

GREENHOUSE GAS EMISSIONS
REPORTING AND DISCLOSURE PILOT
DRAFT POSITION PAPER

Prepared by EPA Victoria

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CALL FOR PUBLIC SUBMISSIONS

Comments on the issues presented in the draft Position Paper and the summary paper are requested from all interested stakeholders and the community.

Unless marked as confidential, all submissions will be treated as public documents. Submissions should be sent to:

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Submissions are requested by **Friday, 17 March 2006**

TABLE OF CONTENTS

OBJECTIVE	1
BACKGROUND	1
STATEMENT OF NEED	2
PURPOSE OF THE DRAFT POSITION PAPER.....	3
RELATED WORK.....	3
DISCUSSION OF ISSUES.....	5
ISSUES RAISED OPPOSING THE USE OF THE NPI FOR REPORTING OF GREENHOUSE GAS	6
ISSUES RAISED SUPPORTING THE USE OF THE NPI FOR REPORTING OF GREENHOUSE GASES	21
DESIGN ISSUES RAISED CONCERNING THE USE OF THE NPI FOR REPORTING OF GREENHOUSE GASES.....	29
INTERIM PILOT MODEL FOR GREENHOUSE GAS REPORTING AND PUBLIC DISCLOSURE	64
GLOSSARY OF TERMS.....	68
REFERENCES.....	71
APPENDIX A: NPI NEPM VARIATION DATABASE INDICATIVE COSTS - INCLUSION OF TRANSFERS AND GREENHOUSE GASES IN THE NPI DATABASE REPORTING AND PUBLICATION PROCESS (DEH DECEMBER 2005).....	74
APPENDIX B: LIST OF FIELDS PROPOSED TO BE REPORTED AND DISCLOSED IN THE PILOT	75

TABLE OF FIGURES

Figure 1: Various greenhouse and energy reporting programs being investigated by the PWG and TWG.....	4
Figure 2: NRT fuel and electricity consumption section.....	14
Figure 3: An excerpt of an NPI emissions report for a facility showing the emission reduction activities publicly displayed on the NPI website	14
Figure 4: Selected greenhouse program thresholds in Australia	33
Figure 5: Global warming potentials of non-combustion greenhouse gases	35
Figure 6: Data flows for a flexible reporting model.....	41
Figure 7: Impacts to business of including greenhouse gases in the NPI.....	44
Figure 8: NPI reporting facility costs reported across Australia.....	45
Figure 9: Average annual NPI report cost estimated breakdown.....	46
Figure 10: Impacts to governments of including greenhouse gases in the NPI	51
Figure 11: Impacts to the community of including greenhouse gases in the NPI.....	55
Figure 12: Elements of Interim Pilot Model	64
Figure 13: Analysis of companies currently reporting to Greenhouse Challenge and the NPI.....	65
Figure 14: Proposed data flows for flexible reporting	67

GREENHOUSE GAS EMISSION REPORTING AND DISCLOSURE PILOT

OBJECTIVE

To examine the issues associated with using the National Pollutant Inventory (NPI) as a greenhouse gas emissions reporting and disclosure mechanism.

BACKGROUND

Various government and other programs exist across Australia that deal in some way with capturing information about greenhouse gas emissions, often with a focus on mitigation. These programs are the subject of other processes referred to in other parts of this document. However, none of these existing initiatives report publicly in any comprehensive and disaggregated sense on quantitative emissions of the six greenhouse gases; carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆).

The NPI, established in 1998, was the first National Environment Protection Measure (NEPM) created by the National Environment Protection Council (NEPC), now the executive arm of the Environment Protection and Heritage Council (EPHC), the members of which are the relevant Ministers of the Australian Government, State and Territory Governments.

The NPI belongs to the general class of Pollutant Release and Transfer Registers (PRTRs) that are maintained by a comparatively small number of countries, mostly in the developed world. Greenhouse gases were not included at the time of the NPI's establishment due to concerns about duplication of the efforts of the National Greenhouse Gas Inventory (NGGI), also undergoing establishment at that time.

A review of the NPI NEPM, conducted in 2001, resulted in a number of recommendations, one of which proposed the reporting of greenhouse gas emissions to the NPI. The substantive recommendations from this review (including the recommendation to include greenhouse gases in the NPI) were not implemented due to a lack of funds available at that time. In an attempt to revisit the issue of greenhouse gas reporting and disclosure, the Victorian Government commissioned a consultancy to explore the options and legitimacy of incorporating greenhouse gas emissions into the NPI in 2004. The result was a report entitled *Options for and legitimacy of incorporating greenhouse gas (GHGs) emissions into the National Pollutant Inventory*. After consideration of this report, NEPC requested a new review of the NPI program, which was completed in April 2005 (Environment Link 2005). The outcomes of the 2005 review led NEPC in July 2005 to decide to begin a variation process of the NPI NEPM which will consider, amongst a range of recommendations, the addition of greenhouse gas emissions. This process is currently underway.

In a parallel move, both the Ministerial Council on Energy (MCE) and EPHC agreed to establish a joint working group (JWG) to examine the costs and benefits associated with the implementation of a nationally consistent framework for greenhouse and energy reporting from Australian industry to streamline reporting to meet

GREENHOUSE GAS EMISSION REPORTING AND DISCLOSURE PILOT

government and public reporting needs. The group met for the first time in October 2004 and its final report went before EPHC in October 2005. EPHC agreed to extend this work for a further 12 months through the establishment of two additional working groups to look at policy and technical aspects separately.

In April 2004, the National Emissions Trading Taskforce (NETT) (formerly known as the Inter-Jurisdictional Emissions Trading Working Group and made up of Australia's States and Territories but not including the Australian Government) was formed to advance greenhouse policy development on the design and implementation of a national emissions trading scheme. This work also continues to progress.

STATEMENT OF NEED

The Victorian Government's Greenhouse Challenge for Energy position paper specifically outlines a policy of mandatory public disclosure of greenhouse gas emissions by large emitters. With this policy position clear, the Government has provided \$200,000 in 2005/06 for EPA Victoria to commence a Victorian greenhouse gas emissions reporting and disclosure pilot program, to further inform its position on the capacity of the NPI as a national mechanism for bringing this about. Outcomes from this pilot are designed to inform current national processes, in particular the variation of the NPI NEPM, and the deliberations of the joint groups established by the MCE and EPHC.

Currently, a gap exists in Australia for mandatory public disclosure of greenhouse gas emissions at the company level. This information is necessary to facilitate a number of policy outcomes, which are strongly supported by the Victorian Government. These needs are:

- The fundamental premise of the community's right to know about emissions involving significant impact to the environment. This is the founding purpose for all PRTR's worldwide;
- The requirement for emissions information to best inform the design and development of an emissions trading system (ETS). There would also be a need for a reporting system sufficiently rigorous to underpin an operational scheme;
- A need to provide credible emissions information to industry and governments to support potential greenhouse offsets arrangements;
- Finance sector requirements for greenhouse emissions information to better ascribe credit and insurance/reinsurance risk and drive investor certainty in a carbon-constrained future;
- Public disclosure as a tool to drive competitive greenhouse emission reduction; and
- To provide information to policy makers to enhance greenhouse policy formulation.

One of the advantages of using the NPI for this pilot is the relative ease of taking an already established national program of comprehensive emissions disclosure, with a legislative underpinning, and expanding its capture of 90 substances to include greenhouse gases.

GREENHOUSE GAS EMISSION REPORTING AND DISCLOSURE PILOT

In the context of the current NPI variation and parallel processes, there is a clear need to examine in some detail, through practical application, the issues that have been raised to date, and the scenarios of what a mandatory public disclosure mechanism for greenhouse gas could look like.

PURPOSE OF THE DRAFT POSITION PAPER

This paper examines key policy questions and strategic issues raised to date surrounding the use of the NPI or other options as a greenhouse gas emissions reporting and disclosure tool, and identifies gaps in information not yet addressed.

These outcomes will feed into other government processes on mandatory reporting and disclosure, including the NPI NEPM variation, MCE/EPHC JWG and relevant activities under the NETT.

The Draft Position Paper will inform stakeholder discussions and generate comment on the information presented. The resulting consultation outcomes will contribute to the development of a Final Position Paper formalising this project stream's findings of industry greenhouse emission reporting and disclosure.

A process for examining the implications of the practical implementation of including greenhouse gases in the NPI will run in parallel.

A final report will discuss all the issues associated with the policy rationale, impact and practical ramifications of including greenhouse gases in the NPI.

RELATED WORK

NPI NEPM VARIATION

The NPI NEPM is currently undergoing a statutory variation process which is considering a range of changes, including the addition of greenhouse gases. By June 2006 a draft NEPM and Impact Statement will form the statutory document package for public consultation scheduled for July-September 2006, should NEPC agree to its release. The work of this paper and the Pilot's subsequent consultation will provide useful information in compiling the greenhouse gas aspects of the NEPM Variation package. The variation is also working closely with the joint work below.

JOINT MCE/EPHC WORKING GROUPS ON GREENHOUSE AND ENERGY REPORTING

In late 2005, MCE and EPHC agreed to form two working groups, the Policy Working Group on Greenhouse and Energy Reporting (PWG) and the Technical Working Group on Greenhouse and Energy Reporting (TWG). The terms of reference for the PWG state:

'A group with relevant policy, program and legal expertise representing all jurisdictions will be established to advise on the policy issues associated with mandatory reporting and public disclosure and efforts to streamline data collection and reporting for greenhouse and energy by business to governments. This group will aim to build on Joint Working Group findings to further identify and resolve policy issues which remain to be addressed.'

GREENHOUSE GAS EMISSION REPORTING AND DISCLOSURE PILOT

GHG & Energy Programs*

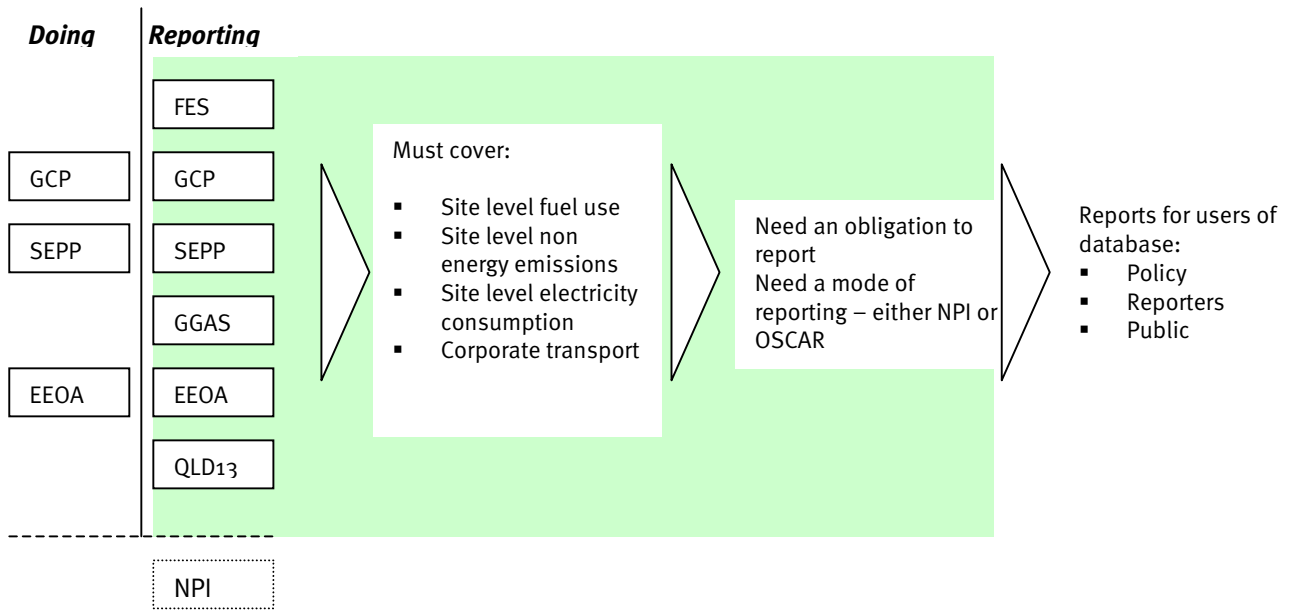


Figure 1: Various greenhouse and energy reporting programs being investigated by the PWG and TWG

* FES: ABARE Fuel & Electricity Survey; GCP: Australian Government Greenhouse Challenge Plus program; SEPP: Victorian State Environment Protection Policy (Air Quality Management) greenhouse program; GGAS: NSW Greenhouse Gas Abatement Scheme; EEOA: Australian Government Energy Efficiency Opportunities Assessment program; QLD13: Queensland 13% Gas program; NPI: National Pollutant Inventory.

Similarly the TWG terms of reference provide for:

‘A group with technical expertise and representation from each jurisdiction will be established to advise on the development and implementation of ways to streamline data collection and reporting for greenhouse and energy by business to governments. This group will aim to build on Joint Working Group findings to reduce the reporting burden for business and industry through streamlining by further resolving and identifying commonalities in greenhouse energy and similar data currently collected or likely to be required in the near future with a view to minimising duplication of reporting requirements.’

The goal of these groups is to find commonality in greenhouse and energy reporting programs that exist or are under construction and mandate a new requirement that satisfies them all, while streamlining data collection requirements through a single point. This goal is reflected schematically in Figure 1 above.

A range of these programs are represented by the boxes on the left which may have action-based outcomes (‘doing’ components) or reporting requirements. The PWG/TWG task is to attempt to get agreement on a core data set for all of these (suggested elements are shown in Figure 1 under ‘must cover’), mandate collection of such data nationally (‘obligation to report’) and provide a common reporting point for this data from business (‘mode of reporting’). Lastly, data collected would have to satisfy community right-to-know objectives.

GREENHOUSE GAS EMISSION REPORTING AND DISCLOSURE PILOT

Public consultation on the proposals of these groups are planned to coincide with the NEPM variation consultation process. Information from this Pilot project is feeding into these processes.

DISCUSSION OF ISSUES

The following is an examination of all the issues provided to date referring to the inclusion of greenhouse gases in the NPI. Views have been gathered from stakeholder submissions to the 2005 NPI Review, the EPHC/MCE JWG consultation in mid-2005, Professor Ian Rae's 2004 report (*Options for and legitimacy of incorporating greenhouse gas (GHG) emissions into the National Pollutant Inventory*) and letters to EPA Victoria.

Twenty-four issues are laid out in 3 categories – opposing the use of the NPI, supporting the use of the NPI and neutral design issues that must be considered. Issues are discussed using the following format:

- statement of the issue
- statement of the draft Pilot response or position on the issue
- a detailed discussion/ definition of the issue
- a more detailed discussion of the rationale for the response.

GREENHOUSE GAS EMISSION REPORTING AND DISCLOSURE PILOT

ISSUES RAISED OPPOSING THE USE OF THE NPI FOR REPORTING OF GREENHOUSE GAS

Issue 1: Would classifying greenhouse gas emissions as 'pollutants' or 'wastes' under the NPI create legislative and commercial uncertainties and impact unduly on public perception?

Response

There is no definition in the NEPC Act or the NPI NEPM that specifies or defines either "pollutants" or "wastes". The NEPM uses the term "substance" throughout to describe the 90 chemicals currently captured by the program. If added to the NPI, greenhouse gases would undergo no classification as either wastes or pollutants. Accordingly, this would be unlikely to result in flow-on legal impacts on trade or waste liability concerns. Any impacts of perception could be managed through a change of name to the NPI if the NEPM variation process deemed it necessary.

Detailed Discussion of Issue 1

Submissions have expressed concern that uniformly incorporating greenhouse gases as "pollutants" or "wastes" under the NPI may create a number of legislative and commercial uncertainties.

It has been argued that there may be repercussions of legally classifying greenhouse gases (namely carbon dioxide and methane) as wastes or pollutants for the following reasons:

- a) for trade in products such as natural gas (which is predominantly made up of methane), which may raise contingent liability concerns associated with the sale and disposal of pollutants and wastes; and
- b) in hindering development of geosequestration technologies by raising legal questions about treaty obligations and liability. Calling CO₂ a pollutant in a situation where disposal offshore, or onshore to aquifers running under the ocean, could be illegal under international treaties, such as the Protocol to the London Convention where the overall intent is to prohibit the dumping of wastes.

Public disclosure of greenhouse gas data under the banner of 'pollution' is of concern to large emitters such as electricity generators, who believe they are already subject to undue criticism on account of such emissions and their possible contribution to global warming.

Detailed Response to Issue 1

Legal issues

The relevant legislation that provides the basis for the NPI are the NEPC Act (incorporated in each jurisdiction, e.g. the *National Environment Protection Council (Victoria) Act 1995*) and the NPI NEPM itself (also incorporated within State legislation such as the Industrial Waste Management Policy for the NPI in Victoria). There is no definition in

GREENHOUSE GAS EMISSION REPORTING AND DISCLOSURE PILOT

the NEPC Act or the NPI NEPM that specifies or defines either “pollutants” or “wastes” to air, land or water. The term “pollutant”, while present as part of the title, does not appear in the NPI NEPM. The NEPM uses the term “substance” throughout to describe the 90 chemicals currently captured by the program. Therefore, if added to the NPI, greenhouse gases would not be legally classified as either wastes or pollutants, but rather as a “substance”.

Commercial Liability Issues

The legal discussion above helps address any commercial liability concerns. However, the issue is further explored below.

The key issue in determining, defining or classifying a substance is the context in which it is used, i.e., when is a pollutant a pollutant? Clearly the NPI only deems a substance worthy of being reported as an emission when it escapes to the environment, not when it is “used” as a raw material input or incorporated as a product. The current NPI NEPM provides a sophisticated framework for dealing with the concept of product that contains an NPI substance. In considering whether a substance usage threshold (for reporting) is triggered, the NEPM exempts a substance to be considered if:

- ‘(a) it is already permanently incorporated in an article in a way that does not lead to emission of the substance to the environment; or
- (b) it is an article for sale or use that is handled in a way that does not lead to emission of the substance to the environment.’

‘Article’ is further defined as ‘a manufactured item formed to a specific shape or design during manufacture’.

This context-based categorisation of substances has resulted in no legal or perceptual issues for a number of precedent substances that are reported as part of the NPI, but are also constituents of products. For example ethanol in alcoholic beverages, both ethanol and methanol in methylated spirits, fluoride in toothpaste, nitrogen and phosphorus in fertilisers, chlorine in sanitising agents, various metals in steel fabricated products, etc. Equally, there have been no ramifications for trade or disposal liability (internationally or locally) in these products through their inclusion on the NPI – the Australian wine industry for example can attest to be in a very strong exporting position.

Given these examples and the legal discussion above, any perceived threat to trade or associated liability of natural gas (predominantly methane) due to methane’s inclusion on the NPI, would appear unfounded.

Similarly, while the NPI does not define its substances as “wastes”, it is conceivable that in the context of carbon capture and storage (CCS) CO₂ generated from combustion processes could fit various waste definitions currently adopted in legislation. For example, Victoria’s *Environment Protection Act 1970* defines “waste” as:

- (a) ‘any matter whether solid, liquid, gaseous or radio-active which is discharged, emitted or deposited in the environment in such volume, constituency or manner as to cause an alteration in the environment;

GREENHOUSE GAS EMISSION REPORTING AND DISCLOSURE PILOT

- (b) any discarded, rejected, unwanted, surplus or abandoned matter;
- (c) any otherwise discarded, rejected, abandoned, unwanted or surplus matter intended for:-
 - (i) recycling, reprocessing, recovery or purification by a separate operation from that which produced the matter; or
 - (ii) sale; and
 - (iii) any matter prescribed to be waste'

Any hindrance to CCS technologies through categorising CO₂ as a waste, by impacting on treaties such as the Basel or London Conventions, is a potential issue to be dealt with on its own. It is considered that the inclusion of CO₂ in the NPI has no bearing on this issue.

Perception Issues

There may be some public perception issues associated with the reference to “pollutant” in the NPI name. Clearly the inventory name could be changed, given the current variation process being undertaken for the NPI NEPM. This may allay concerns of various companies who feel they are being unfairly perceived as “polluters”. Equally, given the evidence above, moving away from explicit reference to the term may also disenfranchise those supportive of their recognition as pollutants, as part of their promotion of climate change action. The NPI NEPM variation process is currently investigating changing the program’s name for a different purpose, as it considers the addition of waste transfers. A name such as the National Emissions and Transfer Inventory has been suggested.

On the negative consequences to NPI reporters of inferring their greenhouse gas emissions to be ‘pollution’, Rae 2004 states:

‘A less tangible impact on industry will flow from public disclosure, and that is pressure to reduce emissions which can take the form of carping criticism from environment groups. This pressure, sometimes unkindly referred to as ‘public shaming’ is one of the reasons for requiring public disclosure of emissions, and is believed to be effective in bringing about reductions. Most industries have responded accordingly, and to some degree become inured from unreasonable pressures, as public reporting grows in extent.’

According to Rae 2004 again, the term “pollutant” is used to describe greenhouse gases by the International Panel On Climate Change (IPCC) (1996 Guidelines for Reports). The IPCC is the lead organisation worldwide for collation and review of scientific research and understanding on climate change. In a similar vein, the European Pollutant Emissions Register (EPER), Europe’s 40-country strong PRTR, includes the 6 major greenhouse gases. While not directly an NPI issue, it seems there is already sufficient precedent for regarding greenhouse gases as ‘pollutants’.

GREENHOUSE GAS EMISSION REPORTING AND DISCLOSURE PILOT

Issue 2: Was the NPI initially designed to provide information and facilitate management of specific pollutants with localised impacts only? How is this appropriate for greenhouse gas emissions which have global impacts?

Response

The design of the NPI envisages the inclusion of substances whose effects are exerted beyond the local level such as greenhouse gases (NEPM clause 7(b)), as evidenced by the current list substances total nitrogen, total phosphorus and the highest risk ranked oxides of nitrogen, all included due to their secondary, broader impacts.

Detailed Discussion of Issue 2

It has been argued that the NPI was designed to provide information on, and facilitate management of, site-specific pollutants with localised impacts, whereas greenhouse gases have impacts on a global scale. Consequently, the NPI is an inappropriate mechanism for greenhouse gas emissions reporting and was never envisaged to do so.

Detailed Response to Issue 2

Contrary to the widely held view, greenhouse gases were originally intended to be part of the NPI. As far back as 1994, an Australian Government NPI consultation document (*Analysis of Public Comment on the National Pollutant Inventory Public Discussion Paper of February 1994*) clearly indicates greenhouse gases as one of six “inventory modules” proposed for the NPI. The justification for not including these substances was on the basis of perceived overlap with the proposed NGGI, which has since been shown not to be the case. The NGGI does not provide information at the site or indeed company level, due to its different purpose to the NPI, so the need for public disclosure on greenhouse emissions remains.

This is further reinforced in the NEPM itself, through clause 7(b) which states:

"A database known as the National Pollutant Inventory will be established to:

...

(b) provide publicly accessible and available information, on a geographic basis, about specified emissions to the environment, including those of a hazardous nature or involving significant impact; ..."

This clause would appear to directly envisage the inclusion of non-localised impact substances such as greenhouse gases or, for example, ozone-depleting substances.

Additionally, on closer inspection of the NPI substance list, it already includes substances that exert their effects over considerable areas, not just locally. For example, total nitrogen and total phosphorous are listed for their cumulative/downstream effects and, like CO₂, have no impact directly in terms of localised toxicological effects but have secondary consequences. Their listing is on the basis of their impact at elevated concentrations, leading to environmental effects such as algal blooms and eutrophication.

GREENHOUSE GAS EMISSION REPORTING AND DISCLOSURE PILOT

On a similar theme, oxides of nitrogen, which are in fact ranked the most hazardous on the NPI list of 90 substances, gains this stature in the NPI on the basis of its secondary effect as a precursor for the chemical reactions in the atmosphere that form photochemical smog, not on the basis of its health-related toxicity (although it does also exhibit this property). This is a broad-scale regional impact.

While it is clear that greenhouse gases exert their impact globally, mitigation strategies must be directed at source level. As one of the reasons for the NPI's existence, promoting and influencing cleaner production practices through public disclosure is equally applicable to reducing the global impact of greenhouse gases as it is the localised impact of an air toxic such as benzene.

Issue 3: Does the NEPC Act give a head of power to include reporting of greenhouse gas emissions?

Response

The NEPC Act gives power to the National Environment Protection Council to make a NEPM “that relates to any one or more” of a list of powers. Greenhouse gas emissions “relate” to either or all of three of the seven powers listed in section 14(1): ambient air quality, environmental impacts associated with hazardous wastes and motor vehicle noise and emissions. A fourth, ambient marine, estuarine and freshwater quality may also be relevant.

Detailed Discussion of Issue 3

There is a view that the NPI framework is not legally appropriate for reporting greenhouse emissions. Specifically, it has been suggested that the *National Environment Protection Council (Victoria) Act 1995* does not give a head of power for such reporting.

Detailed Response to Issue 3

Section 14(1) of the Act states:

14. Council may make national environment protection measures

*(1) The Council may, by instrument in writing, make a measure, to be known as a national environment protection measure, that **relates** to any one or more of the following—*

(a) ambient air quality;

(b) ambient marine, estuarine and fresh water quality;

(c) the protection of amenity in relation to noise (but only if differences in environmental requirements relating to noise would have an adverse effect on national markets for goods and services);

(d) general guidelines for the assessment of site contamination;

(e) environmental impacts associated with hazardous wastes;

(f) the re-use and recycling of used materials;

GREENHOUSE GAS EMISSION REPORTING AND DISCLOSURE PILOT

(g) except as provided in sub-section (2), motor vehicle noise and emissions.

The current NPI NEPM was made under several heads of power, i.e. a, b, e, f and g.

The likely heads of power in the NEPC Act that most relate to inclusion of greenhouse gases are:

- (a) ambient air quality
- (e) environmental impacts associated with hazardous wastes
- (g) motor vehicle noise and emissions.

Ambient Air Quality

Ambient air quality has typically been associated with “common” or “criteria” air pollutants that exhibit a localised health risk upon excessive levels of exposure. Therefore ambient air quality is deemed to be poor when elevated levels of these pollutants (above health-based standards) are observed. This, by definition, also means that these levels are greater than ambient levels.

The definition of “ambient air quality” above is a narrow and relatively arbitrary interpretation. Ambient air is simply the representative air that surrounds us that reflects normal conditions (dictionary definitions for ambient include 'surrounding' and 'encompassing on all sides'). Its quality is a measure of the degree to which that air is altered by changes in the concentration of substances present in that air. In the context of greenhouse gases, there is an ambient concentration of CO₂ in the atmosphere. If that concentration of CO₂ increases, then the ambient air quality will logically be affected, whether that impact is felt as a direct human health/exposure relationship or some other broader impact. This is the pretext for greenhouse gas induced climate change, unsustainable increases in ambient CO₂ concentration giving rise to the multitude of impacts from global warming.

Further, the Ambient Air Quality NEPM contains a definition of 'ambient air' which 'means the external air environment, it does not include the air environment inside buildings or structures'. Again, this definition does not exclude greenhouse gases.

Therefore, in a legal sense a broader definition of ambient air quality which includes greenhouse gases would be difficult to refute.

The water nutrients total nitrogen and total phosphorus are clear precedents in the NPI substance list that follow this logic. The key parallel with greenhouse gases lies in the rationale for the nutrients' inclusion – i.e., they are included via head of power (b) “ambient marine, estuarine and fresh water quality.” In this case the broader definition of “ambient” has been applied, since these nutrients are not included for their localised impact on people or water-borne animals, but for their secondary impacts on water-body health, such as algal blooms, temperature changes and dissolved oxygen levels.

GREENHOUSE GAS EMISSION REPORTING AND DISCLOSURE PILOT

It would be inconsistent to argue that greenhouse gases do not “relate” to ambient air quality, because they do not exhibit localised toxicity effects, if nitrogen and phosphorus are successfully demonstrated to “relate” to “ambient marine, estuarine and fresh water quality”, even though they do not exhibit these localised effects. The effect on the environment and human health in this instance is the same as the relationship is the same between CO₂ emissions and the effects of global warming.

But potentially the most compelling argument that greenhouse gases “relate” to ambient air quality comes from work carried out proposing that climate change may impact on levels of traditional air pollutants (i.e., ambient air quality in the narrower sense). The 2003 Australian Greenhouse Office publication *Climate Change: An Australian Guide to the Science and Potential Impacts* (Pittock (Ed) et al) points out that “climate change may influence the levels of several outdoor air pollutants”, noting that the formation of photochemical smog is promoted in warmer conditions. Currently CSIRO is doing further work to better understand the climate change/ air quality link.

Environmental impacts associated with hazardous wastes

Another relevant head of power is “(e) *environmental impacts associated with hazardous wastes.*” While greenhouse gases do not pose a direct health-related danger, they clearly pose a significant danger or risk by virtue of their secondary potential to cause climate change impacts, which in turn can cause very real health-related dangers. The only element of debate could be around the word ‘hazardous’. Dictionary definitions (for example Cambridge Dictionaries Online) define hazardous as ‘something that is dangerous and likely to cause damage’, but a more narrow definition relating to *direct* danger or risk could be implied.

Motor vehicle noise and emissions

A third possible power that could “relate” to greenhouse gas emissions is “(g) *except as provided in sub-section (2), motor vehicle noise and emissions.*” Since motor vehicles account for a significant proportion of greenhouse gas emissions (17% of all Victorian emissions), reporting from this source (in the same way other emissions of other substances from motor vehicles are currently included) is clearly within NEPM creation powers.

Ambient marine, estuarine and freshwater quality

The work of Pittock (Ed) et al described above also raises the question of the effect climate change may have on the incidence of algal blooms. It draws no firm conclusions on the issue of health effects of algal blooms from changes in climate but points to the need for further work.

GREENHOUSE GAS EMISSION REPORTING AND DISCLOSURE PILOT

Issue 4: Is the NPI structured to support the reporting of energy or abatement actions, with the necessary supplementary or contextual information, or flexible enough to respond to future policy directions?

Response

The current NPI collects information on energy use and abatement actions (for the current listed substance emissions), has a substantial capacity for providing supplementary or contextual information and there would appear nothing unique to the program that would render it unable to respond to future policy developments in a greenhouse-reporting context. There appears to be no evidence that any of these structural features would be outside the program's capacity.

Detailed Discussion of Issue 4

It has been suggested that the NPI is not structured appropriately to support reporting of energy or abatement actions nor flexible enough to provide sufficient context for this information. This view also doubts the NPI's capacity to cater for future policy directions.

These views are based on current NPI reporting experience, which includes a list of 90 reportable substances dealing with environmental effects which in the main impact at the local level.

Critical to understanding greenhouse emissions is an understanding of the context in which they are emitted and to understand why emission levels often fluctuate. Information concerning energy use, production processes and output, abatement actions and emission offsets have been suggested as desirable in a public reporting framework and considered outside the capability of the NPI.

In a similar vein, it has been suggested that future policy developments may demand a degree of flexibility not possible under the NPI. By contrast, it is argued, the World Resources Institute and World Business Council for Sustainable Development (WRI/WBCSD) Protocol and the emerging international standard ISO 14064 anticipate this requirement.

Detailed Response to Issue 4

Energy

Energy use is already reported to the NPI voluntarily by users of the National Reporting Tool (NRT) reporting software as a means of demonstrating compliance with the category 2b electricity usage threshold (see Figure 2). Similarly quantities and types of fuels used are also reported to jurisdictions but not disclosed publicly. Victorian reporter data suggest that all facilities with fuel combustion activities on site currently report that fuel use and approximately 40% report their electricity usage.

Following on from the legal discussion in Issue 3, energy use information would also be captured by NEPM powers, since electricity is the product the generator sector and the determinant of indirect greenhouse gas

GREENHOUSE GAS EMISSION REPORTING AND DISCLOSURE PILOT

emissions attributed to downstream energy use – i.e., since greenhouse gases “relate” to ambient air quality then energy used must as well. While energy use information is sought by various jurisdictional government interests, the need for this information publicly, while indirect greenhouse gas emissions are disclosed, is debatable.

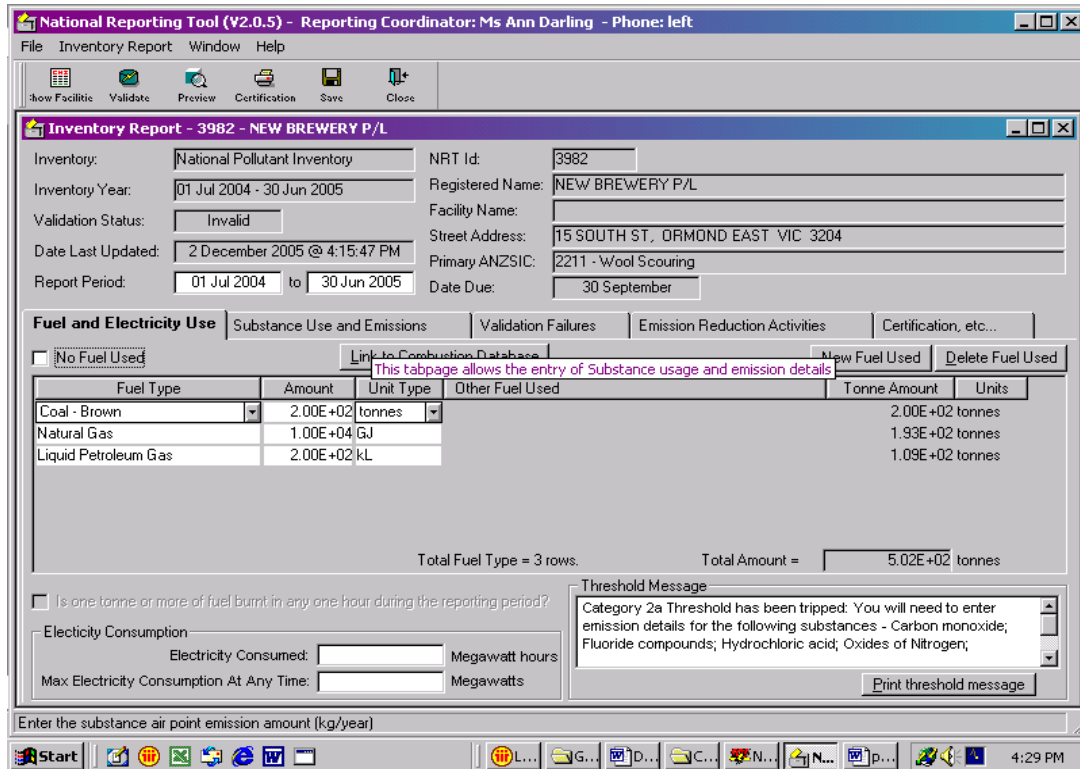


Figure 2: NRT fuel and electricity consumption section

Emission reduction activities

Cleaner production activities

- Dust suppression - water sprays / chemical suppression

Installation of Pollution Control Equipment

- Electrostatic precipitator
- Other pollution control equipment (please specify) Wastewater treatment

Industry Comments

Air emission estimates for Beryllium and Chromium (VI) were derived using an emission factor based on the median of half method detection level values from testing and does not confirm the presence of these substances.

Figure 3: An excerpt of an NPI emissions report for a facility showing the emission reduction activities publicly displayed on the NPI website

GREENHOUSE GAS EMISSION REPORTING AND DISCLOSURE PILOT

Abatement actions

The current NPI reporting requirements are split over 4 sections: a) facility information, b) usage and emissions, c) emission reduction activities and d) certification. Section c is designed entirely for the reporting of information about emission reduction actions both through descriptive entries categorised as either at source or “end of pipe”. An example excerpt from a report on the public database is shown in Figure 3. This is identical in concept to the term “abatement” or abatement actions used in the greenhouse context, since abate means “to reduce in degree or intensity” (Merriam-Webster Online Dictionary). It would therefore seem that the reporting and disclosure of greenhouse abatement actions is entirely appropriate to the current NPI structure.

Supplementary/contextual information

Critical to understanding greenhouse emissions is an understanding of the context in which they are emitted and to understand why emission levels often fluctuate. Information concerning energy use, production processes and output, abatement actions and emission offsets have been suggested as desirable in a public reporting framework and the current NPI has a substantial capacity for providing supplementary or contextual information. All data reports generated by users of the website contain substantial explanatory information about the limitations of the data currently reported and how that should be interpreted. There is also capacity for reporters to provide textual explanation pertaining to their report, should they wish, up to 255 characters (see “Industry Comments” heading in the example of Figure 3). Contextual data in a different sense is provided by the inclusion of diffuse estimates of emissions, to allow the relative sources of emissions to be viewed in context.

Information concerning production processes and output could be added to the NPI as part of the current variation process, and indeed has been sought by jurisdictions over the years to allow benchmarking of efficiency through such measures as waste to product ratios. Such suggestions have been strongly resisted in the past by industry on the grounds of commercial in confidence.

In terms of providing information about fluctuations in emissions, in addition to the emission reduction (abatement) actions described above, the NRT scans a facility’s report, displays those substances whose emissions have reduced from the previous year and prompts the reporter to provide a reason for this reduction, as a means of identifying positive emission reduction actions undertaken by the company (and distinguish these from changes due to other factors such as changes in production volumes). This approach could easily be applied directly to the public database and was in fact always intended for this purpose, but not carried out due to a jurisdictional equity reason at the time.

Flexibility to accommodate future policy changes

There would appear nothing unique about the NPI program that would make it unable to respond to future policy developments in a greenhouse-reporting context. Views have been expressed that the WRI/WBCSD Protocol and the emerging international standard ISO 14064 anticipate “this requirement”. These are not programs but guidance documents or reference standards, which would be important in framing reporting and definitional

GREENHOUSE GAS EMISSION REPORTING AND DISCLOSURE PILOT

aspects of an NPI with greenhouse gas reporting. The issue of possible “inflexibility” of the NPI in this context seems not to be an issue at all, at least without further articulation of what is meant by this concern.

Issue 5: Are NPI calculation methodologies consistent with other greenhouse reporting programs including international reporting requirements?

Response

There are currently no “NPI” methodologies for greenhouse gas emission calculation, since they are not part of the program. Any moves to include them clearly should use the most appropriate methodologies consistent with standard approaches. To that end this pilot’s reporting approach will be in line with the WRI/WBCSD protocol, facilitated through the use of the AGO’s Factors and Methods Workbook directly.

Detailed Discussion of Issue 5

A range of methodological concerns have been expressed, particularly surrounding the differences between the NPI and methodologies used in WRI/WBCSD protocol for greenhouse gas reporting, AGO reporting programs, and with NGGI methodologies.

For example, it has been claimed that the NPI handbook for Fossil Fuel Electricity Generation lacks the consistency and accuracy to meet other greenhouse reporting needs.

There are also concerns over verification methods used, particularly if data is to be used in any offset or emissions trading scheme. Most greenhouse reporting schemes lack third party verification and auditing at present, and the NPI also does not mandate these processes as yet.

Detailed Response to Issue 5

“NPI calculation methodologies” are for current NPI substances, and are made up of the generic estimation techniques of mass balance, direct measurement, engineering calculations and, the most widely used, emission factors. Criticism of the program’s methodologies for greenhouse gas emission calculation appears somewhat premature and injudicious since no methodology exists, as they are not part of the current program.

The basis for greenhouse gas emission calculation is almost exclusively the use of emission factors, i.e. CO₂-e emissions per unit of activity (fuel consumed, electricity used, etc). For the majority of NPI reporters, the existing raw material “activity” inputs required for calculating air pollutant emissions are exactly the inputs required for estimating greenhouse gas emissions.

In terms of the actual emission factors used, it would make no sense to duplicate the resources of the AGO’s Factors and Methods Workbook, which is in the main consistent with international standard approaches such as the WRI/WBCSD protocol. For broader methodological issues, such as the choice of reporting boundaries or

GREENHOUSE GAS EMISSION REPORTING AND DISCLOSURE PILOT

classification of “direct” and “indirect” emissions, the Pilot will be guided directly by this Protocol, as would seem appropriate for a full-scale NPI.

In terms of data verification and compliance auditing, particularly the requirement for third party auditing, this is a resourcing issue that could be required as part of the program’s data assessment processes should that be deemed to be necessary. This issue is discussed further under Issue 23 in relation to emissions trading.

Issue 6: Would reporting greenhouse gas emissions to the NPI increase costs to industry by duplicating reporting?

Response

The introduction of greenhouse gases into the NPI should be done fully cognisant of other program requirements and, as a result, reporting would not entail an additional layer of duplication. This issue is dealt with substantively under Issues 19 and 20.

Detailed Discussion of Issue 6

It is a commonly held view that reporting greenhouse gas emissions to the NPI would duplicate industry reporting if participants are already participating in other programs, such as the Greenhouse Challenge Plus Program. It is said by some that industry is already burdened by high reporting and compliance costs and an attempt should be made to streamline reporting.

Detailed Response to Issue 6

See detailed response to Issues 19 and 20.

Issue 7: Are greenhouse gas emissions incommensurate with current NPI emissions and thus misleading?

Response

Greenhouse gas emissions would typically be reported at orders of magnitude greater than many of the currently reported substances. However, this disparity already exists between other NPI substances. For example dioxins and furans are reported in sub-milligram levels, whereas oxides of nitrogen, PM₁₀ or carbon monoxide are reported in the tonnes range. These are all displayed side by side and this has not led to a particular problem in itself - a program as transparent as the NPI will always be open to misuse and misinterpretation. Notwithstanding this, it is envisaged that the greenhouse gases will be displayed separately to other NPI emissions as a means of addressing this issue.

GREENHOUSE GAS EMISSION REPORTING AND DISCLOSURE PILOT

Detailed Discussion of Issue 7

There is a concern that an annual figure for greenhouse gas emissions (for example 100,000 t CO₂-e) is so much greater than the quantities of other substances reported to the NPI that the two would not sit happily in the one inventory. For example, one of the larger quantities in the present NPI report is that for oxides of nitrogen, which total 1.4 Mt, or 0.25% of the total CO₂-e figure. (Rae, 2004)

Detailed Response to Issue 7

NPI already encompasses vastly different quantities, with oxides of nitrogen near one extreme (1,400,000,000 kg), and acrylic acid (540 kg) near the other. This represents 0.00003% of the larger figure.

As mentioned in *Issue 5* the website can be designed in such a way as to separate emissions of greenhouse gases and current NPI substances and therefore would not lie on the same page.

Issue 8: Are there confidentiality issues associated with the public display of greenhouse emissions and energy information?

Response

Confidentiality can be an issue for any information provided by business to government, including through reporting to the NPI. Accordingly the NPI, like other information exchange processes, has in place a means of dealing with that. The Commercial in Confidence (CiC) industry handbook has been available since the program's inception, to guide reporters through the process of how to submit a CiC claim and what the factors are that would be taken into account in the assessment of such a claim.

Detailed Discussion of Issue 8

Industry has requested that commercial confidentiality be maintained on the grounds that:

- (i) there is an explicit link between emissions and the scale of activities undertaken by companies in certain industries. Therefore disclosure would threaten their competitive position because interested parties could work back from emissions or energy data to production levels as well as other sensitive information
- (ii) disclosure of greenhouse emissions might be judged by users of the data, such as representatives of environment organisations, as excessive, and could expose industry to unwarranted criticism and pressure.

Detailed Response to Issue 8

Confidentiality can be an issue for any information provided by business to government, including through reporting to the NPI. Accordingly the NPI, like other information exchange processes, has in place a means of dealing with that. The Commercial in Confidence (CiC) industry handbook has been available since the program's

GREENHOUSE GAS EMISSION REPORTING AND DISCLOSURE PILOT

inception, to guide reporters through the process of how to submit a CiC claim and what the factors are that would be taken into account in the assessment of such a claim.

While the CiC issue has been constantly raised in discussions about disclosure (indeed this was the case on many occasions in relation to other substances when the NPI was introduced), the evidence suggests that concerns of confidentiality breaches may be overplayed. In over 16,000 reports to the NPI since its establishment there has never been a CiC claim. Indeed, a little known fact of the long history of the US EPA's Acid Rain Program is that company carbon dioxide emissions have also been publicly disclosed alongside sulfur dioxide for over a decade, apparently without any confidentiality ramifications.

Issue 9: Are the NPI data systems capable of expansion?

Response

The National Reporting Tool (NRT) is sufficiently robust to include the reporting of additional substances. The online database operated by the Australian Government, which is a completely separate system to the NRT, is in need of general maintenance to provide for a more effective product. The Australian Government is currently in the process of addressing this issue as recommended by the NPI Review. Work is also currently underway to improve website functionality and a project to move the collection system to an online platform has recently been re-established.

Detailed Discussion of Issue 9

According to the NPI Review (2004), page 43, the NPI database systems are seen to be at a stage where it is “at risk of failure” if it is expanded to include, among other things, greenhouse gas reporting. It was recommended that a critical assessment of the data systems and resource requirements be undertaken and that the data system capabilities be expanded to cater for additional data.

Detailed Response to Issue 9

There has been a misunderstanding in the information presented by the NPI Review particularly regarding the Review report comment (page 43) that NPI database systems are ‘at risk of failure’. In order to understand the statements made, it is necessary to differentiate between the database software that businesses use to report to States/Territories, the National Reporting Tool (NRT), and the online public disclosure database end product, which is operated by the Australian Government.

These two separate systems are joined together by a data transfer protocol, which specifies how data is transferred from States/Territories to the Commonwealth via a web file upload.

The NRT is sufficiently robust to include the reporting of additional substances. The online database, eight years old and a completely separate system, is in need of general maintenance to provide for a more effective product.

GREENHOUSE GAS EMISSION REPORTING AND DISCLOSURE PILOT

However it is wrong to suggest it is at a critical point in terms of stability. The Australian Government is currently in the process of addressing this issue as part of plans for functional improvements to the database and website, as recommended by the NPI Review. Work is also currently underway to improve website functionality and a project to move the collection system to an on-line platform has recently been re-established.

GREENHOUSE GAS EMISSION REPORTING AND DISCLOSURE PILOT

ISSUES RAISED SUPPORTING THE USE OF THE NPI FOR REPORTING OF GREENHOUSE GASES

As mentioned in the Statement of Need, a gap currently exists in Australia to provide transparent and nationally consistent information in the public domain. The main arguments for incorporating greenhouse gas emissions into the NPI as opposed to other frameworks can be broadly encapsulated into two points:

1. The NPI already has a legislative underpinning with associated frameworks in place for mandatory reporting.
2. Data has been made publicly available over its seven-year history.

The views supporting the NPI are discussed in this section in more detail.

Issue 10: Would the community's 'right to know' about emitters of greenhouse gases be best satisfied through reporting to the NPI?

Response

Currently there is no comprehensive information in the public domain relating to the greenhouse gas emissions of Australian businesses, hence community right to know principles in this area are not being met. Although 'right to know' has been associated with localised hazards, greenhouse gas emissions are becoming increasingly important to the community as a whole. The NPI, as an established PRTR program, is the pre-eminent information point for the Australian community to access information about environmental emissions. Evidence of this is demonstrated by the growth in the internet database's use – annual site visits increased from 1,794 in 2001/02 to 62,256 in 2003/04. From a right to know perspective it is hard not to conclude that the NPI is a logical information home for the disclosure of greenhouse gas emissions.

Detailed Discussion of Issue 10

There are a number of possible means of satisfying the community's right to know in relation to greenhouse gas emissions. The NGGI currently provides the community with a 'top down' approach to sources of greenhouse gases, but there is no mandatory and comprehensive source of information on specific sources of greenhouse gases. This issue calls into question whether the NPI is the most appropriate method of providing this data, and indeed whether there is a community 'right to know' about specific sources of greenhouse gases given the effects can be characterised as globalised rather than localised.

Detailed Response to Issue 10

The main driver for the establishment of the NPI in Australia was to address increasing community concerns about environmental pollution, and the right of the community to have access to information about sources of pollution.

GREENHOUSE GAS EMISSION REPORTING AND DISCLOSURE PILOT

The ‘community right to know’ philosophy has strong international origins as a social principle. The 1998 Aarhus Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters has been ratified by 39 European countries. Article 1 of the Convention states: ‘In order to contribute to the protection of the right of every person of present and future generations to live in an environment adequate to his or her health and well-being, each Party shall guarantee the rights of access to information, public participation in decision-making, and access to justice in environmental matters in accordance with the provisions of this Convention.’

More recently the Kiev Protocol on PRTRs was signed in May 2003 by 36 European countries. It states: ‘Although regulating information on pollution, rather than pollution directly, the protocol is expected to exert a significant downward pressure on levels of pollution, as no company will want to be identified as among the biggest polluters.’ Its objective is to ‘enhance public access to information through the establishment of coherent, integrated, nationwide pollutant release and transfer registers (PRTRs) in accordance with the provisions of this Protocol, which could facilitate public participation in environmental decision-making as well as contribute to the prevention and reduction of pollution of the environment’.

The NPI, as an established PRTR program, is the pre-eminent information point for the Australian community to access information about environmental emissions. It has however concerned itself largely (although not solely) with distributing information about substance releases with localised impacts, whereas greenhouse gases exert their impacts globally. This local versus global ‘distinction’ is more historical than functional by design (discussed further in Issue 2). Noteworthy from these EU/EC initiatives is the absence of this distinction in framing the community right to know principle of social governance – the Aarhus Convention is about the right of people to live in an environment adequate to ‘health and well-being’. The Kiev Protocol on PRTRs is about ‘information on pollution’, but the EU/EC context of pollution and pollutant is instructive here – the most recently established PRTR in the world, the EU’s EPER (European Pollutant Emissions Register) includes greenhouse gases and freely lists them as ‘pollutants’ in that register.

Since the NPI’s establishment in the mid 1990’s, the community’s concern about the impacts of climate change have escalated. A decade ago the very existence of impacts of human-derived increases in global greenhouse gas concentrations was still being debated in many quarters. Today the issue is no longer beyond doubt in the international scientific and political community – the debate has clearly shifted to the questions of how massive emission reductions can be achieved and how best communities can prepare themselves for the local impacts of changes in the climate system. The media’s extensive coverage of climate change issues in the summer of 2005/06 is further evidence of what the community sees as important – indeed greenhouse is the major environmental issue of concern for many.

A survey conducted in 2003 for the Australian Government Department of the Environment and Heritage found that the NPI was seen primarily as an environment awareness-raising tool. It was also seen as a driver for personal action for reducing environmental impacts and for gathering support for emissions reduction programs.

GREENHOUSE GAS EMISSION REPORTING AND DISCLOSURE PILOT

This endorsement of its value would appear to be reflected in database use information; although seen as somewhat below its potential, annual site visits increased from 1794 in 2001–02 to 62,256 in 2003–04.

Currently there is no comprehensive information in the public domain relating to the greenhouse gas emissions of Australian businesses, hence community right to know principles in this area are not being met. Including greenhouse gases on the NPI can have the additional benefit of raising the profile of the NPI and increasing its relevance to the community.

Furthermore, the concept of ‘right to know’ has practical as well as philosophical implications. Interested stakeholders such as the investment community, academia, environmental groups and the general community have a right to know the emissions performance of facilities so they can make informed decisions and hold emitting companies and the government accountable. Transparency is essential to an effective and vibrant democracy and confidentiality of information of public interest should be the last resort rather than the default.

From a right-to-know perspective it is hard not to conclude that the NPI is a logical information home for the disclosure of greenhouse gas emissions.

Issue 11: Could the NPI provide a common data set or ‘one-stop-shop’ for emissions information for use by policy makers, business and community interests?

Response

Given that there is an established user base of NPI information from areas such as the finance sector, academia, environment groups, business, government departments and the general public, the addition of greenhouse gases would provide a ‘one-stop shop’ for these users.

The importance of a ‘one-stop shop’ for business in providing greenhouse gas data to Australian Governments is clear. This is the fundamental purpose of the MCE/EPHC JWG and is premised on the basis that reporting of information is a burden and any need for duplication of that effort is an unacceptable further burden, with inefficiencies and business cost impacts. The other side of the reporting and disclosure equation is the means by which that information is provided to the public, and the value of minimising the investigative ‘burden’ of the data user by using a central provision point.

Given the data user is doing so at their own choice and expense rather than by Government request (as in the business reporting side), the case for transaction efficiency is not as strong from a financial benefit perspective. However, attention to minimising user ‘burden’ would demonstrate good governance in serving the public – a central provision point for any related information makes sense. To value transaction efficiency as the most important consideration for business, while disregarding the very same principle for the service-using public, could be construed as unbalanced.

GREENHOUSE GAS EMISSION REPORTING AND DISCLOSURE PILOT

Detailed Discussion of Issue 11

This issue concerns itself with the disclosure of data by government to the public, and asks whether an NPI with greenhouse gases would provide a 'one-stop shop' for emissions information users and whether such a common access point would be beneficial.

Detailed Response to Issue 11

Given the existence of extensive emissions information on 90 substances in the current NPI, adding the greenhouse gases would augment that program. Also given that there is an established user base of NPI information from areas such as finance sector, academia, environment groups, business, government departments and the general public, the addition of greenhouse gases would provide a 'one-stop shop' for these users.

The importance of a 'one-stop shop' for business in providing greenhouse gas data to Australian Governments is clear. This is the fundamental purpose of the MCE/EPHC JVGs and is premised on the basis that reporting of information is a burden and any need for duplication of that effort is an unacceptable further burden, with inefficiencies and business cost impacts. The other side of the reporting and disclosure equation is the means by which that information is provided to the public, and the value of minimising the investigative 'burden' of the data user by using a central provision point.

There are numerous advantages in the display of all emissions, including greenhouse gases, at the one site. Members of the public are able to access all emissions from companies in one place and can compare the relative performance of one company against other companies in the same sector. The inclusion of greenhouse gases gives the public a more complete view of a company's environmental footprint to make informed purchasing and investment decisions and to track the performance of business.

Having a comprehensive source of emissions information can also help policy makers more efficiently target different types of emissions. At least one state government has used the broad range of emissions information available on the NPI to assist in setting thresholds for licensing arrangements. Other state governments have used information provided by the NPI to better inform licensing activities, resulting in changes to licence conditions. Where responsibility in greenhouse regulation falls to the same bodies involved in broader environment protection, a central information point makes integrated regulatory decision-making easier.

Given the data user is doing so at their own choice and expense rather than by Government request (as in the business reporting side), the case for transaction efficiency is not as strong from a financial benefit perspective. However, attention to minimising user 'burden' would demonstrate good governance in serving the public – a central provision point for any related information makes sense. To value transaction efficiency as the most important consideration for business, while disregarding the very same principle for the service-using public, could be construed as unbalanced.

GREENHOUSE GAS EMISSION REPORTING AND DISCLOSURE PILOT

Issue 12: Would mandatory public reporting of greenhouse gas emissions through the NPI create a level playing field for industry as a tool to drive competitive emissions reduction?

Response

Any national mandatory reporting and disclosure system could be expected to achieve these benefits, assuming appropriate setting of thresholds to capture a significant proportion of emissions without undue burden on small business. The NPI as one option could certainly do this, since it is a widely known, established program designed to exclude small business, with a track record of promoting emission reductions, as do other PRTR's around the world such as the USA Toxics Release Inventory.

Detailed Discussion of Issue 12

Greenhouse gas reporting requirements currently vary across Australia depending on the particular program's objectives, whether it is mandatory or voluntary or the degree of data disaggregation. Would an NPI with greenhouse requirements level the playing field?

Detailed Response to Issue 12

Inequalities currently exist in the market, in terms of the degree to which companies publicly report on greenhouse gas emissions. Some companies report greenhouse information to various programs, some report publicly via annual company performance reports (voluntarily) and many do not report this information at all.

As reported in a submission to the MCE/EPHC JWG public consultation in 2005, there are currently at least four unfair distinctions arising out of the lack of consistent reporting:

- differences among industry sectors (for example, between energy generation and most other industry sectors)
- differences among industries in the same sector operating in different Australian jurisdictions
- differences among companies headquartered in Australia and those active in Australia but listed or headquartered overseas, where mandatory reporting requirements may be in force
- differences among companies voluntarily reporting their emissions, and thus exposing themselves to public scrutiny and possibly criticism, and those that do not.

Mandatory reporting and public display of this data would ensure that companies that do achieve reductions in emissions are able to reap the full benefits of those improvements, since poor performers are visible. Data can be compared within each sector enabling innovators to demonstrate their leadership position by benchmarking against their competitors.

This method of comparison can be expected to motivate companies to reduce emissions as a means of gaining a 'competitive edge'. Greenhouse is becoming an important issue both nationally and globally, and with this

GREENHOUSE GAS EMISSION REPORTING AND DISCLOSURE PILOT

increasing interest comes an expectation that companies will address climate change as part of their corporate responsibilities.

Issue 13: Would displaying greenhouse gas emissions information on the NPI satisfy finance sector requirements to ascribe credit and insurance/reinsurance risk and investor certainty?

Response

Banking and investment sectors are current users of NPI data in helping to determine environmental performance of companies. These users have expressed a strong interest in increased public disclosure of company greenhouse performance, preferably through a mandatory measure such as the NPI. While their analysis is typically performed at the company rather than site level, the further disaggregation provided by the NPI does not appear to mitigate against these needs, particularly in the current context of limited information.

Detailed Discussion of Issue 13

For some time there have been concerns in the finance sector about the risks associated with climate change. These concerns include risks associated with costs that may be incurred from climate change-related impacts such as weather events (and associated costs for insurance), as well as risks associated with a company's dependence on carbon-based fuels and their ability to react to changes in Government climate change policy. It is the second of these risks that could be addressed through the reporting of greenhouse gases on the NPI.

In economic terms, an 'information asymmetry' is a situation where there is a partial or complete lack of publicly available data on which to make decisions. Therefore the efficient operation of the market is obstructed as companies withhold part or all available data on their greenhouse and energy usage. The degree to which this information asymmetry will be mitigated by public reporting through the NPI needs to be considered.

Detailed Response to Issue 13

Investors have been pressing corporations for more disclosure of climate risk and its impact on competitiveness and investment returns. Programs such as the Carbon Disclosure Project have grown out of this need for institutional investors to better assess potential risks and opportunities relating to climate change.

Rising energy price rises and the introduction of financial policy measures to manage greenhouse gas emissions have the ability to impact significantly on companies' future performance, particularly in energy-intensive sectors, such as steel refinery and minerals extraction. For example, recent research suggests that many Australian companies are more exposed to energy price risk than insurance rate risk (Bullock, 2002), however, at present a company's insurance rate risks are far better understood as economic liabilities are publicly reported every year.

Without access to greenhouse gas emission data, it is very difficult for the finance sector to accurately identify and quantify these risks. So while public reporting of greenhouse gas emissions (through, for example, the NPI) will not eliminate risks, they will help the finance sector (and investors generally) assess risks relating specifically

GREENHOUSE GAS EMISSION REPORTING AND DISCLOSURE PILOT

to a company's energy use and greenhouse gas emissions. This will allow the sector to benchmark companies' performances for the purpose of investment and thus mitigate the risks associated with making investing decisions.

A recent study by Innovest (Kiernan, Bell, Hartnett et al, 2005) concluded that in the Australian business context, beyond the good performance of the leaders, there was a general lack of awareness of carbon/ climate change risk by local industry. As part of their analysis, the majority of companies did not disclose their greenhouse emissions and, where they did, there was still a lack of consistency and metrics in the reported data. Furthermore, they noted that voluntary programs to date, beyond the successful engagement of a small number of industry leaders, had not been successful in moving the majority to consider greenhouse issues.

Issue 14: Would greenhouse gas emissions reporting through the NPI provide important information to inform the development of an emissions trading scheme?

Response

The critical issue with the development of an ETS in Australia, in relation to a proposed NPI with greenhouse gases, is timing. While extensive work is currently underway between States and Territories, it is likely to still be some years away from coming into effect. Any comprehensive information about current emitters could be valuable to the design of such a system. An NPI with greenhouse gases could neatly fill that need, particularly given the timeframes of the current NEPM variation process.

Detailed Discussion of Issue 14

Emissions Trading Schemes (ETS) are becoming an increasingly popular policy measure for the management of greenhouse gas emissions. They are regarded as being an efficient and flexible approach towards reducing greenhouse gases, while requiring minimal government intervention in the market. The recently introduced EU trading scheme illustrates this.

The ability of greenhouse gas emissions information reported to the NPI to underpin a functional emissions trading scheme is discussed in Issue 23. The degree to which reporting of greenhouse gases through the NPI could inform and assist the development of an ETS in Australia, as opposed to centrally operate it, is considered in the response to this issue.

Detailed Response to Issue 14

Reporting and disclosure of greenhouse gases will have significant flow-on benefits to any attempt to set up an ETS. These include:

- the design of the ETS by government is likely to be assisted by an increased understanding of the profile of greenhouse gas emissions in different types of companies

GREENHOUSE GAS EMISSION REPORTING AND DISCLOSURE PILOT

- building company awareness of their greenhouse gas emissions and the ability to compare emissions levels with other like businesses
- familiarisation with reporting standards and procedures likely to be used in an ETS, such as the WRI/WBCSD protocol
- finance, consulting and other sectors that will be involved with an ETS will benefit from the availability of greenhouse gas data through a better understanding of the market.

Issue 15: Could the NPI provide credible emissions information to encourage arrangements between businesses (and governments) such as sector-wide approaches or offset-type agreements?

Response

There currently exists no independent means of quantifying and disclosing greenhouse gas emissions from companies. With the benefit of such information, strategic and entrepreneurial approaches to lowest effort abatement action could be encouraged. Forward-thinking companies could make more informed investment decisions with a better understanding of the greenhouse positions of other companies. Similarly, program designers in government and investment institutions could better prioritise their efforts with a broader understanding of the market than is currently available.

Detailed Discussion of Issue 15

Could the existence of consistently reported industry greenhouse gas information in the NPI, independently verified by Governments, provide a breadth of information to encourage creative approaches to emission reduction program design by industry and governments? The question is similarly framed to the previous one specifically about an ETS, working from the assertion that more creative and strategic thinking in program design is likely with the benefit of better information about the structure and profile of the market to be influenced.

Detailed Response of Issue 15

As previously discussed there exists no company emissions data consistently calculated and reported in the public domain. With the benefit of such information, strategic and entrepreneurial approaches to lowest effort abatement action could be encouraged. This may take the form of agreements between companies in a region or within a sector, perhaps as part of a voluntary commitment to abatement. Equally such information could be used by companies to position themselves for action ahead of a formalised scheme such as an offsets program.

For example company A, a pivotal provider to the local economy, may be contemplating its investment options for the deployment of lower greenhouse-intensity plant or large-scale energy efficiency measures, as part of delivering on commitments for greenhouse gas reduction, in this example through lowered CO₂ emissions. In light of more information about company B, a quite different industry also important to regional prosperity, company A gains a better understanding of company B's greenhouse liability, in this case as a significant methane emitter.

GREENHOUSE GAS EMISSION REPORTING AND DISCLOSURE PILOT

With an opportunity of support through a regional investment body or similar, company A may now decide that synergies exist for a co-operative agreement between the two companies (perhaps a cogeneration venture capturing that methane) which comes at ultimately lower cost, greater greenhouse benefit and a range of other benefits to both companies.

Without knowledge of the amount of methane emitted by company B, company A would not have known enough to recognise this opportunity.

Similar to companies, governments contemplating priorities for abatement program design could also identify opportunities such as the example suggests, given the existence of information. This may represent a strategy with the right abatement outcome and net economic benefit to business and the community. As with the case of ETS design (Issue 14), other government programs designed with abatement in mind, particularly the registering and recognition of offsets between companies, could be better formulated with the benefit of more detailed market emissions knowledge.

A uniformly applied emissions disclosure program could provide information that might lead to more creative ways to reduce greenhouse gases.

DESIGN ISSUES RAISED CONCERNING THE USE OF THE NPI FOR REPORTING OF GREENHOUSE GASES

Issue 16: How would NPI data align with international reporting requirements, such as through the NGGI?

Response

The reporting of greenhouse gas emissions to the NPI would be at the facility level (see Issue 19) and would be calculated in accordance with international standards for greenhouse data collection, including the WRI/WBCSD Greenhouse Gas Protocol. This bottom up approach would assist and inform the top down sector-based role of the NGGI in reporting against international requirements, but would primarily serve a different purpose through the NEPM goals of promoting waste minimisation and cleaner production practices (resource efficiency) at the facility level.

Detailed Discussion of Issue 16

This issue considers the overlaps or difficulties between greenhouse information collected through the NPI and international reporting obligations most prominently discharged through the NGGI.

Detailed Response to Issue 16

Australia has commitments to provide detailed energy supply and demand information to international organisations such as the International Energy Agency (IEA), the World Energy Council (WEC) and the Asia Pacific

GREENHOUSE GAS EMISSION REPORTING AND DISCLOSURE PILOT

Economic Cooperation (APEC) forum, as well as providing input into Australia's NGGI. Australia contributes to international energy statistics collection through the data reported via ABARE's Fuel and Electricity Survey (FES). Data is collected on an annual basis and includes the historical and forecast information on the amount of energy consumed and produced in Australia, by industry, by fuel type and by State. It is anticipated that data reported through the NPI would provide an additional consistent set of data to feed into this process, in terms of fuel use type and amount and electricity usage. ABARE data however is publicly released in an aggregated format with no reference to company names.

Australia is a party to the UNFCCC and annually reports a national inventory of greenhouse gas emissions and sinks. The inventory draws on published data, including from the ABARE FES, is prepared in accordance with IPCC guidelines on inventory preparation (taking into account Australian conditions) and is subject to regular international expert review.

The IPCC guidelines recommend using the Reference approach, ie the use of both Tier 1 or "top down" method and the Tier 2/3 or "bottom up" method for estimating emissions. The latter provides more detail about emission processes and sources, and is likely to be more accurate, but requires more detailed information about national energy use. These statistics are compiled from ABARE FES and supplemented by a variety of other sources of information. The statistics provide a comprehensive and detailed "bottom up" quantification of energy use in Australia. They are reconciled with "top down" statistics of all major fuels in Australia, collected from the suppliers of those fuels, ie the coal, oil, gas and electricity industries. ABARE provides State breakdowns of energy consumption, but for the purpose of compiling the NGGI only the aggregate national statistics are used.

Emissions are not usually monitored directly but are generally estimated through the application of models and methodologies that link emissions to data on observable activities. The Australian methodology for estimating greenhouse gas emissions and sinks uses a combination of country specific and IPCC methodologies and emission factors. These methods are consistent with the Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories and are comparable with international practice.

Issue 17: How would the NPI deal with reporting boundaries?

Response

Whatever the reporting vehicle chosen, it would seem company-based reporting is a minimum requirement. However, unless there are compelling confidentiality arguments against it, there appears no reason to alter the NPI's site-based approach for greenhouse gases alone. In addition, as has already been flagged in the current NPI, an explicit connection from facility report to overriding company ownership would best satisfy user needs.

GREENHOUSE GAS EMISSION REPORTING AND DISCLOSURE PILOT

Detailed Discussion of Issue 17

The issues of organisational boundary definition and choice of appropriate threshold for reporting are interlinked. The NPI currently draws the organisational boundary at the facility or site level, and defines this through specific reference in the NEPM and interpretative definitions that stem from this in program implementation. In adding the greenhouse gases, as potentially both direct and energy-indirect emissions, the question is essentially whether this information is best incorporated at the site or company level.

Detailed Response to Issue 17

Currently the NPI requires information to be reported at the site or facility level, with facility defined as ‘any building or land from which a substance may be emitted, together with any machinery, plant, appliance, equipment, implement, tool or other item used in connection with any activity carried out at the facility; and includes an offshore facility’. Similarly ‘occupier’ is defined in the NEPM as ‘in relation to any facility means a person who is in occupation or control of the facility whether or not that person is the owner of the facility.’ These two definitions are used to define the boundary of a facility in practice, particularly where complex company and/or contracting arrangements exist on a site. Existing arrangements such as site (or premises) based licensing arrangements have also provided precedent for defining the boundary for reporting. While boundary definition has required interpretation in the course of the program to date, it has in the main, been consistently and satisfactorily handled with limited implementation difficulty.

In the context of other greenhouse gas programs, emissions are often collected at the more aggregated company level, since the environmental impact is not a local one and confidentiality issues have been put forward as obstacles for reporting at the site level. From an investor’s perspective, information about company environmental performance as a whole is usually what is required. Indeed investment community users of current NPI information have requested a more explicit link to company ownership to help them determine company performance/risk from an environmental perspective. However, in paralleling the financial reporting approach of companies, greenhouse information is often provided at both site and aggregated company level to best illustrate context and site operational differences, and because the calculation exercise must be carried out at site level in any case to arrive at company level estimates.

Site level reporting in the NPI context has the advantage of arguably better serving one of the NEPM’s goals of promoting waste minimisation and cleaner production practices (resource efficiency). It is likely that competitive pressure to improve emissions performance would be greater in a site-reporting model due to its greater transparency.

Whatever the reporting vehicle chosen, it would seem company-based reporting is a minimum requirement. However, unless there are compelling confidentiality arguments against it, there appears no commanding reason to alter the NPI’s site-based approach for greenhouse gases alone. In addition, as has already been flagged in the current NPI, an explicit connection from facility report to overriding company ownership would best satisfy user

GREENHOUSE GAS EMISSION REPORTING AND DISCLOSURE PILOT

needs. This linkage already exists in the current NPI's reporting structures, i.e. companies can submit multiple facility reports (across multiple jurisdictions) in one operation through a central 'coordinator'. The Australian Government-run web database/end NPI product could simply reconstitute these links for display purposes, to allow data to also be viewed from a company perspective.

It should be noted that, should the broader deliberations of the EPHC/MCE joint working groups determine that company-based reporting would be sufficiently disaggregated, then the NPI is unlikely to be best placed to deliver this information, due to its site-based structure.

Issue 18: What are appropriate thresholds for reporting?

Response

In introducing greenhouse gases into the NPI, potentially the most cost-effective approach for business is to utilise existing thresholds, in the form of category 2a fuel consumption for direct emissions of CO₂ and N₂O (400t of fuel or 1000 t CO₂-e), category 1 substance usage for direct emissions of CH₄, HFCs, PFCs and SF₆ and introduce a new category 2 threshold (2c) for energy-indirect emissions reporting set at 5000GJ per year, to be consistent with the 1000t CO₂-e quantum of 2a. The simplicity of this approach is that all thresholds for direct and indirect emissions are equivalent to 1000 t CO₂-e.

Detailed Discussion of Issue 18

Upon determining the boundaries for reporting (site-based as discussed above), the next question to pose is the setting of a reporting threshold i.e., minimum emission or energy use criteria which need to be met in order to qualify an operation as significant enough to require reporting. Various greenhouse and energy related programs adopt different approaches to threshold setting. As in the current NPI, thresholds may also be chosen in terms of surrogate activity data readily available to companies to minimise the cost burden of the 'do we report/don't we report' decision. Examples of this are the substance usage and fuel consumption thresholds of the current NPI – such surrogates are simply obtained without requiring the technical understanding of the emissions estimation itself.

Detailed Response to Issue 18

Thresholds should be set using simple measures where possible – any explicit emission-based threshold defeats the purpose of having such a cut-off at all, since the cost of the emissions calculation exercise (the major reporting cost) has already been sunk for those who find their emissions are ultimately below the threshold. Measures should be surrogates or raw material inputs of emissions themselves, and should be set to approximately mirror the threshold level emission that is deemed to be the cut-off point where the cost of reporting outweighs the value of the data in meeting program needs.

GREENHOUSE GAS EMISSION REPORTING AND DISCLOSURE PILOT

The following table illustrates examples of thresholds used in some programs across Australia. The Greenhouse Challenge no longer has tiers for participation, but ‘small’ emitters (labelled as <1000t CO₂-e) are encouraged to participate through industry associations.

SCHEME	THRESHOLD	COMMENTS
NPI – category 2a fuel combustion	400 tonnes of fuel or waste/ year	Converts to 1100 t CO₂-e for coal in steel industry, 980 t CO₂-e NSW washed black coal, 1200 t CO₂-e LPG non-transport, 930 t CO₂-e brown coal briquettes
NPI – category 2b fuel combustion	2000 tonnes of fuel or waste/ year	Converts to 5500 t CO₂-e for coal in steel industry, 4900 t CO₂-e NSW washed black coal, 5900 t CO₂-e LPG non-transport, 4600 t CO₂-e brown coal briquettes
Greenhouse Challenge Tier 1 (now defunct)	100, 000 t CO ₂ -e / year	
Greenhouse Challenge Tier 2 (now defunct)	1, 000 t CO ₂ -e / year	
Vic SEPP (category A) – no energy audit required	100t CO ₂ -e or 500 GJ / year	
Vic SEPP (category B) – level 1 audit & action plan for ‘excessive’ energy use	100 to 1400 t CO ₂ -e or 500 to 7000 GJ / year	
Vic SEPP (category C) – level 2 audit & best practice action plan	>1400t CO ₂ -e or >7000 GJ / year	Covered about 35% of licences and accounted for 99% of CO ₂ -e emissions reported to the program
Western Australia Greenhouse Gas Inventory (WAGGI)	500,000t CO ₂ -e / year	To drop to 100, 000 t CO ₂ -e / year in 2 years
NSW GGAS energy users	100GWh / 360 TJ	Converts to 83,000 t CO ₂ -e
Australian Government Energy Efficiency Opportunity Assessments (EEOA)	500 TJ (0.5 PJ)	Converts to 100,000 t CO ₂ -e

Figure 4: Selected greenhouse program thresholds in Australia

Philosophically (and practically) there are two broad options for setting thresholds in respect of including greenhouse gases in the NPI: setting new purpose-built threshold or making use of the existing threshold structure, particularly relating to fuel combustion (NPI category 2a or 2b). The decision on which way to go needs

GREENHOUSE GAS EMISSION REPORTING AND DISCLOSURE PILOT

to be driven by the approach that delivers the necessary information needed to meet the policy objectives for reporting in the most cost-effective way for business.

This pilot will capture both direct emissions of the six major greenhouse gases (carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride) and energy-indirect emissions in CO₂-e. Assuming this model of greenhouse gases in the NPI, three categories of threshold would need to be considered:

1. direct emissions from combustion processes (carbon dioxide and nitrous oxide)
2. direct emissions from non-combustion processes (methane, hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride)
3. indirect emissions.

Direct emissions from combustion processes

In the context of no NPI (and therefore no existing thresholds), a level of threshold would be chosen to target only those entities that would provide the bulk of that necessary information. This may be along the lines of some of the larger examples from programs in the table above. But given that the NPI exists, and relevant thresholds for combustion of fuels are in operation, it would clearly be more cost-effective for industry to not have to consider an additional threshold for this category of emission at all, rather the existing 2a or 2b category should suit the purpose.

In other words, it would be more of a burden for all the NPI reporters to have to answer the threshold question for a new high-set threshold (for example 100,000 t CO₂-e), even if they were subsequently below it, than to not even consider it, once the existing 2a or 2b threshold consideration had been determined.

Along these lines, the reporter would continue to report combustion emissions as they do now, with no additional inputs at all, and the calculation tools available to them (updated to include the relevant emission factors) would simply calculate the additional outputs (emissions of carbon dioxide and nitrous oxide) for them. This would result in the reporting of direct emissions to the NPI at no additional cost to the reporter, courtesy of the existing fuel threshold system.

But how appropriate would the existing combustion threshold be? From the table above, the category 2a threshold (400 t fuel consumed) equates to approximately 1000 t CO₂-e, depending on the properties of the various fuel types. Equally category 2b (2000 t fuel consumed) is roughly equivalent to 5000 t CO₂-e. Category 2a in particular compares well with Greenhouse Challenge's previously adopted threshold system for tier 2 reporting (1000 t CO₂-e) and the Victorian EPA's SEPP Industry program category C threshold (1400 t CO₂-e). All other program thresholds have been deliberately set to capture only the largest emitters and are essentially two orders of magnitude above this again.

Given the consistency with Challenge's tier 2 and EPA Victoria's category C SEPP program threshold, category 2a would seem well suited to the purpose of a cut-off for carbon dioxide and nitrous oxide reporting.

GREENHOUSE GAS EMISSION REPORTING AND DISCLOSURE PILOT

It is worth noting that, on the basis of data reported to the NPI in 2003/04, a Category 2a threshold capturing greenhouse gases would have resulted in approximately 1800 facility reports of CO₂ and N₂O emissions across Australia. This would have been delivered at essentially zero net cost to the majority of reporters. For those reporters that use their own spreadsheet-type programs for combustion emission calculations (as opposed to the calculation tools supplied by the Australian Government) there would be expected to be a minor one-off cost to update them to include the additional emission factors.

Direct emissions from non-combustion processes

This category includes the reporting of methane (CH₄), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulfur hexafluoride (SF₆). These would be best handled using the existing category 1 threshold system, which considers 'substance use' as the surrogate threshold system. Currently all category 1 threshold substances are set at 10t of substance usage, although the NPI NEPM variation is considering the introduction of a lower level of category 1 threshold.

The table below shows the level of emission of each substance that is equivalent to the 1000t CO₂-e threshold discussed above, using the substance's 'Global Warming Potential' (GWP). The usefulness of this 1000 t CO₂-e level as well as the current NPI category 1 threshold (10 tonnes) is discussed below.

Substance	Global warming potential (GWP)	Emissions to be equivalent to 1000 t CO ₂ -e
Methane	21	50 t
PFCs	CF ₄ =6500 C ₂ F ₆ =9200	CF ₄ =150 kg C ₂ F ₆ =110 kg
HFCs	Varies widely HFC _{134a} =1300 HFC ₁₂₅ =2800 HFC _{143a} =3800	HFC _{134a} =770 kg HFC ₁₂₅ =360 kg HFC _{143a} =260 kg
Sulfur hexafluoride	23,900	40 kg

Figure 5: Global warming potentials of non-combustion greenhouse gases

Methane

Three broad sources of methane are relevant here: agricultural emissions, waste and wastewater emissions and fugitive emissions from fuels. The key problem across all these categories is that for some organisations (especially agriculture) the data is currently unknown, and for some industries (especially waste), the calculation is reasonably complex. As discussed below, a 50 tonne threshold is suggested for all sources.

GREENHOUSE GAS EMISSION REPORTING AND DISCLOSURE PILOT

Agriculture – It appears that most of the feedlots that already report to NPI would be captured by both a 10t threshold or a 50t (as per 1000t CO₂e), given that approximately 400-500 cows would produce 50t methane per year (NZ Ministry of Agriculture and Forestry, 2003).

Waste – An EPA Victoria study (2001) indicated the largest 3.8% of landfills generated 45% of the methane emissions from the landfill industry, and 8% of landfills generated 63% of emissions. Therefore there is some justification in setting a threshold relatively high for landfills. However 188 landfills already report to NPI and the burden of calculating whether a landfill meets ANY methane threshold needs to be considered.

Preliminary investigations indicate that many of the currently reporting landfills would fall below a 10t threshold for methane. However, given the relatively small impact this represents, a 50t threshold may be preferred for consistency with 1000 t CO₂e. This also applies to wastewater treatment plants

Fugitive emissions from fuels - Given that a relatively small number of organisations would fall into this category and the relatively large size of emissions from each of these, a 50 tonne threshold would be appropriate.

PFCs

PFCs are primarily emitted from the aluminium smelting process in Australia. All primary aluminium smelters in Australia currently report to NPI, and these smelters all report for PFCs to other programs, so the threshold could easily be set at a level low enough to capture all of these without any additional burden on industry. Given the high GWP potential of these substances, the 1000t CO₂e (100-150kg of PFCs) would seem to be appropriate

HFCs

According to NGGI, approximately 98% of Australia's HFC emissions stem from refrigeration and air conditioning equipment. In turn, the vast majority of these emissions would stem from 'diffuse' sources, of which there would be no value in public reporting. Preliminary research indicates there are very few organisations that would trigger reporting if the threshold was set at the 1000t CO₂e threshold of 300–800 kgs.

Sulfur Hexafluoride

The AGO (2003) indicates that the vast majority of sulphur hexafluoride emitted in Australia are from the 100+ transmission substations that handle 220KV+ load. Rough calculations would indicate these have a leakage rate of 200kg each per year, which is well above the 40kg threshold suggested by 1000t CO₂e.

Indirect emissions

In contrast to direct emissions, the current program provides no definitive guidance for the choice of a threshold for reporting of indirect emissions, despite the fact that an electricity usage threshold currently exists (see discussion below). However, the 1000t CO₂e figure (which roughly equates to the NPI category 2a threshold) could be a useful starting point.

GREENHOUSE GAS EMISSION REPORTING AND DISCLOSURE PILOT

An electricity usage quantity could be chosen (in MWhr and/or GJ) that is equivalent to 1000t CO₂-e emissions, to provide consistency between the use of fuel and the use of electricity - in recognition that in some cases plant and equipment could be designed to be powered by either. This figure will vary depending on which emission factor for consumption of purchased electricity is chosen (they vary between states and territories).

According to the latest emission factors from the *AGO Factors and Methods Workbook December 2005* (table 5), the conversion from 1000t CO₂-e emissions would range from 2800 GJ in Victoria (the most greenhouse-intensive electricity source) to 5000GJ in NT (the least greenhouse-intensive electricity source, excluding Tasmania, which is predominantly serviced by hydroelectricity). A rough average across Australia (excluding Tasmania) would fall at approximately **4000 GJ**, which equates to approximately **1000 MWhr**. Following the logic of consistency with 1000 t CO₂-e emissions, this would appear to be a reasonable choice of indirect emissions reporting threshold.

A 4000 GJ/ 1000 MWhr electricity usage threshold (for triggering indirect emissions reporting) would best be incorporated as an additional category 2 threshold (potentially a new subcomponent, category 2c) given the existing electricity usage component of category 2b.

It is worth noting that the NPI currently collects energy information from reporters (though this is neither compulsory nor made public) as a means of assessing whether the Category 2b electricity use threshold of 60,000MWhr has been triggered. This aspect of the category 2b threshold is in place to capture electric arc furnaces used in aluminium smelting, which emit substances to air from the smelting process that would not otherwise be captured. The NPI's current capture of this information means that, as in the case of the CO₂ and N₂O, indirect emissions can be reported to the NPI at no additional cost for those reporters that use the NRT (the majority) since there are no additional inputs required.

Issue 19: How would an NPI with greenhouse gases relate to other programs dealing with the greenhouse issue?

Response

To satisfy the needs of efficient and effective reporting by industry, a greenhouse gas reporting obligation under the NPI NEPM could be discharged flexibly through either the NPI's normal channels or through the AGO's Greenhouse Challenge Plus program via its OSCAR system, depending on the needs of the reporting entity. The IT ramifications of this are discussed under Issue 20. This approach recognises that neither greenhouse reporting or NPI reporting exist for a company in isolation, which is crucial to understanding the likely '2-stop shop' nature of any 'one-stop shop' solution that falls short of dealing with both greenhouse gas reporting and NPI substance reporting together.

Detailed Discussion of Issue 19

There are a number of existing greenhouse gas and energy related programs across Australia that exist for various purposes. These are outlined in the Joint Working Group Report on Greenhouse and Energy Reporting for the

GREENHOUSE GAS EMISSION REPORTING AND DISCLOSURE PILOT

Environment Protection and Heritage Council and Ministerial Council on Energy, August 2005. The most notable are those administered at the Australian Government level, primarily through the AGO (under the Greenhouse Challenge, which was recently redesigned as Greenhouse Challenge Plus) and the emerging program through the Australian Government Department of Industry, Tourism and Resources, Energy Efficiency Opportunity Assessments (EEOA). The latter has similar elements to Victoria's SEPP(AQM) EPA Industry Greenhouse Program.

The key question is how would an NPI with greenhouse gas reporting operate in the context of these existing programs and to what extent would this create duplication or confusion for business?

Detailed Response to Issue 19

From an NPI perspective, the inclusion of additional substances to report upon is not only conceivable but also relatively straightforward, particularly for direct emissions to the environment. However, the NPI does not exist in isolation.

The most important criterion for any greenhouse reporting program from industry's perspective, particularly after all jurisdictions committed to reducing the industry reporting burden through the formation of the Joint MCE/EPHC Working Group in October 2004, is that greenhouse reporting for business should be streamlined in the most efficient and effective manner possible, ideally through a single, national system, without duplication.

With this in mind, and with the history of headquartering Australian Government leadership on greenhouse issues at the AGO, it would make no sense to develop a program through the NPI that would be additional to this. To satisfy the efficiency requirements above, an NPI containing greenhouse gases cannot be constructed as mutually exclusive to other major programs, most notably those coordinated by the AGO.

The AGO's Greenhouse Challenge (Challenge Plus) and its associated database system OSCAR do not currently serve the function of a transparent publicly available information source on emissions to the environment – nor does it provide a mandatory requirement for reporting. Clearly this is the role of the NPI. Equally the NPI is not an abatement program per se, nor does it disclose energy use or explicitly broker agreements with companies to improve greenhouse performance. This is the role of Challenge Plus. Challenge Plus is a broad voluntary program focusing on the encouragement of a range of abatement strategies, while NPI is a clear but narrower mandatory program focusing on transparent information disclosure to the public, albeit purposefully to promote emissions abatement action.

The recognition of that difference, program versus disclosure tool respectively, provides an insight into how an NPI with greenhouse gases could function to satisfy the needs for efficiency and effectiveness in reporting.

Firstly, the requirement must be mandated and apply uniformly. Given the NPI is currently undergoing a NEPM variation process considering a range of issues (including the addition of greenhouse gas reporting) then it represents no net extra cost to mandate the greenhouse reporting requirement in the new NEPM, should that instrument be made by NEPC. This would provide a uniform approach, albeit with an inherent system of threshold design. Alternatively the legal mechanism could be provided by other options such as a new NEPM, which would

GREENHOUSE GAS EMISSION REPORTING AND DISCLOSURE PILOT

be envisaged to result in higher costs to business and governments due to its additionality. A key point to note, should the NPI NEPM be the means of legal mandate, is that the mechanism for discharging that legal obligation for business should be the most efficient and effective one for them, an outcome that could be flexibly catered for in the NEPM. In other words, a reporting obligation under the NPI NEPM could be discharged through the use of the AGO's OSCAR system or through the NPI's NRT (or subsequent upgraded NPI systems). Further discussion on the technical system ramifications of this are covered under Issue 20 below.

Such an approach would allow a company currently reporting on a greenhouse program through OSCAR to have their relevant information "siphoned" to the NPI, to fulfill the public disclosure requirement, while not duplicating their efforts in reporting to a broader program such as Challenge Plus. The other advantage of this approach is that the centrality of the relationship between Challenge Plus companies and the AGO on greenhouse issues is not lost.

Alternatively, a current NPI reporter (faced with an NPI greenhouse reporting obligation) who has no involvement with Challenge Plus can continue to report through the NPI channels, rather than being forced into using what would be a duplicative system for them.

Understanding that neither greenhouse reporting or NPI reporting exist for a company in isolation is crucial to understanding the likely '2-stop shop' nature of any 'one-stop shop' solution that falls short of dealing with both greenhouse gas and the NPI substance reporting together.

Issue 20: How would NPI data systems for collection and public display relate to other program data systems?

Response

The model presented provides a 'one-stop shop' for reporting, which allows flexibility for the reporter to determine the most efficient of two possible 'shops' for their purposes (OSCAR or NPI), allowing the most effective outcome for business. Public disclosure aspects from OSCAR lodged reports would be 'siphoned' to the NPI web database, 'behind the scenes', by way of a data transfer protocol between systems.

This option best preserves the differences of program and disclosure tool, by allowing the use of the most accessible route for reporters depending on their current demographic in the reporting spectrum (see Issue 18 discussion on thresholds).

Detailed Discussion of Issue 20

This question relates directly to Issue 19 in terms of existing and future programs, but focuses on the technical aspects of duplication or harmonization from a systems point of view.

GREENHOUSE GAS EMISSION REPORTING AND DISCLOSURE PILOT

Detailed Response to Issue 20

To provide the most efficient reporting system for industry and the most effective public disclosure model for all stakeholders there are conceivably four options:

1. Provide a true 'one-stop shop' for all emissions reporting in Australia, by configuring the OSCAR system to also accept current NPI emission reports, as well as replicate the public disclosure web database of the current NPI.
2. As per 1, but leave the public disclosure aspects to the NPI web database, by way of a data transfer protocol between systems where appropriate.
3. Provide a similar 'one-stop shop' for all emissions reporting and public disclosure through the NPI reporting systems, providing information for AGO program purposes through a data transfer protocol between systems where appropriate.

Or

4. Provide a 'one-stop shop' for reporting, which allows flexibility for the reporter to determine the more efficient of two possible 'shops' for their purposes (OSCAR or NPI), allowing the most effective outcome for business. Public disclosure aspects from OSCAR lodged reports would be 'siphoned' to the NPI web database, 'behind the scenes', by way of a data transfer protocol between systems.

Option 1 represents a long-term goal of having a single collection system for all emissions-related information but also replaces the public disclosure function of the NPI. Realistically, this is not a short-term option and probably not a long-term one either.

Option 2 is more realistic but no more than a long-term goal worth aiming for, given the likely complexity in adding the labyrinth of NPI reporting to OSCAR.

In the context of greenhouse and energy-related emissions (and abatement) data, **Option 3** is relatively uncomplicated to achieve technically, given the existing program structure of the NPI. But to change NPI from a disclosure tool to a program all things greenhouse and energy, one that would also drive a broader agenda such as record audits and abatement actions and administer offset programs would require so much change to the nature of the NPI that it would be unrecognisable.

Option 4 therefore best preserves the differences of program and disclosure tool, by allowing the use of the most accessible route for reporters depending on their current demographic in the reporting spectrum (see Issue 18 discussion on thresholds). A simple overview of the technical aspects of option 4 is discussed below.

GREENHOUSE GAS EMISSION REPORTING AND DISCLOSURE PILOT

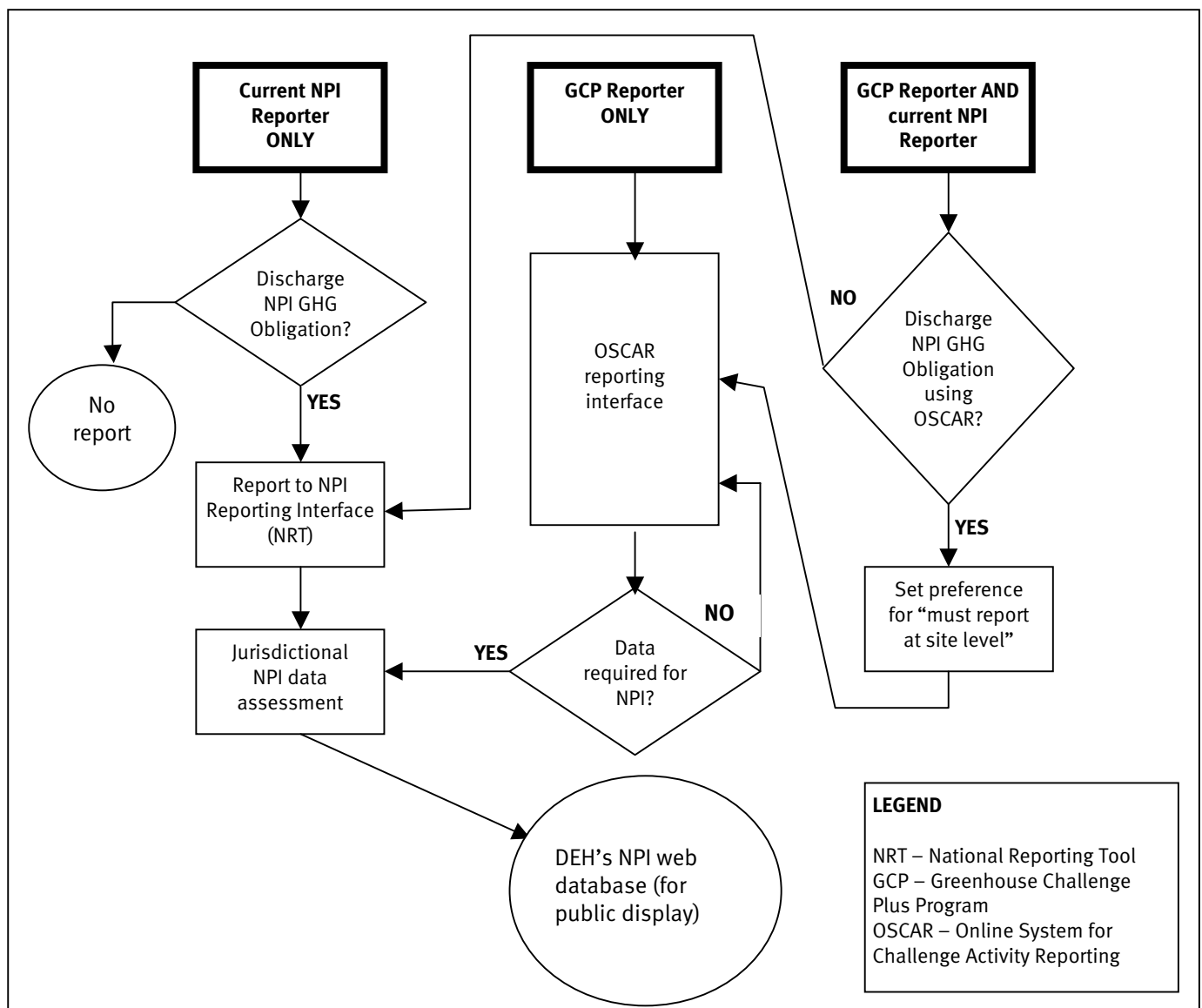


Figure 6: Data flows for a flexible reporting model

In the case of the existing NPI reporter who does not report to Challenge Plus, it is likely that they will find using NPI systems more efficient, because they can truly use a ‘one-stop shop’ to discharge their requirement. It is anticipated that the vast majority of reporters above the NPI Category 2a combustion threshold (see thresholds discussion in Issue 18) will be in this category. In this case, the existing NRT (and its associated combustion emissions calculation tool) could be modified to include the six substances as direct emissions (*Substance Use and Emissions* page), the current capacity to collect energy consumption (*Fuel and Electricity Use* page) broadened to accommodate indirect emissions and the *Emission Reduction Activities* page revised to accommodate abatement savings. Costs of these changes would be expected to be relatively modest in IT terms (see Issue 21 Costs and Benefits).

GREENHOUSE GAS EMISSION REPORTING AND DISCLOSURE PILOT

Reporting through this process (the current NPI reporting model) is outlined on the left hand side of the data flow model above. To enable the flexibility outlined above, the NRT could use a simple flag to record if greenhouse reporting was being undertaken via Challenge Plus/OSCAR.

In the case of the existing Challenge Plus reporter, they would continue to report to this program using OSCAR. From the outset they would need to identify themselves as also discharging their NPI (greenhouse reporting) requirement, which would establish a user profile requiring facility-level reporting. Only those required data fields for NPI purposes would then be subsequently available for access and assessment by State and Territory NPI verification staff, who could access OSCAR with an appropriate jurisdictional user profile to verify reports prior to submission to the NPI web database. This reporting model is outlined on the right had side of the data flow model above.

Both OSCAR, the NRT and the NPI web database would require modification to enable this 'flexible one-stop shop' approach.

Issue 21: What are the costs and benefits of including greenhouse gases in the NPI?

Response

The costs of adding greenhouse gases to the NPI would appear to be relatively low for both industry and government, with both coincidentally incurring an estimated 16% increase over current costs of reporting to/ implementing the program. This is due to the established nature of the program and its legal frameworks, as well as the flexibility of the reporting system proposed. No significant cost as a result of modifying the NPI in this way would appear to accrue to the community.

The estimated benefits for business are moderate and are expressed as regulatory certainty, credibility and consistency of information (in the event of uptake of market-based initiatives), community engagement and the ability to showcase good performance. Perhaps the key benefit to business is the flexibility to discharge their obligation using whichever reporting channel they are most aligned with (NPI or Greenhouse Challenge reporting frameworks), based on their existing reporting practices, thus avoiding duplication.

The estimated benefits to government are high, largely due to the low cost of using the NPI's existing infrastructure and resource capacity, with the added cost bonus of this program's current commitment to change through the Variation process. The estimated benefits to the community are also high given the level of public disclosure inherent in the NPI, empowering interest groups and individuals to engage more informatively in the debate about dealing with the problem of climate change, using a central information point.

While not investigated here in the context of any particular model, clearly the key distinguishing factor that emerges between using the NPI as part of the model of delivery and not doing so is quite simply the low cost and relative ease of implementation, due the use of an established and comprehensively applied program. When coupled with the advantages of the flexible reporting model suggested, the question could be changed to one of examining the reasons why not to involve the NPI as part of the solution.

GREENHOUSE GAS EMISSION REPORTING AND DISCLOSURE PILOT

Detailed Discussion of Issue 21

An analysis of the likely costs and benefits of an NPI program that includes greenhouse gas reporting is required. The very nature of quantifying costs and benefits is problematic and in some cases only a qualitative measure can be applied. This is particularly so for putting environmental and social benefits in economic terms, to allow for a balanced judgement of benefit versus cost. Therefore the analysis below draws on quantitative costs where estimation is possible but is, in the main, qualitative in estimating benefit and passing judgement on the relative merits of these costs and benefits.

Three options for reporting greenhouse gases are addressed, namely:

1. scope 1 and 2 emissions (and abatement savings)
2. scope 1 only (and abatement savings)
3. using mechanisms not involving the NPI.

Note that 'scope' above refers to the definitions of direct and indirect emissions outlined in the World Resources Institute and World Business Council for Sustainable Development (2001) *Greenhouse Gas Corporate Accounting and Reporting Standard*.

Option 1, as the pilot's preferred model of delivery (see section 7), is the subject of the major analysis of this section. Note that the treatment of options 2 and 3 are less rigorous and are provided for comparative purposes.

The key characteristics of options 1 and 2 can be summarised as:

- amendment to existing legislation (NPI NEPM), with harmonization of existing reporting requirements, i.e., flexible data collection mechanism choice for reporter - either existing NPI reporting channels or AGO-deployed reporting channels (OSCAR) (options 1 & 2)
- site-based reporting of the 6 major greenhouse gases using the NPI's existing threshold system (options 1 & 2)
- CO₂-e savings resulting from implementation of abatement actions (options 1 & 2)
- site-based contextual or explanatory comment to the submitted data (options 1 & 2)
- scope 2 (energy indirect) emissions reporting and disclosure (option 1 only).

The following analysis is based on these design characteristics.

GREENHOUSE GAS EMISSION REPORTING AND DISCLOSURE PILOT

Detailed Response to Issue 21

Option 1: Scope 1 and 2 emissions (and abatement savings)

Impacts to Business

Costs	Benefits
a) Consultation/advice to government	a) Regulatory certainty – level playing field
b) Understanding compliance requirements	b) Flexibility provides most efficient reporting process
c) Lowest burden reporting cost model	c) Consistent and comparable data
d) Data collection/calculation (scope 1)	d) Information to promote offset arrangements
e) Data collection/calculation (scope 2)	e) Good performance showcased
f) Administrative reporting cost	f) Transparency builds credibility and trust with community
g) Reputation impact management – ‘public shaming’ cost	g) Disclosure drives competition – financial cost savings
h) Commercial impact of potential energy consumption transparency	h) Increases corporate knowledge of greenhouse issue
Summary Major cost is additional reporting cost (b,c,d,e,f) – expected to be low	Benefits varied – predominantly market certainty, building community confidence (good performers), low-cost burden reporting and greenhouse reporting equity for industry.

Figure 7: Impacts to business of including greenhouse gases in the NPI

The NPI was designed in such a way as to elicit emissions information from business and other sources to serve policy purposes without unduly impacting on business. In particular, the program was designed to specifically exclude small business where possible:

‘It should be noted that thresholds have been set high enough to exempt small business from any reporting burden. In addition, some specific activities have been exempted from reporting...’ (Technical Advisory Panel Report 1999, p30)

‘The spirit of designing thresholds for the NPI requires that small businesses should not be caught in any reporting obligation.’ (Technical Advisory Panel Report 1999, p34)

By adhering to a threshold framework similarly constructed to the current system, and noting the simplicity of scope 2 indirect emission calculation (a simple multiplication), adding greenhouse gases to the NPI would maintain the low impost characteristics of the program to small business.

GREENHOUSE GAS EMISSION REPORTING AND DISCLOSURE PILOT

Costs to medium to large businesses

a) Consultation/advice to government.

This cost would be attributed to industry's involvement in consultation processes such as those conducted during policy review/ development processes or other development projects such as this one. This would be made up of the human resource costs of attending meetings, providing written comments on behalf of companies and lobbying through discussions with government, industry groups and sector-related gatherings. For medium-sized companies, input to such processes is often coordinated through representative industry organisations on their behalf. It is difficult to ascribe a financial cost to this and, given the relatively infrequent requirement for this type of involvement and the relatively small percentage of companies that have significant direct involvement in such processes, such cost averaged per facility would be expected to be very low. Consequently this cost is best quantified as **\$zero** (negligible) for analysis purposes.

b) Understanding compliance requirements, c) Lowest burden reporting cost model, d) Data collection/ calculation (scope 1), e) Data collection/ calculation (scope2) and f) Administrative reporting cost.

All of the costs listed as d) – f) in Figure 6 above are primarily incurred together as part of a facility's annual cost of reporting to the NPI. Cost b) involves time spent reading handbooks and guidance documentation, the NPI NEPM itself and familiarisation with calculation and reporting software tools. Cost c) indicates the efficiency of the reporting model suggested, but its costs are quantified under d), e) and f). Cost d) and e) represent the data gathering, emissions calculation and quality assurance costs for a facility's scope 1 and scope 2 emissions respectively. Cost f) describes the more administrative nature of collating the results and submitting them through the use of the NRT reporting software or the paper reporting form.

Figure 7 below lists NPI reporting costs provided by NPI facilities since the program's inception in 1998/99, as well as the average number of substance emissions reported per facility across the lifetime of the program. This data provides a useful guide for estimating costs to companies of adding a greenhouse gas-reporting requirement.

<i>Year</i>	<i>Average cost (\$)</i>	<i>Median cost (\$)</i>	<i>% \$200 or below</i>	<i>% \$1000 or below</i>	<i>% \$10,000 or below</i>	<i>% Above \$10,000</i>	<i>Average substances per report</i>
1998/99	6507	250	44%	69%	87%	13%	5.8
1999/00	3901	667	24%	63%	92%	8%	8.4
2000/01	3437	320	29%	63%	94%	6%	9.1
2001/02	2442	500	37%	66%	96%	4%	11.6
2002/03	2489	600	26%	61%	95%	5%	10.6
2003/04	2897	700	28%	61%	94%	6%	10.3
2004/05	2895	650	28%	65%	96%	4%	10.0
Overall	\$3,139	\$600	28%	63%	94%	6%	n/a

Figure 8: NPI reporting facility costs reported across Australia

GREENHOUSE GAS EMISSION REPORTING AND DISCLOSURE PILOT

Using the data above, the average cost of reporting to the current NPI program is \$3139. A speculative breakdown of this cost according to the types of activities listed as b) – f), based on estimates of likely reporter effort is shown in Figure 8 below, using estimates of administrative staff salary \$50,000pa (equivalent to \$50/hr), technical staff salary \$75,000pa (equivalent to \$75/hr) and senior technical staff (or chargeable hours consultant) salary \$100,000pa (\$100/hr).

<i>Activity</i>	<i>Estimated effort (hrs per report)</i>	<i>Primary staff effort type</i>	<i>Activity cost (\$)</i>	<i>Approx % of total report cost</i>
• Understanding compliance requirements	8	Technical	600	18.5%
• Data collection/ calculation	24	Senior technical	2400	74%
• Administrative reporting cost	5	Administrative	250	7.5%
Total report cost	37	-	3250	100%

Figure 9: Average annual NPI report cost estimated breakdown

Note that estimates have been made in round figures resulting in a slightly larger estimate of total report cost.

The costs of understanding compliance requirements (b) should decrease with time, as the program becomes better understood. For the purposes of estimation here however, this will be assumed to increase by 50% (**\$300** per report), as greenhouse is a completely new issue for many NPI reporters.

The administrative reporting cost (f) is expected to be fixed, regardless of incremental addition of new substances to the program and as such is quantified as **\$zero** additional cost.

Data collection/ calculation costs (d & e) are assumed to increase as additional requirements such as greenhouse gases are added. Interestingly this has not been observed – the extension of the reporting list from 36 to 90 substances in 2001/02 increased the average number of substances per report from 9.1 to 11.6 but surprisingly the average cost dropped from \$3437 to \$2442. For the purposes of this discussion this will be regarded as an anomaly – and a nominal per substance reporting cost of approx. \$200 is suggested, determined by dividing the average data collection/ calculation component reporting cost of \$2400 by the average number of substances per report (between 10.0 and 11.6 since the longer substance list was adopted).

For the vast majority of NPI reporters, the additional reporting requirement for scope 1 direct emissions will only involve the reporting of the combustion greenhouse gases CO₂ and N₂O. As previously discussed, these are determined from the same input data required currently for combustion gas emissions calculation and would have only minimal additional reporting cost. For particular sectors such as wastewater treatment, landfills, iron and steel production and some mining, CH₄ is likely to be reportable and SF₆ will only become reportable for particular sectors such as aluminium and electricity supply. Thresholds for PFC and HFC reporting would not be

GREENHOUSE GAS EMISSION REPORTING AND DISCLOSURE PILOT

expected to capture smaller scale air-conditioning emissions and should only apply to larger-scale refrigeration operations.

Similarly, in terms of energy-indirect scope 2 emissions, the vast majority of reporters will be required only to use a simple calculation (energy use x greenhouse coefficient), with many already reporting energy usage (though not displayed publicly) for current threshold assessment purposes.

In summary, for most reporters, the additional greenhouse requirement will consist of CO₂ and N₂O reporting (no new input data) and energy-indirect emissions reporting (simple calculation and no new input data for many). For a small number of specific sectors (and therefore facilities) thresholds for SF₆, PFCs and HFCs will be triggered while CH₄ reporting will be required from a moderate number of facilities due to the prevalence of wastewater treatment plants and landfills. On balance due to these factors, this is estimated to be equivalent to the addition of one new substance, or \$200 per facility report.

Therefore, costs associated with the addition of greenhouse gas requirements for d) Data collection/ calculation (scope 1) and e) Data collection/calculation (scope 2) are estimated to be **\$200** per facility report.

g) Reputation impact management – ‘public shaming’ cost

Reputation impact management – ‘public shaming’ cost (g) describes any company costs associated with countering any negative publicity as a result of disclosure of NPI data. This tends to occur at the data release time of the year (January 31) and has been largely restricted to Victoria where media focus has typically been on electricity supply and petroleum industries. This is difficult to quantify but will be regarded as negligible (**\$zero**) on the basis that it has been sporadic, restricted to a small number of companies and would arguably be the same style of ‘top 10 emitters’ publicity whether greenhouse gases were involved or not.

h) Commercial impact of potential energy consumption transparency

Commercial impact of potential energy consumption transparency (h) suggests a cost associated with disclosure of energy-indirect emissions that subsequently leads to commercial disadvantage. This is not only difficult to assign a cost to but is also difficult to prove – NPI data is at least 7 months old prior to publication and data where Commercial in Confidence was successfully claimed (there is a mechanism to determine this in the NPI NEPM) would be withheld from public display. Quantitatively a **\$zero** cost is suggested for this component.

In summarising all of the estimated costs to business resulting from the addition of greenhouse gases to the NPI in the form of the *Option 1: Scope 1 and 2 emissions (and abatement savings)* model, the average cost per facility is estimated at an additional **\$500** or 16% of the current \$3,139 average. Multiplying this out by the number of reporters to the NPI in 2003/04 (3,629) this equates to an estimated annual cost to business of \$1.8M. Should the flexible reporting approach be adopted, the addition of greenhouse gases to the NPI under this model could be summarised as a low cost burden for business.

GREENHOUSE GAS EMISSION REPORTING AND DISCLOSURE PILOT

It is worth noting that for large enterprises costs will be higher, due to larger scales of activity, the presence of potentially more complex process emissions and verification/ audit costs required to satisfy quality assurance requirements. However, many of the larger companies already report and in many cases publicly disclose this information for purposes such as Greenhouse Challenge reporting or annual company reports.

Benefits to medium to large businesses

a) Regulatory certainty – level playing field

There is currently no nationally consistent approach or regulatory requirement for reporting and disclosure of greenhouse gas information. This has created a degree of hesitancy for businesses to respond to reducing their greenhouse impact. The use of an existing, well-understood legal mechanism to enable this could create certainty and consistency for business.

b) Flexibility provides most efficient reporting process

As discussed under Issue 20, allowing a flexible route for discharge of an NPI NEPM's (or other legal instrument's) requirement for greenhouse gas emissions reporting and disclosure would provide the least additional reporting burden possible for all businesses that would be expected to trigger the suggested NPI greenhouse thresholds. The choice of any other model of reporting (such as mandating the use of OSCAR alone or the NPI reporting software alone) would disenfranchise significant numbers of reporters in either case.

c) Consistent and comparable data

Applying consistent methodologies, thresholds and boundary definitions and allowing public access to this information through one platform allows for consistent and comparable information about emissions. The use of the NPI for public disclosure could deliver these benefits.

d) Information to promote offset arrangements

Aside from mandatory regulatory approaches to drive market uptake of emissions reduction such as emissions trading systems, there are situations where industry sectors, groups or localities may wish to enter into agreements to trade or offset carbon emissions between each other. There currently exists no independent means of quantifying and disclosing these emissions so that proactive company involvement in this type of venture can proceed with a degree of confidence in each other's carbon position. Any such arrangements are currently subject to no level playing field when it comes to assessing another company's emissions position, other than to perhaps require independent audit/ verification of companies' emissions estimates as a means of participation. Disclosure of this information through the NPI could create a first order level playing field to inform a market, should it be contemplating voluntary proactive measures such as this.

GREENHOUSE GAS EMISSION REPORTING AND DISCLOSURE PILOT

e) Good performance showcased

By including information about a company's emission reductions through implementation of measures such as energy efficiency improvements, a disclosure tool such as the NPI can act as a transparent record of good performance. Such performance can be readily compared with other companies reporting to the program.

f) Transparency builds credibility and trust with community

Reporting to the NPI has enabled some companies to work more closely with their local communities by demonstrating their commitment to transparency of their operations and impacts. Information about emissions provides a basis for engagement with stakeholders- sometimes the existence of information (as opposed to what the information means) is seen as reassuring in itself, i.e. proof that a company has "nothing to hide".

g) Disclosure drives competition – financial cost savings

Public reporting through programs such as the NPI have directly or indirectly led to a trend of reduction in emissions reported over time. This is best evidenced by the longest running disclosure inventory in the world, the US Toxics Release Inventory (TRI). Since companies in a sector can have their emissions scrutinised side-by-side this can create competition to report the lowest emissions or, at least, not report the highest.

Generally, senior management sign-off on NPI data before it is submitted to the jurisdiction environment agency. This elevates the issue of environmental impacts into the consciousness of the decision-makers in an organisation, which can lead to questions that may bring about better performance. As is almost always the case in the area of resource efficiency, evaluating changes to a company's operations that reduce their environmental impact can lead to significant cost savings – less waste is less wasted money.

h) Increases corporate knowledge of greenhouse issue

As in g) above, information signed off by senior management raises the profile of the issue of environmental impact (and cost) and in some cases may be the first time senior management consider it. By publicly reporting their greenhouse gas emissions, companies not yet engaged in the issue may gain a better understanding of their role in the problem and the potential for cost savings through more resource-efficient operation.

Summary - costs and benefits to business

The estimated costs to business resulting from the addition of greenhouse gases to the NPI, in the form of the *Option 1: Scope 1 and 2 emissions (and abatement savings)* model, are \$1.8M pa. This is extrapolated from an estimate of average cost per facility report of an additional \$500 pa or 16% of the current \$3,139 average.

The benefits to business of using this option for reporting and disclosure include business certainty through the application of a known national regulatory requirement, consistency and transparency of information, building trust with community by demonstrating they have 'nothing to hide' and the ability to showcase good performers.

GREENHOUSE GAS EMISSION REPORTING AND DISCLOSURE PILOT

However, the key benefit to business in adopting a model like this is the capacity to discharge their obligation using whichever reporting channel they are most aligned with (NPI or Greenhouse Challenge reporting frameworks), based on their existing reporting practices. Such flexibility is critical to minimising duplication and providing a net benefit – otherwise the cost of ‘doubling up’ will clearly outweigh any benefit for business.

Should the flexible reporting approach be adopted, the addition of greenhouse gases to the NPI under this model could be summarised as a low cost burden/ moderate benefit for business.

GREENHOUSE GAS EMISSION REPORTING AND DISCLOSURE PILOT

Impacts to Government

	Costs	Benefits
	a) Legislation development process	a) Provides consistent and comparable data to inform policy decisions
	b) NPI database systems modifications	b) Low cost and expeditious development and implementation
	c) Challenge Plus system modifications	c) Harmonisation of existing programs
	d) Preparation of guidance material for business	d) Drives competitive emission reduction (policy outcome)
	e) Additional implementation resourcing for jurisdictions	e) Delivers on commitment for lowest reporting cost burden to business
Summary	Establishment costs \$542,000, ongoing costs \$400,000 pa. Relatively low despite additional Govt burden of integrating 2 reporting systems.	Low cost, efficient implementation while delivering on low cost burden for business commitment without hindering progress on streamlining other greenhouse program reporting.

Figure 10: Impacts to governments of including greenhouse gases in the NPI

Costs to Government

a) Legislation development process

The budget approved by EPHC for the current NPI process to consider varying the NPI NEPM is **\$218,160**. This cost will be incurred whether greenhouse gases are added to the NPI NEPM or not. Therefore, simply by the grace of timing, there can be considered no net legislative development cost to adding greenhouse gases to the NPI. This point is important for comparison with other legislative options but, since a cost will indeed be incurred, this cost will be included as part of this analysis.

b) NPI database systems modifications

The addition of greenhouse gases to the NPI would require changes to the database systems involved in data collection, jurisdictional program management and public internet display. These are detailed at Appendix A as part of an Australian Government Department of Environment and Heritage assessment carried out in December 2005. The analysis was undertaken to determine the cost impact of modifying existing systems to support both greenhouse gases and the reporting of waste (substance) transfers, which is also subject of the current NEPM variation process. This cost is estimated at **\$171,000** and for the purposes of analysis will be considered in total, despite the fact that transfers costs may account as much as half of this figure.

c) Challenge Plus database systems modifications

Modifications of the OSCAR system would be required to allow for flexibility of reporting (as outlined in Issue 21) and secure data transfer arrangements between OSCAR and NPI systems. These are not able to be quantified with any certainty at this time, but would be expected to be modest as the capacity to accept the data required from

GREENHOUSE GAS EMISSION REPORTING AND DISCLOSURE PILOT

companies for the proposed NPI greenhouse gas reporting already exists within the OSCAR system. **\$100,000** is suggested as an approximate and conservative figure for this analysis.

d) Preparation of guidance material for business

While it is envisaged that the existing AGO Factors and Methods Workbook would be the primary methodology guidance document, all NPI handbooks may need to be administratively amended to include the extended substance list and a very brief description of the requirement. It may also be useful to encapsulate the new greenhouse requirement in a single greenhouse guide or manual (or the existing NPI Guide), which would outline the obligation, thresholds, relationship with other programs and reference Factors and Methods. NPI calculation tools such as the Combustion Database would need to have additional CO₂ and N₂O emission factors added and the paper reporting form would have to be remodelled to accommodate greenhouse gas reporting. These costs, using the administrative, technical and consultant staff rates outlined in the 'Impacts to Business' section (\$50/hr, \$75/hr and \$100/hr respectively) are estimated below:

- All 125 handbooks: $125 \times 2 \text{ hr} \times \$50/\text{hr} = \$12,500$
- Dedicated greenhouse manual/guide: $300\text{hrs} \times \$100/\text{hr} = \$30,000$
- Combustion database update: $100\text{hrs} \times \$75/\text{hr} = \$7,500$
- Paper reporting form: $50\text{hrs} \times \$75/\text{hr} = \$3,250$

Total guidance material = **\$53,250**

e) Additional implementation resources for jurisdictions

Implementation of the NPI NEPM is the responsibility of the states and territories. Currently they are funded \$800,000 pa by the Australian Government matched by the States/ Territories (in cash or in kind). A further \$700,000 pa is allocated to the Department of Environment and Heritage (Australian Government) to coordinate the program at the national level, bringing the total program cost to governments to \$2.5M pa. Implementation activities include training of reporters in the new requirement, increased administration costs such as data entry/ phone assistance, increased industry assistance/ data verification costs and the costs of ongoing management and integration of 2 collection systems (AGO and NPI systems). For a 2-staff jurisdictional implementation team this extra effort is estimated at ~0.5 full time equivalents (FTE) or 25% of staff costs. Since current NPI implementation costs are primarily used for staffing, an additional implementation cost for the program nationally can be estimated thus:

- Australian Government: $\$800,000 \times 25\% = \$200,000$
- States/Territories matched contribution: $\$800,000 \times 25\% = \$200,000$

Total additional implementation cost = **\$400,000**

GREENHOUSE GAS EMISSION REPORTING AND DISCLOSURE PILOT

In reviewing all of the estimated costs to government resulting from the addition of greenhouse gases to the NPI in the form of the *Option 1: Scope 1 and 2 emissions (and abatement savings)* model, costs a) – d) are one-off establishment expenses while cost e) is an ongoing additional expense.

Therefore costs to Government can be summarised as:

- **\$542,000** establishment cost in the first year
- **\$400,000** pa ongoing thereafter.

Benefits to Government

a) Provides consistent and comparable data to inform policy decisions

Applying consistent methodologies, thresholds and boundary definitions and allowing public access to this information through one platform allows for consistent and comparable information about emissions. This would provide information currently not available to governments to inform future policy directions.

b) Low cost and expeditious development and implementation

A key benefit to Government is the low cost and expeditiousness of getting extensive greenhouse gas emissions information from industry by utilising the capacity of existing established systems and the NPI NEPM. An additional advantage is that the NPI NEPM is currently being changed as part of a variation process, which is currently considering the inclusion of greenhouse gases

c) Harmonisation of existing programs

To look at the NPI as a solution on its own would under-recognise the value of various AGO and other government programs focused on getting reductions in greenhouse gas emissions, as well as the considerable effort currently expended by business in reporting to these initiatives. The advantage of the model suggested allows programs such as the NPI and Challenge Plus to continue to exist and serve their purposes without duplication of reporting effort by participant companies. Importantly, it also allows the work of the joint Ministerial Councils (EPHC and MCE) to continue to align data reporting for the various greenhouse programs through a single reporting entry point such as the proposed OSCAR system.

d) Drives competitive emission reduction (policy outcome)

Public reporting through programs such as the NPI have directly or indirectly led to a trend of reduction in emissions reported over time as evidenced by the US TRI. This contributes to delivery of government policy outcomes to bring about reduction in greenhouse gases in the atmosphere.

e) Delivers on commitment for lowest reporting cost burden to business

By enabling a low-cost non-duplicative reporting model, this approach delivers on a key commitment in the joint MCE/EPHC Policy Working Group terms of reference, to streamline greenhouse and energy reporting by business.

GREENHOUSE GAS EMISSION REPORTING AND DISCLOSURE PILOT

Summary of Costs and Benefits to Government

The estimated costs to government resulting from the addition of greenhouse gases to the NPI, in the form of the *Option 1: Scope 1 and 2 emissions (and abatement savings)* model, can be summarised as:

- **\$542,000** establishment cost in the first year
- **\$400,000** pa ongoing thereafter.

The benefits that accrue to government are substantial, largely due to the low cost of using the NPI's existing infrastructure and resource capacity, with the added cost bonus of this program's existing commitment to change through the Variation process. These benefits of reduced cost exist despite the operational complexity of management of 2 reporting systems for Government, which is necessary to eliminate duplication inefficiencies for business.

A quantitative indication of the cost-effectiveness of this option can be gained by comparison of the business: government implementation cost ratio, expressed on a per reporting facility basis (NPI Review Report 2005, p56). The current NPI program operates at a ratio of 4.7:1. Expressing the greenhouse implementation cost per facility (\$400,000/3629 facility reports to last year's NPI) comes to \$110. Comparing this with the estimated implementation cost to business of \$500 per facility, the business: government cost ratio becomes 4.5:1, virtually identical to the current program. Interestingly, at 16% (\$400,000/\$2.5M), the percentage increase in annual implementation cost to government is identical to that for business.

The addition of greenhouse gases to the NPI under this model could be summarised as a low cost burden/ high benefit for government, due to the efficiency gains offered by the adoption of an existing system.

GREENHOUSE GAS EMISSION REPORTING AND DISCLOSURE PILOT

Impacts to the Community

	Costs	Benefits
	Essentially nil	<ul style="list-style-type: none"> f) Satisfies community right to know g) Information empowers and informs public debate on greenhouse issues h) Disclosure drives emission reduction i) Single information source for emissions to the environment j) Provides consistent information to assist investment community decision-making k) Increases value and relevance of NPI program
Summary	Costs not directly attributable to the community	High social benefit to community from increased knowledge of the issue and more capacity to engage in the debate.

Figure 11: Impacts to the community of including greenhouse gases in the NPI

Costs to the Community

As a beneficiary of the information generated by such a program, without being a direct stakeholder in the cost of its creation, it is difficult to derive a cost of any quantum that would be incurred by the community. There may be some lobbying/ engagement cost as part of public comment processes, as well as the “cost” of public monies funding the additional component to the program. There is also the cost of accessing the information once published on the internet. However, these costs are so inconsequential that a zero cost would most accurately reflect them.

Benefits to the Community

a) Satisfies community right to know

The fundamental premise of the community’s right to know about emissions involving significant impact to the environment is the founding purpose for the NPI’s establishment. As its central feature, the NPI is best placed to deliver this to the Australian community, and can do so equally for greenhouse emissions information as for the emissions information currently captured.

b) Information empowers and informs public debate on greenhouse issues

2005 was recently declared very publicly in the media as the hottest on record in Australia, hot on the heels of the hottest decade on record, with the centrepiece of the discussion the lack of any evidence other than human-induced climate change as its cause. Clearly the greenhouse issue is gaining public momentum and, in keeping

GREENHOUSE GAS EMISSION REPORTING AND DISCLOSURE PILOT

with this, the public pressure for information and action will only increase. The NPI presents information to the public in its most transparent sense. While such unlimited exposure of information risks misunderstanding and misuse, this is an inherent consequence of transparency and an inevitable part of open debate. Such an open disclosure model eliminates charges of “green-wash” and allows constructive public debate from a cornerstone of consistent and defensible data.

c) Disclosure drives emission reduction

See similar discussions under “Impacts to Business” and Impacts to Government”. Disclosure plays an important (albeit blunt) role in bringing emission reduction strategies to bear, which is clearly a desired outcome for the community.

d) Single information source for emissions to the environment

As already discussed, the NPI has established itself as a broad information point for public access to information about emissions impacting on the environment. Should similar detailed disclosure be the goal of a program demanding greenhouse emissions information from industry, a “one-stop shop” for public access would clearly result in optimum uptake by information users in the community.

e) Provides consistent information to assist investment community decision-making

The finance community through the banking, investment and insurance sectors are a key user of current environmental performance data such as that currently supplied through the NPI. This information is used in determining risks: for lending and financing, investment decision-making and insuring companies, particularly with regard to the setting of premiums. Through programs such as the Carbon Disclosure Project, investor groups have repeatedly called for more information about greenhouse gas emissions. In some cases this call has specifically been via augmentation of the NPI, so data is consistent, transparent and readily and regularly accessible

f) Increases value and relevance of NPI program

“Why are the greenhouse gases not included?” has been a regular question to NPI program implementers since its inception. This is because many data users see this information as important and cannot understand the rationale for it being “left out”. Concern about climate change continues to grow in the community to the point where the issue may be equal to or overtaking concerns about pollution of our air and water, issues that are more in line with the current NPI.

Summary of Costs and Benefits to the Community

Clearly the social benefit of providing the community with a strong information base about greenhouse gas emissions is particularly high, empowering interest groups and individuals to engage more informatively in the debate about dealing with the problem of climate change. The nature of the problem requires global-scale cooperation to be tackled effectively, which is best harnessed through political channels after public pressure

GREENHOUSE GAS EMISSION REPORTING AND DISCLOSURE PILOT

has been exerted. A proper system of public disclosure of emissions could accelerate this pressure, contributing to the principle benefit of greater action.

Costs of incorporating greenhouse gases in the NPI in the model of this option are incurred more directly by industry and government and, as such, have not been estimated to accrue to the community at all.

Option 2: Scope 1 only (and abatement savings)

Largely, the cost/ benefit investigation outlined under option 1 also applies to option 2, which differs only in that it excludes energy-indirect (scope 2) reporting. There would be expected to be some reduction in additional reporting costs, potentially as much as half that suggested for option 1. The cost of familiarisation with compliance requirements would likely be unchanged from option 1 since a similar amount of time would be required to understand the changes for direct greenhouse gas reporting anyway.

Thus a cost to business for including direct-only (scope 1) emissions to the NPI could be estimated as in the order of \$400 per reporting facility.

Cost to governments would also decrease slightly, although not as measurably as for business since requirements such as legislative, database development, guidance materials and further implementation resources would still be required.

The benefit of this option to business is that it remains true to the structure of the current NPI, which is built around direct emissions to the environment. The introduction of public reporting emissions from a facility, incurred at the power station from the generation of electricity used at that facility, opens a debate about the ownership of those emissions. Some companies are likely to feel uncomfortable about being judged negatively on the basis of the greenhouse-intensity of the electricity provider, particularly when compared with a similar operation in another state that sources its power from “cleaner” sources. While limiting the usefulness of the information, this option avoids such ‘chicken and egg’ debates about emission ownership between market supply and market demand for electricity.

Option 3: Using mechanisms not involving the NPI

Options outside of the NPI are primarily being considered by the EPHC/ MCE joint working groups (both Technical and Policy). Indeed a cost-benefit analysis consultancy has been carried out to assess a broad range of possible greenhouse and energy reporting options. The work of this Pilot (and in particular the cost benefit section) has been primarily constrained to the merits of a model involving the NPI.

Without wishing to interfere with the consultancy outlined above, the key distinguishing factor that emerges between using the NPI (both legislatively and from a data provision point of view) as part of the model of delivery and not doing so is quite simply the low cost and relative ease of implementation, due the use of an established and comprehensively applied program. When coupled with the advantages of the flexible reporting model

GREENHOUSE GAS EMISSION REPORTING AND DISCLOSURE PILOT

suggested, the question could be perceptibly changed to one of examining the reasons why not to involve the NPI as part of the solution.

This question is underlined given the currency of the NPI NEPM variation work and the reality that the \$200,000 project budget will be spent regardless, creating a net zero legislative development cost for governments should this be deemed the means of mandating a reporting requirement.

As discussed in other sections of the document, an important factor in assessing non-NPI related means of reporting is that the NPI and its requirement for business will continue to exist and will therefore carry a closely related non-greenhouse reporting burden with it, which must be recognised in the context of efforts to streamline the industry reporting burden.

Cost Benefit Analysis Conclusion

Option 1: Scope 1 and 2 emissions (and abatement savings)

The costs of adding greenhouse gases to the NPI would appear to be relatively low for both industry and government, with both coincidentally incurring an estimated 16% increase over current costs of reporting to/ implementing the program. This is due to the established nature of the program and its legal frameworks, as well as the flexibility of the reporting system proposed. No significant cost as a result of modifying the NPI in this way would appear to accrue to the community.

The estimated benefits for business are moderate and are expressed as regulatory certainty, credibility and consistency of information (in the event of uptake of market-based initiatives), community engagement and the ability to showcase good performance. Perhaps the key benefit to business is the flexibility to discharge their obligation using whichever reporting channel they are most aligned with (NPI or Greenhouse Challenge reporting frameworks), based on their existing reporting practices, thus avoiding duplication.

The estimated benefits to government are high, largely due to the low cost of using the NPI's existing infrastructure and resource capacity, with the added cost bonus of this program's current commitment to change through the Variation process. The estimated benefits to the community are also high given the level of public disclosure inherent in the NPI, empowering interest groups and individuals to engage more informatively in the debate about dealing with the problem of climate change, using a central information point.

Option 2: Scope 1 only (and abatement savings)

Comparative to option 1, the model involving only direct emissions is estimated to be lower cost to business and a relatively unchanged cost to government. However, it loses the major benefit of promoting resource efficiency to a broader audience of energy users – potentially an outcome much more far-reaching in terms of business efficiency, community mindset and behavioural change.

GREENHOUSE GAS EMISSION REPORTING AND DISCLOSURE PILOT

Option 3: Using mechanisms not involving the NPI

While not investigated here in the context of any particular model, clearly the key distinguishing factor that emerges between using the NPI as part of the model of delivery and not doing so is quite simply the low cost and relative ease of implementation, due the use of an established and comprehensively applied program. When coupled with the advantages of the flexible reporting model suggested, the question could be perceptibly changed to one of examining the reasons why not to involve the NPI as part of the solution.

Issue 22: Would greenhouse gases from diffuse sources such as transport and agricultural emissions be included in the NPI?

Response

It would appear to be duplicative to report diffuse or fugitive greenhouse gas emissions through the NPI and could complicate the roles of NGGI and NPI for data users. Consequently is suggested that these emissions are best not included in the NPI.

Detailed Discussion of Issue 22

There are a range of greenhouse gas emission sources beyond site-based or ‘point source’ emissions that make a significant contribution. These include emissions from the transport sector, agricultural emissions, and land clearing. The question is how these emissions would be captured by the NPI.

Detailed Response to Issue 22

Emissions from sources other than reporting facilities are currently captured in the NPI under the banner of “aggregated emissions data” or AED. In terms of substance emissions to air there are currently a range of AED sources estimated by government agencies in nominated study areas. These include motor vehicles, agricultural emissions, small business activities such as dry cleaners, service stations, bakeries and panel shops, barbeques, lawn mowing, painting, household and commercial solvent use and woodfires. This model works well for the current program in providing context to the reported industry emissions, since in many cases the diffuse activity emissions are comparatively more prevalent in their contribution, even in urban areas.

This model could be applied to greenhouse gas emissions, to complement industry-reported information. However, the NGGI already reports publicly on these “fugitive” sources, broken down to state/territory level, which is sufficiently disaggregated for its purpose. While facility reporting in the public domain is clearly not captured by any Australian government requirement at present, the presence of the NGGI demonstrates that this is not the case for fugitive emissions of greenhouse gases.

It would appear to be duplicative to report diffuse or fugitive greenhouse gas emissions through the NPI and could complicate the roles of NGGI and NPI for data users. Consequently, it is suggested that these emissions are best not included in the NPI.

GREENHOUSE GAS EMISSION REPORTING AND DISCLOSURE PILOT

Issue 23: What would the potential relationship be between an NPI with greenhouse gas reporting and a functional emissions trading scheme (ETS)?

Response

It is too early to tell with any certainty what the interaction between an NPI (with greenhouse gases) and an ETS would be. For its current purposes, the NPI does not need strong enforcement or verification capacity. These are, however, essential elements of a reporting and disclosure regime for an ETS.

A feasible way to capitalise on an existing reporting system such as the NPI could be to deal with verification and enforcement aspects in the separate regulatory structure that would underpin the ETS's establishment. This would have the effect of tightening the veracity of what is reported to the NPI and would further demonstrate government commitment to streamlining industry's reporting obligations.

Detailed Discussion of Issue 23

The discussion under Issue 15 concerns itself with the NPI's relationship to an ETS as an interim step, insofar that such a scheme would be best constructed with a stronger knowledge base of emissions information than is currently available. As concluded there, the NPI would appear to be well placed to inform ETS design characteristics, particularly due to its potential ease and speed of implementation. A separate issue is the next step of how the two would operate together, or indeed whether there would be two reporting systems at all.

An emission trading system such as the one adopted by the EU requires a robust, enforceable reporting component. Reported emissions must be rigorously verified akin to the supply of financial information for publicly listed companies on stock exchanges such as the ASX. Should such a scheme be adopted in Australia in the future, how suitable could the NPI be to work within that framework?

Detailed Response to Issue 23

In late 2003 the then Premier of NSW, Bob Carr, wrote to Premiers and Chief Ministers seeking their involvement in investigating the design of a national emissions trading scheme (ETS). All State and Territory Governments subsequently agreed to establish a working group to develop a model for a multi-jurisdictional emissions trading scheme, in the absence of support from the Australian Government.

The Inter-jurisdictional Emissions Trading Working Group (IJETWG) (now known as the National Emissions Trading Taskforce, NETT) provided a report to Premiers and Chief Ministers in December 2004, and developed a background paper for consultation in September 2005. The NETT proposes ten key design propositions for an emissions trading scheme to be considered as the basis for further investigation.

Among these design propositions, the following points are particularly relevant to possible reporting and disclosure mechanisms:

- the inclusion of the stationary energy sector only (initially at least)

GREENHOUSE GAS EMISSION REPORTING AND DISCLOSURE PILOT

- the inclusion of the six major greenhouse gases
- the setting of appropriate penalties to encourage compliance.

This pilot has been designed to be consistent with the first two points, while the third is a key issue in the discussion below.

The advantages of incorporating elements of an NPI, which includes greenhouse gases, into an ETS reporting and disclosure mechanism include:

- the NPI is an established mandatory disclosure program with extensive coverage of relevant market sectors
- it is a national program with clear and inclusive jurisdictional roles
- it is site or facility based
- in terms of direct emissions, it already captures fuel input data for CO₂ emissions estimation.

The disadvantages of doing so include:

- verification and assessment of data is currently a jurisdictional responsibility applied with varying levels of scrutiny
- the current NPI NEPM does not typically apply significant penalties for non-reporting, although, since enforcement is a state/territory responsibility, high monetary penalties are potentially available in some jurisdictions
- underpinning an ETS is not currently well aligned to the community right to know design, purpose and aspirations of the current NEPM.

Data accuracy is an important question. An ETS would be expected to have comprehensive processes for data verification and assessment to ensure a high level of accuracy and consistency, since an ETS is a rigorous financial instrument. As is the case with the EU trading scheme and normal practice for reporting of financial information, data is usually audited and verified by third parties to provide this level of assurance.

The degree of accuracy of NPI data is not the pertinent issue, since the estimation methodology and jurisdictional assessment processes combined with the comprehensiveness of reporter coverage would appear to provide an appropriate fit for purpose, that leads to relatively good data accuracy as an information/ influence tool. The key point is that an ETS is potentially serving quite a different purpose which requires a different data verification fit, one that NPI in its current form and function does not provide.

The EU's experience may be instructive on this issue, since they have chosen to go down separate paths with their NPI equivalent (EPER) and their ETS. Both require the reporting of greenhouse gas emissions but are deemed to be separate fits for separate purposes, although ETS data (as a higher data veracity requirement) can be used to supply EPER. The NPI review references the literature (Saarinen 2003) in stating that "existing data (from PRTR programs) are generally deficient for this purpose."

GREENHOUSE GAS EMISSION REPORTING AND DISCLOSURE PILOT

Another apparent disadvantage is the issue of enforcement. An ETS must have the capacity to wield heavy penalties to encourage compliance and to establish a price ceiling for permits, i.e. a clear and strong deterrent for inaccurate reporting or inaction. The NPI was established as a co-operative endeavour with industry and part of that was an expectation that while penalties would be available to address non-compliance, they were not envisaged to be significant in a monetary or custodial sense. This suggests that strong enforcement in an NPI context would be a departure from the program's philosophy. It is significant to note that, despite this, in some jurisdictions such as Victoria, large penalties for NPI (false or non) reporting can conceivably be applied now, as various legislative breaches are indictable offences that carry jail penalties and fines as high as \$250,000.

The last apparent disadvantage is that the NPI was designed to meet the principle of community right to know, a common social right with various international origins. Turning it into an ETS data store that underpins a rigorous trading system may sit uncomfortably with that fundamental design principle.

A feasible way to capitalise on an existing reporting system such as the NPI could be to deal with verification and enforcement aspects in the regulatory structure that would underpin the ETS's establishment. This would have the effect of tightening the veracity of what is reported to the NPI and would further demonstrate government commitment to streamlining industry's reporting obligations.

As discussed under Issue 14, the likely timeframe for a functional ETS is uncertain. It is therefore too early to tell with any certainty what the interaction between an NPI (with greenhouse gases) and an ETS would be. What is needed now and in all likelihood for some years yet to come is information, which an ETS needs to draw from and which the NPI is well placed to provide.

Issue 24: Can the NPI deal with voluntary and mandatory aspects of reporting?

Response

The current NPI exhibits a number of examples of voluntary aspects to its operation. Not only could an NPI containing greenhouse gases deal with voluntary as well as mandatory reporting elements but such an arrangement would probably be envisaged to best deal with contextual information that not all companies could/would wish to supply, such as abatement savings or comment such as company policy on the issue.

Detailed Discussion of Issue 24

Since a greenhouse-reporting requirement may be best designed to also contain voluntary data aspects, to allow some companies to provide more detail or allow for staging or phasing in of some program requirements, the question is whether this is consistent with the NPI's structure.

GREENHOUSE GAS EMISSION REPORTING AND DISCLOSURE PILOT

Detailed Response to Issue 24

The NPI is well known as a mandatory requirement for emissions disclosure that levels responsibility on industry and states/territories alike. There are also voluntary aspects to reporting, although this is not as readily understood. For current reporters the following information is supplied optionally:

- employee numbers
- emission reduction activities
- comments.

There is also voluntary information supplied that, in addition, is marked as ‘not public’ and as such is not forwarded from states/territories to the Australian Government. This includes:

- names and details of technical contact people
- fuel usage
- electricity usage
- reporting costs.

When the program began in 1998–99 there were phase-in aspects to the program such as an initially shorter substance list (36 substances) that was later extended to 90 substances, and the NEPM-specified lack of enforcement of the program’s requirements until the completion of a number of years of a phase-in period.

All of these characteristics suggest the NPI is comfortable with mandatory and voluntary aspects to its operation. Not only could an NPI containing greenhouse gases deal with voluntary as well as mandatory reporting elements but such an arrangement would probably be envisaged to best deal with contextual information that not all companies could/ would wish to supply, such as abatement savings or comment such as company policy on the issue.

GREENHOUSE GAS EMISSION REPORTING AND DISCLOSURE PILOT

INTERIM PILOT MODEL FOR GREENHOUSE GAS REPORTING AND PUBLIC DISCLOSURE

The suggested model for reporting greenhouse gases to the NPI is characterised below:

Structural Elements	
Legal instrument	NPI
Reporting system	NPI/ OSCAR* choice
Disclosure mechanism	NPI website
Data elements	
Reporting Boundary	Site-based with company linkage
Thresholds	Existing NPI thresholds plus equivalent energy threshold
Direct emissions	6 major greenhouse gases (Scope 1)
Indirect Emissions	Energy-indirect (scope 2)
Abatement Actions/ Savings	CO ₂ -e savings from implementation of abatement actions; listing of actions
Contextual data	Explanatory comment text

Figure 12: Elements of Interim Pilot Model

* OSCAR is the online database to be used by the AGO's Greenhouse Challenge Plus program – refer to glossary.

This model recognises the reality of the business demographic that exists for reporting of emissions information in Australia today (see Figure 12), by providing flexibility for the reporter to discharge their reporting obligation in the most streamlined manner for them.

It has the following strengths:

- Ability to streamline reporting – reduce cost burden to business
- Short implementation time
- Low cost to Government and business
- Ability to deliver on community right to know
- Synergies to MCE/EPHC JWG work plan.

Ability to streamline reporting

This model is designed to simplify reporting for business by allowing the reporting obligation to be discharged through either OSCAR or NPI channels depending on where companies' current reporting obligations lie. The needs for streamlining to encompass the needs of current reporters to the NPI are two-fold:

GREENHOUSE GAS EMISSION REPORTING AND DISCLOSURE PILOT

1. 90% of all NPI reporting companies are not members of the Greenhouse Challenge program (see Figure 13) and therefore are not familiar with the use of OSCAR.
2. NPI reporters report energy use via fuel (type and quantity) and electricity use as part of that program now – the raw data inputs for the vast majority of greenhouse gas emissions. Recognition of this creates an opportunity to reduce the current reporting burden to business.

Number of company participants	Greenhouse Challenge	National Pollutant Inventory
Total company participants	780	1577
Unique company participants	637	1434
Companies common to both	143	143

Figure 13: Analysis of companies currently reporting to Greenhouse Challenge and the NPI

Any solution must recognise that Greenhouse Challenge, the NPI and other programs will continue to exist for their own purposes. Therefore overlaps in reporting that are evident now should be minimised where possible. This paper has not considered a reporting option such as the use of OSCAR alone, as the great majority of companies that would report are not currently using this tool. This is evidenced in Figure 13, which shows that 1434 out of 1577 NPI reporting companies (90%) are not members of Greenhouse Challenge Plus.

Short implementation time

Strategic uses of greenhouse gas emissions data, such as underpinning an Emissions Trading Scheme, are not on the immediate horizon in Australia; indeed lead-times of 5 years plus are likely, despite the urgency of work being undertaken by states and territories. Similarly, a new national mandatory greenhouse and energy reporting requirement capable of delivering on all identified and future strategic needs that is acceptable and workable for all jurisdictions is in all probability still several years away from development and implementation. This suggests that the needs of various stakeholders for better information on greenhouse emitters and emissions could go unsatisfied for some years to come.

The NPI program is already half way through a NEPM variation process. It has the capacity to report to the public direct and indirect greenhouse gas emissions to fill this near-term need – a varied NEPM could be operational as soon as July 2007.

For short to medium term information needs alone, not expediting greenhouse gas emissions reporting through the NPI would seem an unfortunate waste of opportunity.

GREENHOUSE GAS EMISSION REPORTING AND DISCLOSURE PILOT

Low cost to Government and business

This model could be implemented at comparatively low cost to business and government due to the already existing program infrastructure and the synergy of identical raw data inputs for greenhouse gas and other combustion gas emissions calculations.

Ability to deliver on community right to know

Satisfying community right to know stands on its own as a reason to act on greenhouse gas emission disclosure. EU/EC agreements such as the Aarhus Convention and the Kiev Protocol on PRTRs establish public disclosure of environmental information as a fundamental societal right. Emissions of greenhouse gases are not sufficiently different to other emissions to air to justify avoiding disclosure, as evidenced by their existence in the massive European Pollutant Emission Register (EPER), which applies across 40 countries, despite the parallel existence of the EU Emissions Trading Scheme.

The NPI has brand value as a community right to know information tool. It seems to many to be a logical home for public disclosure of greenhouse gas emissions data. The Australian Government's Department of Environment and Heritage has established expertise in data management and website design to fulfil this purpose. Equally, the Australian Greenhouse Office manages the provision of greenhouse information in various forms to community users. A web disclosure database could be added to the OSCAR framework or existing NPI systems could be utilised. The latter represents the most efficient option and probably the most effective given its positioning in the data user community.

Synergies to MCE/EPHC Joint Working Group work plan

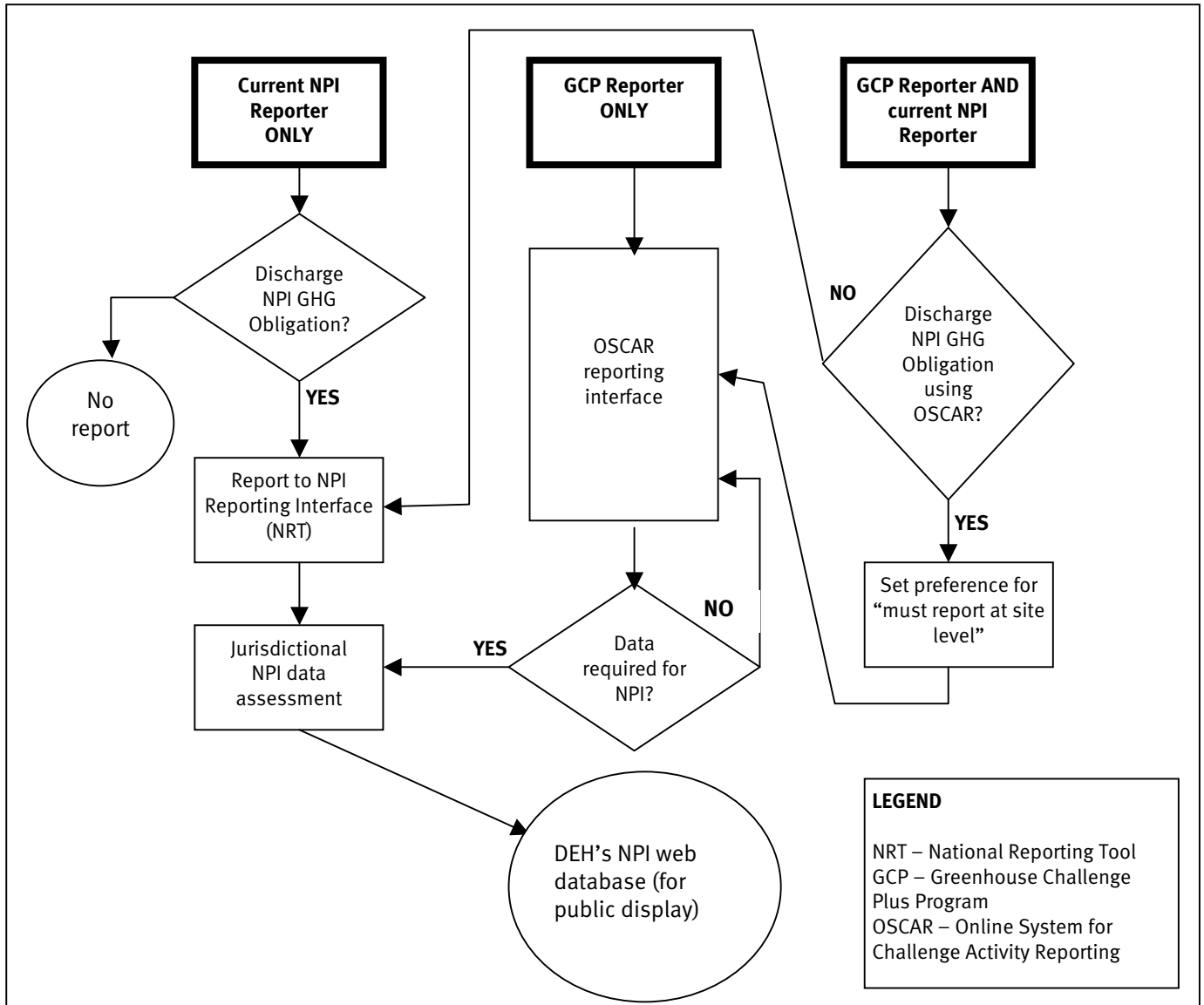
This model is proposed with the work of these Joint Working Groups in mind, most prominently the need to streamline business reporting. Due to the lead-times discussed above it is conceivable that any ultimate overarching reporting framework could follow the variation of the NPI in either an enhancing or replacing capacity in the future. The model outlined places no barriers to these future outcomes, since the integrity of all programs and data management systems are retained.

How the model would work

The preferred pilot model of reporting and disclosing greenhouse gas emissions is through the variation of the NPI NEPM, mandating a reporting requirement above certain thresholds and allowing for the discharging of this requirement using either OSCAR or NPI collection systems, depending on the reporter's demographic, to minimise reporting burden. With relatively small modification of these systems, data for public disclosure would then be channelled through to the NPI website, in a manner being explored through the Practical Implementation Stream of this pilot. Potential data flows for the various reporter demographics are described in Figure 14.

GREENHOUSE GAS EMISSION REPORTING AND DISCLOSURE PILOT

Figure 14: Proposed data flows for flexible reporting



GREENHOUSE GAS EMISSION REPORTING AND DISCLOSURE PILOT

GLOSSARY OF TERMS

ABARE	Australian Bureau of Agricultural and Resource Economics
Abatement actions	Acts undertaken by an organisation specifically to reduce Greenhouse Gas emissions
AGO	Australian Greenhouse Office
Algal Blooms	Increased population of phytoplankton algae in a water body
APEC	Asia-Pacific Economic Cooperation forum
Base year	A historic datum (a specific year or an average over multiple years) against which a company's emissions are tracked over time.
CCS	Carbon capture and storage
CH ₄	Methane
CiC	Commercial in Confidence
CO	Carbon monoxide
CO ₂	Carbon dioxide
CO ₂ -e	Carbon dioxide equivalents. A universal unit of measurement to indicate the global warming potential (GWP) of each of the 6 GHG, expressed in terms of the GWP of one unit of CO ₂ .
Contingent Liability	Liability (in a legal sense) which is difficult to quantify, or which may or may not come to pass
Dioxins	Chlorinated organic compounds which may be present as a by-product in certain herbicides (as well as other industrial processes), and exposure to which can cause various harmful effects.
Direct emissions	Emissions of greenhouse gases occurring within the boundary of an organisation or facilities processes or actions (see scope 1).
DITR	Department of Industry, Tourism and Resources
EEOA	Energy Efficiencies Opportunities Act
Emission Factors	A numerical factor allowing units of greenhouse gases to be estimated from a unit of activity data
EPA	Environment Protection Authority
EPHC/MCE JWG	Environment Protection and Heritage Council and Ministerial Council for Energy Joint Working Group
ETS	Emissions Trading Scheme
EU/EC	European Union/European Commission
Eutrophication	Increased concentration of nutrients in a water body that promotes proliferation of plant life, especially algae which reduces dissolved oxygen content
Furans	Chlorinated Organic compounds containing a ring of four carbon atoms and one oxygen atom, which occur as a by-product of various industrial processes and may be hazardous.
Geosequestration	Processes and technologies to capture and store a substance underground. In this paper, the term refers to carbon dioxide.
GHG	Greenhouse Gas(es)

GREENHOUSE GAS EMISSION REPORTING AND DISCLOSURE PILOT

GJ	Gigajoules. 1 Gigajoule = 1,000,000,000 joules
Global Warming Potential	An index used to describe the radiative forcing impact (or colloquially the 'global warming') that one unit of a given GHG represents, relative to one unit of CO ₂ .
Greenhouse Gases	Unless otherwise stated, refers to carbon dioxide, methane, nitrogen dioxide, HFCs, PFCs and sulfur hexafluoride
HFCs	Hydrofluorocarbons
IEA	International Energy Agency
IJETWG	Inter-Jurisdictional Emissions Trading Working Group (now known as NETT)
Indirect emissions	Greenhouse Gas Emissions that occur from another organisation or facility as a result of the actions of an organisation. In this pilot, this refers to emissions resulting from the consumption of electricity purchased from a power generator (see scope 2)
IPCC	Intergovernmental Panel on Climate Change
ISO 14064	International Organisation for Standardisation – Standards for the quantification, reporting and verification of GHGs
IWMP	Industrial Waste Management Policy
JARMS	Jurisdictional Access Record Management System
Kyoto Sector	The division of activities leading to Greenhouse Gas emissions as specified in the Kyoto Protocol
LPG	Liquefied Petroleum Gas
Mass balance	The mass of material entering or exiting a system
MWh	MegaWatt hours
Mt	Megatonnes (1,000,000 tonnes)
N	Nitrogen
N ₂ O	Nitrogen Dioxide
NEPC Act	National Environmental Protection Council Act
NEPM	National Environmental Protection Measure
NETT	National Emissions Trading Taskforce
NPI	National Pollutant Inventory
NRT	National Reporting Tool
OSCAR	Online System for Challenge Activity Reporting, the AGO's system to support the Greenhouse Challenge Plus programme
P	Phosphorus
PEM (GHG & EE)	<i>Protocol for Environmental Management (Greenhouse Gases and Energy Efficiency in Industry)</i>
PFCs	Perfluorocarbons
PM ₁₀	Particulate Matter of 10 Microns in diameter or smaller
PRTR	Pollution Release and Transfer Registry
Scope 1	An organisation's 'direct' Greenhouse Gas Emissions as defined by the WRI/WBCSD Protocol (see below)
Scope 2	An organisation's 'Indirect' emissions from electricity use as defined by the WRI/WBCSD Protocol (see below)

GREENHOUSE GAS EMISSION REPORTING AND DISCLOSURE PILOT

SEPP (AQM)	<i>State Environmental Protection Policy (Air Quality Management)</i>
SO ₂	Sulfur dioxide
SF ₆	Sulfur hexafluoride
Toxicological effects	Impacts that are poisonous to humans or other organisms
TRI	Toxic Releases Inventory
UNFCCC	United Nations Framework Convention on Climate Change
VOCs	Volatile Organic Compounds
WEC	World Economic Council
WRI/WBCSD Protocol	World Resource Institute and World Business Council for Sustainable Development Greenhouse Gas Protocol

GREENHOUSE GAS EMISSION REPORTING AND DISCLOSURE PILOT

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GREENHOUSE GAS EMISSION REPORTING AND DISCLOSURE PILOT

APPENDIX A: NPI NEPM VARIATION DATABASE INDICATIVE COSTS - INCLUSION OF TRANSFERS AND GREENHOUSE GASES IN THE NPI DATABASE REPORTING AND PUBLICATION PROCESS (DEH DECEMBER 2005)

This indicative estimation is based on the current NPI process as at December 2005 with knowledge of the NPI NEPM variation to date. It is based on the inclusion of fields within the current database and presentation on the existing web site. It does not accommodate a computerised calculation mechanism.

Element	Hours	Cost	Notes
Reporters			
Update NRT	210	\$ 21,000	
Update Reporting Form	2	\$ 200	
Testing	28	\$ 2,800	
Training	21	\$ 2,100	Write basic instructional material for reporters. Does not include training delivery
Total Reporters	261	\$ 26,100	
Warehouse			
Update Warehouse	161	\$ 16,100	
Testing	28	\$ 2,800	
Total Warehouse	189	\$ 18,900	
Jurisdictions			
Update JARMS	350	\$ 35,000	Cost due to variants of JARMS which exist in the jurisdictions
Testing	175	\$ 17,500	
Training	70	\$ 7,000	Write basic instructional material for jurisdictions. Does not include training delivery
Total Jurisdictions	595	\$ 59,500	
Database			
Amend Data Upload Process	70	\$ 7,000	
Addition of Database Fields	70	\$ 7,000	
Testing	35	\$ 3,500	
Documentation	35	\$ 3,500	
Total Database	210	\$ 21,000	
Preview Web Site			
Amend Code	140	\$ 14,000	
Testing	35	\$ 3,500	
Documentation	35	\$ 3,500	
Total Preview Web Site	210	\$ 21,000	
Public Web Site			
Amend Code	175	\$ 17,500	Includes both static and dynamic web content
Testing	35	\$ 3,500	
Documentation	35	\$ 3,500	
Total Public Web Site	245	\$ 24,500	
Totals	1521	\$ 171,000	

GREENHOUSE GAS EMISSION REPORTING AND DISCLOSURE PILOT

APPENDIX B: LIST OF FIELDS PROPOSED TO BE REPORTED AND DISCLOSED IN THE PILOT

DATA FIELDS	MANDATORY FIELDS	VOLUNTARY FIELDS	PUBLIC DISCLOSURE	AVAILABLE IN NPI?
COMPANY AND FACILITY INFORMATION (a)				
ACN	X			X
ABN	X			X
Company Name	X		X	X
Company Postal Address	X			X
Facility Name & Address	X		X	X
State	X		X	X
ANZSIC Class Name & No	X		X	X
Main Activities	X			X
Public Contact Details		X	X	X
REPORTING INFORMATION				
Reporting Period Start Date	X		X	X
Reporting Period End Date	X		X	X
Type fuel burnt	X			X
Quantity fuel burnt	X			X
WRI / WBCSD SCOPE 1 EMISSIONS				
Carbon dioxide (tonnes)	X		X	
Methane (tonnes)	X		X	
Nitrous Oxide (tonnes)	X		X	
HFCs (tonnes)	X		X	
PFCs (tonnes)	X		X	
Sulfur hexafluoride (tonnes)	X		X	
Total Direct (CO ₂ -e)	X		X	
WRI / WBCSD SCOPE 2 EMISSIONS				
Energy (Electricity) Use (Gj / KWh)		X		X
Total (Electricity) Indirect Emissions (tCO ₂ e)		X	X	
Total Emissions CO ₂ -e (direct + indirect)		X		
EMISSION REDUCTION ACTIVITIES				
Base Year		X	X	X
Reductions From Reporting Year (total emissions) (tCO ₂ e)		X	X	
Reductions From Base Year (total emissions) (tCO ₂ e)		X	X	
Reduction activities undertaken		X	X	
Industry comment		X	X	

(a): this list is indicative, as these have been collapsed into like groups