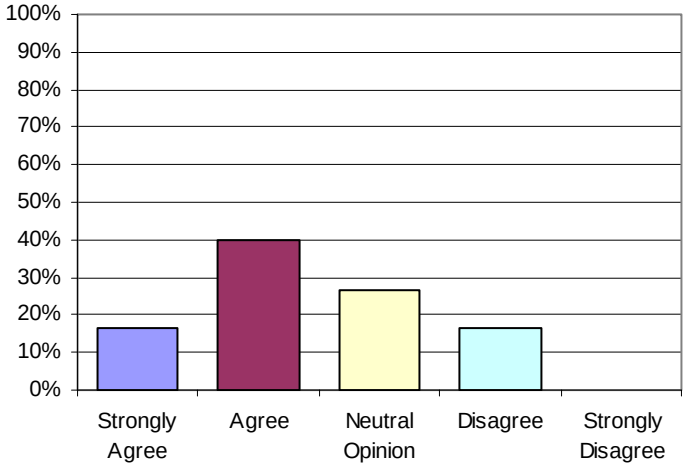

Figure 33: Usability of the paper reporting form

The SA EPA is aware of the issues that facilities have had with the NRT and is currently providing comment to the Australian government on the development of an online reporting system to replace the NRT. The issues with the NRT should be addressed through this process.

Paper reporting will still be a valid method after the introduction of online reporting. Therefore, the issues associated with this method should be determined and addressed.

	Recommendations for SA EPA	Priority
30	Assist the Australian government with developing an online reporting system that meets the needs of reporters	Medium
31	Contact those reporters who use the paper reporting form to determine how the form can be improved and recommend to the Commonwealth to make those improvements	Low

Paper Reporting

Question 5: I report via paper because:

- *no internet/e-mail*
- *prefer this method*
- *had difficulty with the NRT*
- *other.*

The SA EPA encourages NPI reporters to use the NRT. However, many still prefer the paper reporting form (37% in the 2004–2005 reporting year).

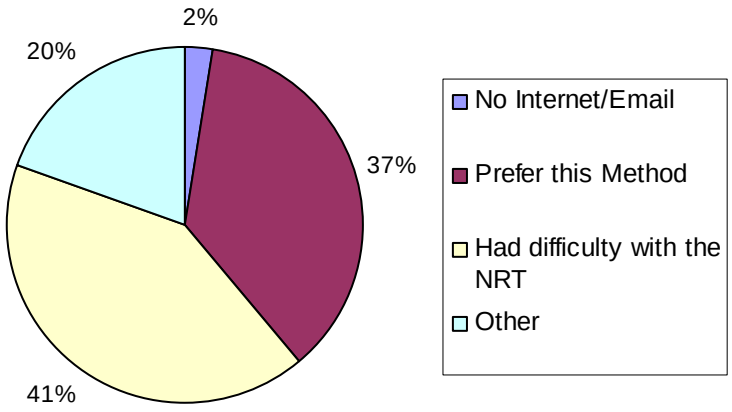

Figure 34: Reasons for reporting via the paper reporting form

Forty-one per cent of paper reporting form users indicated they had difficulty using the NRT. These reporters may be open to using the online reporting system in future as may many of the remaining paper reporting form users. Their comments indicate that suitable reminders on reporting, as well as the availability and requirements of the NRT, would increase their usage of the system. Relevant information should be incorporated into the reporter reminders and the workshops.

Additional comments in relation to the paper reporting form:

- company directive
- not previously set up for NRT
- unaware of NRT
- NRT not available in NSW
- reported late—passed NRT deadline submission.

It is important to recognise that even with a new system, around 39–59% of the existing paper reporting form respondents may still report via paper due to lack of internet/email access or personal preference. Thus the new system will need to allow for these users.

	Recommendations for SA EPA	Priority
32	Influence the Commonwealth to ensure reporting via paper still remains an option once the online reporting system is implemented	High
33	Include information on using the NRT in reporting reminders sent by SA EPA	Medium
34	Include information on using the NRT in NPI workshops	Medium

Third party validation

Question 6: I would find it useful for a third party to check my report before submission.

Unless facilities use a consultant to prepare their report, very little third-party validation of reports occurs in South Australia. However, the SA EPA does assess every report prior to release onto the NPI website.

Surprisingly, 44% of respondents indicated that it would be useful for a third party to check their report prior to submission (Figure 35). The current EPA validation process could be expanded to allow facilities to submit more of their initial calculations. This would benefiting both the SA EPA and the facilities as both parties would be more confident that reports had been correctly prepared.

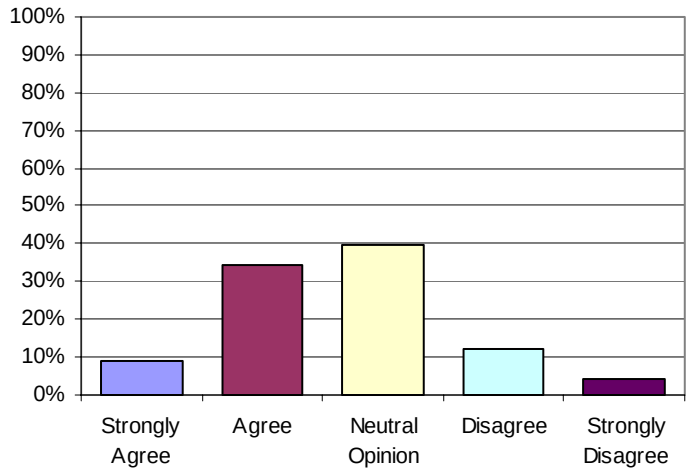

Figure 35: Usefulness of third-party validation

	Recommendation for SA EPA	Priority
35	Expand validation process and notify facilities that additional validation of their calculations is available if they supply the data	Medium

EPA feedback

Question 7: I would like to receive more feedback from the EPA on our completed report.

Over the last few years the SA EPA has implemented an NPI report validation system in which reports are checked and industries contacted if any issues arise. In the 2004–05 reporting period, the SA EPA updated the process to include sending all companies a copy of their final report prior to submission to the website.

About 44% of respondents indicated that they would like to receive additional feedback on their report (Figure 36). This could be done in a general way through the NPI Summary Report or the workshops, but more information from facilities is required on what type of site-specific feedback they would be interested in receiving. Some of this feedback may be addressed through the additional validation outlined in Recommendation 35.

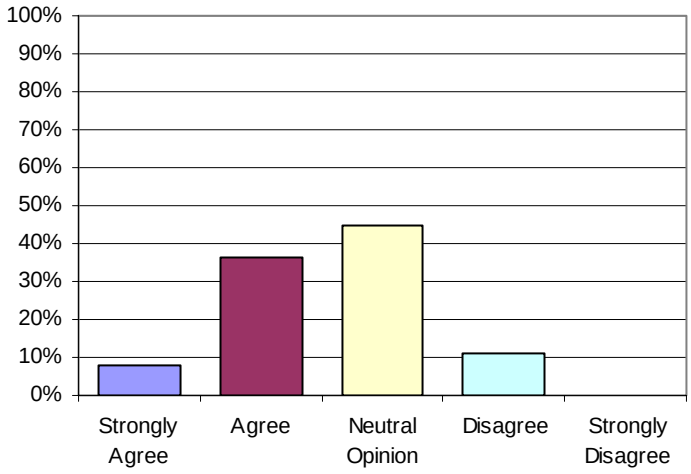

Figure 36: Increased EPA feedback

	Recommendations for SA EPA	Priority
36	Look into the possibility of providing additional feedback on reports	Medium
37	Explore using industry groups to disseminate industry specific data	Medium

On-line reporting

Question 8: If available, I would use online reporting.

The current electronic reporting tool (the NRT) was developed in 2000 and has had only minor updates since. The Australian government is currently investigating the feasibility and design of an online reporting system for the NPI. The NRT process currently involves downloading software from the internet, installing the software on the computer and then saving the appropriate support file with the software before the program will work. The online reporting system will not require software downloads and all data entry will be done online.

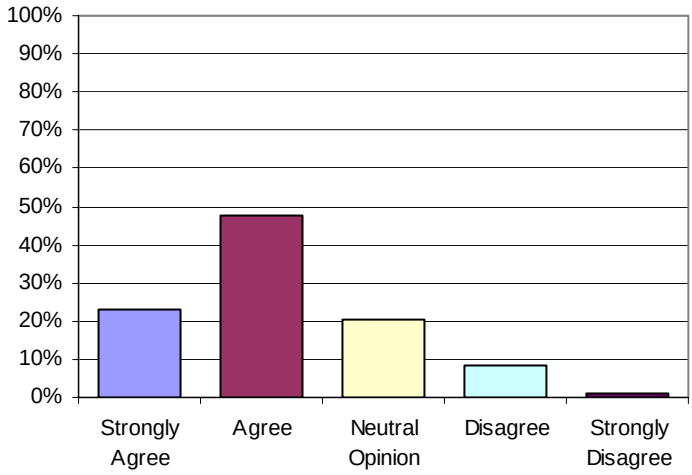

Figure 37: I would use an online reporting system

Seventy per cent of respondents indicated they would use an online reporting system, with 20% having neutral opinion (Figure 37). Thus, progressing the development of an online system is worthwhile (see also Recommendation 33). For the 10% who indicated they would not use an online system, the paper reporting form will still be available.

NPI time requirements

Question 9: An approximate of ___ hours of effort was expended preparing our last NPI report.

The amount of time required to prepare an NPI report varies between industries. The average time respondents indicated it took to complete their NPI reporting requirements was 21.75 hours with a minimum of 30 minutes and a maximum of 150 hours. It should be noted that the respondents who reported the most amount of time generally submitted multiple reports for facilities across Australia.

Additional comments

Question 10: Further comments on reporting.

The additional comments for this section are not listed due to the length of some responses. However, most were general comments relating to previous questions that refer to reporting and are summarised below:

- EPA assistance
- calculation tools—training requirements (combustion in boilers)
- interstate coordination of reports
- support of the online reporting system
- difficulty in reporting when industry staff changes with little or no handover
- difficulty in accessing previous data from NPI website.

The majority of these comments have previously been addressed in relevant sections of this report.

3.3 Use of consultants and data

The third and final section of the survey deals with the use of consultants in the preparation of NPI reports and the use of data, compiled for NPI reporting, for uses other than NPI reporting.

Consultant Use

Question 1: I have used a consultant to assist in NPI reporting.

Over 75% of respondents were able to meet their NPI reporting obligations without the need for a consultant (Figure 38). With the development of the online reporting system, the review of the manuals and the creation of additional reporting tools, this figure may increase. It is preferable for NPI reporting to be as simple as possible. However, some companies may always require a consultant to assist them.

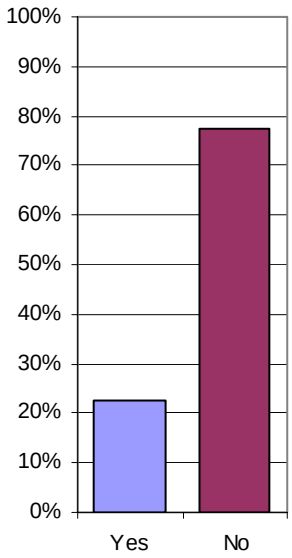

Figure 38: I have used a consultant

Use of NPI data by company

Questions 2a and 2b: My company has used the data compiled for NPI reporting for other purposes (e.g. public consultation, licensing and corporate environmental reporting. [If so] *The NPI data has been valuable for other purposes.*

Nearly one third (32%) of respondents indicated that their company had used data compiled for NPI reporting for purposes other than reporting to the NPI and 26% of these found that the data had been valuable (Figure 39).

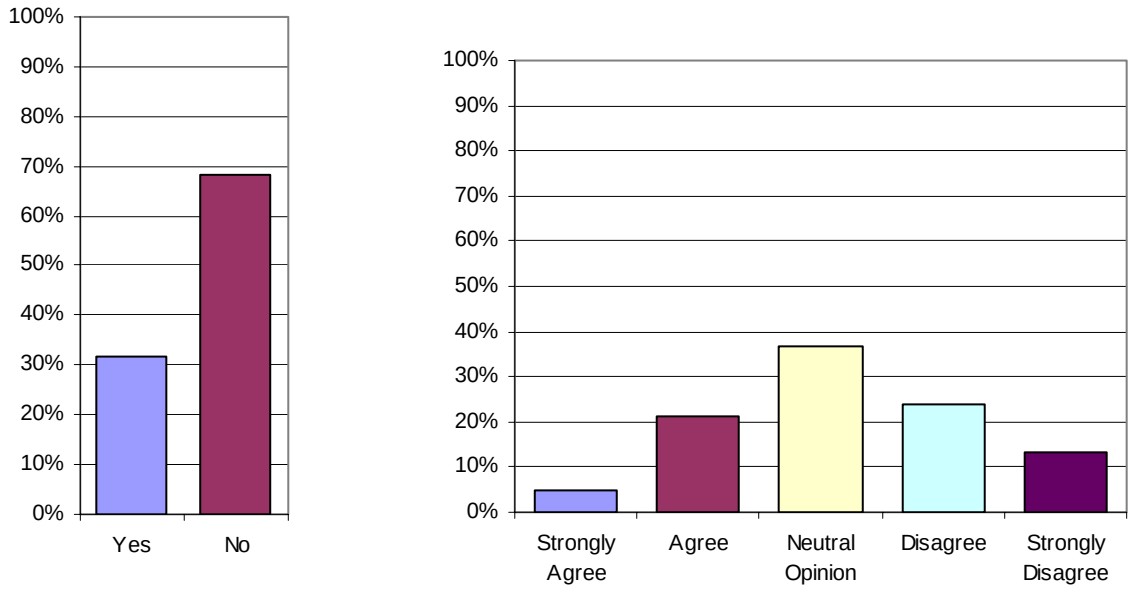

Figure 39: I have used the data for non-NPI purposes and I found the data useful

Examples of how the data was used include:

- EPA licence requirements and audits
- Environmental Footprint and sustainability reporting
- corporate emissions reporting (annual report)

- cost reviews (material consumption and minimisation, process change to allow for reclaiming of material, alternative chemical use, waste generation)
- greenhouse gas reporting
- PIRSA reporting
- fuel and energy use data appropriate for other reporting requirements
- hazardous substances management.

It is encouraging to see that some industry is finding the NPI data useful for other purposes. The Interpretive Guide published by the SA EPA may assist industry with the identification of other possible uses for NPI data.

Community interest

Question 3: The wider community has shown an interest in my facility's NPI report, [and if so] *the interaction has been positive.*

One of the purposes of the NPI is to fulfil the community's right to know about emissions. However, only 3% of respondents indicated that the wider community showed any interest in their facility's NPI report (Figure 40).

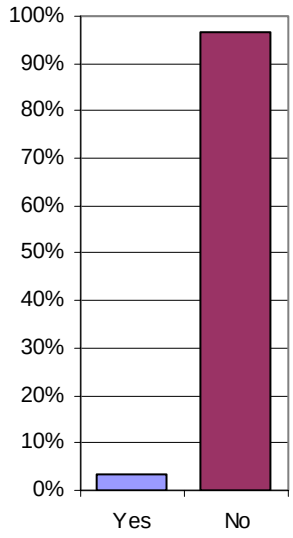

Figure 40: Public shown interest in NPI data

This may be influenced by the fact that the community can access the information directly from the NPI website and do not necessarily contact individual companies. A lack of knowledge about the NPI may also be a factor. This is supported by results of a survey conducted by the Australian government. Thus, the SA EPA should attempt to educate the general community on the availability of the NPI and how to use it.

	Recommendation for SA EPA	Priority
38	Attempt to raise awareness of the NPI in the general community	Low

Raising awareness of the NPI in the general community is given a low priority for two reasons. Firstly, this report focuses on the needs of industry rather than the general community and raising community awareness is not a high priority for industry. Secondly, the NPI is currently under review on a national basis and this review may include a renaming of the program. Any community awareness raising of the NPI program should therefore be delayed until completion of the review.

Additional comments

Question 4: Further comments on consultants and/or data use (e.g. has the NPI been useful in engaging with your community, clients or stakeholders) and your opinion of the NPI as a valuable tool for your industry.

The additional comments for this section are not listed due to the length of some responses. The comments were generally explanations in relation to responses on the use of consultants and the data, and are summarised below:

- how and why consultants were used
- additional information on data use or lack there of, and reasons for this
- accuracy and understanding of emissions (misinterpretation of data) by public
- requirement for additional feedback.

The majority of these comments have been addressed in the relevant section of this report.

4 SUMMARY OF RECOMMENDATIONS

No.	Recommendations for SA EPA	Priority
1	Send out information to industry NPI reporters on EET Manual updates	Medium
2	Send new industry NPI reporters a 'starter pack' including hard copy and electronic resources of NPI information	High
3	Support and assist the Commonwealth with the provision of 'short version manuals'	Medium
4	Support the Commonwealth during its review of manuals by providing information, and by contacting SA respondents if requested by the Commonwealth	Medium
5	Investigate emission factors for the timber resawing and dressing industry sector	Medium
6	Investigate emission factors for the winery industry sector	Low
7	Conduct a more comprehensive investigation into reasons why remaining industry sectors were not satisfied with emission factors intended for their industry	Low
8	Update the LABS calculation tool	Medium
9	Maintain the winery calculation tool and update as necessary	Low
10	Update the piggery calculation tool and place on the NPI website	High
11	Include training on the use of tools as part of the NPI workshops	Medium
12	Organise and run NPI workshops for industry	Medium
13	Contact facilities that have site-specific concerns	Medium
14	Increase reporter assistance by responding to all queries within two working days	High
15	Increase reporter assistance by responding to all queries within two working days	Medium
16	Continue to produce state NPI Summary Reports and newsletters, produce them on an annual basis rather than sporadically and include information requested by respondents	Medium
17	Investigate the possibility of writing industry-specific reports where sufficient reporters exist within the industry sector	Low

No.	Recommendations for SA EPA	Priority
18	Advertise the release of the Interpretive Guide for the NPI to industry	High
19	Continue to send reminder emails	High
20	Commence sending reminder letters	High
21	Investigate and develop additional calculation tools	High
22	If greenhouse gases are incorporated into the NPI, distribute training packages for NPI reporters. Training packages could include printed material, workshops/seminars and phone support	Low[10]
23	If waste transfers are incorporated into the NPI, distribute training packages for NPI reporters. Training packages could include printed material, workshops/seminars and phone support	Low[11]
24	Include training on the NPI website in the workshops	Medium
25	Include a discussion on NPI thresholds in the NPI workshops	Medium
26	Provide more easily understood information on the thresholds on the SA EPA website	Medium
27	Include a discussion on technique selection in the NPI workshops	Medium
28	Include in the NPI workshops a discussion on the different emission estimation techniques and how to use them	Medium
29	Investigate the possibility of putting examples of emission calculations on the SA EPA website and in the newsletters	Medium
30	Assist the Australian government with developing an online reporting system that meets the needs of reporters	Medium
31	Contact those reporters who use the paper reporting form to determine how the form can be improved and recommend to the Commonwealth to make those improvements	Low
32	Influence the Commonwealth to ensure reporting via paper still remains an option once the online reporting system is implemented	High
33	Include information on using the NRT in reporting reminders sent by SA EPA	Medium
34	Include information on using the NRT in NPI workshops	Medium

[10] Priority to change to high if greenhouse gases are incorporated into the NPI

[11] Priority to change to high if waste transfers are incorporated into the NPI

No.	Recommendations for SA EPA	Priority
35	Expand validation process and notify facilities that additional validation of their calculations is available if they supply the data	Medium
36	Look into the possibility of providing additional feedback on reports	Medium
37	Explore using industry groups to disseminate industry specific data	Medium
38	Attempt to raise awareness of the NPI in the general community	Low

5 CONCLUSION AND FUTURE DIRECTION

The survey of NPI industry reporters was analysed and resulted in 38 recommendations to be considered by the SA EPA in the development of an industry communication plan. The recommendations and priorities reflect the current and future requirements of industry NPI reporters with the need for NPI workshops recognised as an important means of communication.

In addition to the development of the communication plan, the SA EPA is considering the need for ongoing industry surveys to:

- provide an ongoing indication of how well the SA EPA is meeting the needs of industry NPI reporters
- provide more detailed information on certain industry sectors or particular issues (through more targeted surveys).

With the review of the NPI NEPM and the development of the online reporting system, communication to and training of industry NPI reporters will continue to be a focus of the SA EPA.

REFERENCES

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APPENDIX A SURVEY DESIGN (FACSIMILE)

National Pollutant Inventory—Reporting Improvement Survey

The National Pollutant Inventory Team in South Australia is striving to improve our services to reporters and to consultants acting on behalf of reporters. This survey will be used to identify areas where improvements can be made. The collated results of the survey will be put on the South Australian EPA web site.

Individual responses and any identifying details will be kept confidential. The survey form should take less than 20 minutes to complete. Your assistance by completing and returning this survey form is greatly appreciated.

Survey instructions

Place an 'X' in the appropriate box to indicate your level of agreement with the statement. For example, if you have used the NPI web site, but you find the layout is poor, information is not accessible, and the help files are confusing, then the following response would be given:

A. Technical Support

	Strongly agree	Agree	Neutral opinion	Disagree	Strongly disagree
1. I have used the NPI website (www.npi.gov.au). ☐ No ☒ Yes, and I have found the website useful.	☐	☐	☐	☒	☐

A 'no' answer would not require a response to the level of agreement with the statement. At the end of each section, space is provided for comments or to elaborate on particular questions.

Please complete and return the questionnaire by **30 January 2006**. If your facility has used a consultant for NPI reporting, please forward a copy to them for completion and return to the EPA in **addition to** completing the survey yourself. You may e-mail a completed form to the EPA by saving it and e-mailing it as an attachment to the following link: *npi@state.sa.gov.au*. The form has been designed to be completed on-screen (a mouse click will create the 'X'); however, the form can be printed, completed and faxed to 08 8204 2107, or a photocopy of the original mailed to:

NPI Team, c/- Anne Ellson
Environment Protection Authority
GPO Box 2607
Adelaide SA 5001

If you require assistance with the survey form, please contact either:

Anne Ellson	08 8204 8525	*anne.ellson@state.sa.gov.au*
Doug Johnston	08 8204 2027	*doug.johnston@state.sa.gov.au*

A. **Technical support**

	Strongly agree	Agree	Neutral opinion	Disagree	Strongly disagree
1. I have used the NPI web site (*www.npi.gov.au/*). ☐ No ☐ Yes, and I have found the web site useful.	☐	☐	☐	☐	☐
2. I have used the SA EPA web site (*www.epa.sa.gov.au*). ☐ No ☐ Yes, and I have found the web site useful.	☐	☐	☐	☐	☐
3. I have used the NPI *Emission Estimation Technique Manual*(s) for my industry sector. ☐ No ☐ Yes, and I found the manual to be useful.	☐	☐	☐	☐	☐
4. I have used the emission factors for my industry sector. ☐ No ☐ Yes, and I found the factors to be representative	☐	☐	☐	☐	☐
5. I have used the NPI Guide. ☐ No ☐ Yes, and I found the guide to be useful. NATIONAL POLLUTANT INVENTORY GUIDE Version 2.17	☐	☐	☐	☐	☐
6. I am aware of the following calculation tools and have found them useful:					
☐ combustion in boilers	☐	☐	☐	☐	☐
☐ FOLS (fuel & organic liquid storage)	☐	☐	☐	☐	☐
☐ LABS (emissions for landfills)	☐	☐	☐	☐	☐
☐ winery emissions	☐	☐	☐	☐	☐
☐ piggery emissions	☐	☐	☐	☐	☐
☐ WATER9 (emissions from wastewater treatment)	☐	☐	☐	☐	☐

	Strongly agree	Agree	Neutral opinion	Disagree	Strongly disagree
7. If an NPI workshop was available, I would attend ☐ No ☐ Yes, and I would like the workshop to include:					
(a) using the NRT	☐	☐	☐	☐	☐
(b) estimating emissions	☐	☐	☐	☐	☐
(c) summary of previous data	☐	☐	☐	☐	☐
(d) other—*please specify*:	☐	☐	☐	☐	☐
8a. I have spoken with an NPI team member (SA EPA). ☐ No ☐ Yes, and I found the interaction useful.	☐	☐	☐	☐	☐
8b. If the interaction was not useful please provide details on why and how it can be improved.					
9. I am interested in receiving NPI publications: ☐ No ☐ Yes, and I would like to receive information on:					
(a) summary data	☐	☐	☐	☐	☐
(b) changes to manual(s)/emission factors	☐	☐	☐	☐	☐
(c) how to use the data	☐	☐	☐	☐	☐
(d) other—*please specify*:	☐	☐	☐	☐	☐

	Strongly agree	Agree	Neutral opinion	Disagree	Strongly disagree
10. I would like to receive a reminder before the reporting due date ☐ No ☐ Yes, and I would like to receive it: ☐ via e-mail *–preferred e-mail address:* ☐ via letter *–preferred mailing address:*					
11. In future, an important form of technical support for me will be:					
(a) the web site	☐	☐	☐	☐	☐
(b) NPI publications	☐	☐	☐	☐	☐
(c) workshops/seminars	☐	☐	☐	☐	☐
(d) the manuals	☐	☐	☐	☐	☐
(e) additional calculation tools	☐	☐	☐	☐	☐
(f) contact with NPI team member	☐	☐	☐	☐	☐
(g) a consultant	☐	☐	☐	☐	☐
(h) another form of technical support *–please specify:*	☐	☐	☐	☐	☐
12. In future, if NPI reporting includes calculations of greenhouse gas emissions, I will require specific technical support.	☐	☐	☐	☐	☐
13. In future, if NPI reporting includes calculations for waste transfers, I will require specific technical support.	☐	☐	☐	☐	☐
14. Further comments on technical support:					

B. Reporting

	Strongly agree	Agree	Neutral opinion	Disagree	Strongly disagree
1. I am satisfied with my level of understanding of how to apply the following thresholds for reporting:					
(a) NPI substances	☐	☐	☐	☐	☐
(b) volatile organic compounds (VOCs)	☐	☐	☐	☐	☐
(c) fuel	☐	☐	☐	☐	☐
(d) nitrogen and phosphorous	☐	☐	☐	☐	☐
2. I am satisfied with my level of understanding of which technique to use for emissions estimation at my facility (e.g. mass balance, emissions factors, engineering calculations, direct measurement).	☐	☐	☐	☐	☐
3. I am satisfied that I can perform the calculations necessary for each of the following emissions estimation techniques:					
(a) mass balance	☐	☐	☐	☐	☐
(b) emissions factors	☐	☐	☐	☐	☐
(c) engineering calculations	☐	☐	☐	☐	☐
(d) direct measurement	☐	☐	☐	☐	☐
4. I report using: ☐ electronic national reporting tool ☐ paper reporting form ☐ other—*specify*: and I find the above method easy to use.	☐	☐	☐	☐	☐
Only answer this question if you report via paper: 5. I report via paper because ☐ no Internet/e-mail ☐ prefer this method ☐ had difficulty with the NRT ☐ other—*please specify*:					
6. I would find it useful for a third party to check my report before submission.	☐	☐	☐	☐	☐

	Strongly agree	Agree	Neutral opinion	Disagree	Strongly disagree
7. I would like more feedback from the EPA on our completed report.	☐	☐	☐	☐	☐
8. If available, I would use on-line reporting.	☐	☐	☐	☐	☐
9. An approximate total of hours of effort was expended preparing our last NPI report.					
10. Further comments on reporting:					

C. **Use of consultants and data**

	Strongly agree	Agree	Neutral opinion	Disagree	Strongly disagree
1. I have used a consultant to assist in NPI reporting. ☐ No ☐ Yes					
2a. My company has used the data compiled for NPI reporting for other purposes (e.g. public consultation licensing, corporate environmental reporting). ☐ No ☐ Yes 2b. The NPI data has been valuable for other purposes. *Please provide examples of how the data has been used:*	☐	☐	☐	☐	☐
3. The wider community has shown an interest in my facility's NPI report. ☐ No ☐ Yes, and the interaction has been positive.					
4. Further comments on consultants and/or data use (e.g. has the NPI been useful in engaging with your community, clients or stakeholders) and your opinion of the NPI as a valuable tool for your industry.					

D. **Survey closure**

Thank you for taking part in this voluntary survey. Individual responses will be kept confidential.

Company name: Main activity:

Respondent: Position:

APPENDIX B ALL RESPONSES

Following is a summary of all survey responses received (120 out of 203 surveys sent out).

A Technical Support

		Strongly agree	Agree	Neutral opinion	Disagree	Strongly disagree
1. I have used the NPI website (*www.npi.gov.au*).						
21	No					
99	Yes, and I have found the website useful.	1	71	18	6	2
2. I have used the SA EPA website (*www.epa.sa.gov.au*).						
33	No					
87	Yes, and I have found the website useful.	5	62	14	5	0
3. I have used the NPI *Emission Estimation Technique Manual(s)* for my industry sector.						
28	No					
92	Yes, and I found the manual to be useful.	15	40	20	14	3
4. I have used the emission factors for my industry sector.						
35	No					
85	Yes, and I found the factors to be representative.	6	35	29	11	4
5. I have used the NPI Guide.						
28	No					
92	Yes, and I found the guide to be useful.	11	48	25	9	0
6. I am aware of the following calculation tools and have found them useful.						
68	Combustion in boilers	7	41	12	5	3
37	FOLS (fuel & organic liquid storage)	3	21	9	3	1
9	LABS (emissions for landfills)	1	3	3	1	1
44	Winery emissions	6	25	9	2	2
4	Piggery emissions	0	1	2	0	1
22	WATER9 (emissions from waste water treatment).	2	9	8	1	2

	Strongly agree	Agree	Neutral opinion	Disagree	Strongly disagree
7. If an NPI workshop was available, I would attend.					
36 No					
84 Yes, and would like the workshop to include:					
(a) using the NRT	21	43	6	1	0
(b) estimating emissions	25	50	2	0	0
(c) summary of previous data	19	24	12	2	0
(d) other					
Other responses:					
8a. I have spoken with an NPI team member (SA EPA).					
28 No					
92 Yes, I have found the interaction useful.	30	54	6	1	1
8b. If the interaction was not useful please provide details on why and how it can be improved.					
Responses:					
9. I am interested in receiving NPI publications:					
18 No					
102 Yes, and I would like to receive information on					
(a) summary data	20	50	6	0	0
(b) changes to manual(s)/emission factors	31	51	6	0	0
(c) how to use the data	20	51	8	2	0
(d) other					
Other responses:					
10. I would like to receive a reminder before the reporting due date.					
13 No					
107 Yes, and I would like to receive it					
97 Via email					
4 Via letter					
6 Both					

	Strongly agree	Agree	Neutral opinion	Disagree	Strongly disagree
11. In future, an important form of technical support for me will be:					
(a) the website	34	55	7	1	0
(b) NPI publications	22	51	18	2	0
(c) workshops/seminars	15	44	21	5	1
(d) the manuals	25	52	12	4	2
(e) additional calculation tools	30	47	10	4	0
(f) contact with NPI team member	28	46	20	0	0
(g) a consultant	7	16	27	15	10
(h) another form of technical support					
Other responses:					
12. In future, if NPI reporting includes calculations of greenhouse gas emissions, I will require specific technical support.	45	45	23	5	2
13. In future, if NPI reporting includes calculations for waste transfers, I will require specific technical support.	38	47	31	4	0
14. Further comments on technical support:					

B Reporting

	Strongly agree	Agree	Neutral opinion	Disagree	Strongly disagree
1. I am satisfied with my level of understanding of how to apply the following thresholds for reporting:					
(a) NPI substances	18	66	26	6	2
(b) volatile organic compounds (VOCs)	15	56	30	9	4
(c) fuel	13	66	22	7	3
(d) nitrogen and phosphorus	9	35	42	10	4
2. I am satisfied with my level of understanding of which technique to use for emissions estimation at my facility (e.g. mass balance, emission factors, engineering calculations, direct measurement).	11	59	28	16	3

		Strongly agree	Agree	Neutral opinion	Disagree	Strongly disagree
3. I am satisfied that I can perform the calculations necessary for each of the following emission estimation techniques:						
	(a) mass balance	10	30	35	18	8
	(b) emission factors	15	55	27	14	3
	(c) engineering calculations	10	28	36	22	6
	(d) direct measurement	9	34	28	21	5
4. I report using: (and I find the method easy to use)						
79	Electronic National Reporting Tool	5	36	6	9	1
41	Paper reporting tool	5	12	8	5	0
	Other:					
5. I report via paper because						
1	No internet/e-mail					
15	Prefer this method					
17	Had difficulty with the NRT					
8	Other:					
6. I would find it useful for a third party to check my report before submission.		10	39	45	14	5
7. I would like more feedback from the EPA on our completed report.		9	42	52	13	0
8. If available, I would use online reporting.		27	56	24	10	1
9. Approximate number of hours of effort expended preparing last NPI report.						
150	Maximum					
0.5	Minimum					
22	Average					
10. Further comments on reporting:						

C Use of consultants and data

	Strongly agree	Agree	Neutral opinion	Disagree	Strongly disagree
1. I have used a consultant to assist in NPI reporting 93 No 27 Yes					
2a. My company has used the data compiled for NPI reporting for other purposes (e.g. public consultation, corporate environmental reporting). 79 No 37 Yes					
2b. The NPI data has been valuable for other purposes. Examples:	4	18	31	20	11
3. The wider community has shown an interest in my facility's NPI report. 116 No 4 Yes, and the interaction has been positive					
4. Further comments on consultants and/or data use and your opinion of the NPI as a valuable tool for your industry:					