
E Compliance and administration costs

E.1 Background and purpose

Regulation necessarily imposes compliance costs on industry, and administration costs on governments, even when it is well designed and implemented.

The compliance costs of chemicals and plastics regulation include licence and registration fees, assessment and approval of new chemicals, and resources used for record keeping, reporting and other compliance related activities. The generally more significant costs of compliance are in the changes firms make to the way they operate, in order to comply with regulations.

Administration costs include conducting legislative processes — from community consultation through to enacting legislation — the establishment and operation of agencies to undertake risk assessment and risk management functions, and administration and enforcement of the regulations. In many cases, administration costs are partly or wholly cost recovered from regulated entities.

The cost to government of administering regulations, and to firms of complying with them, should ideally be proportionate to the problem and the minimum necessary to achieve effective outcomes. Costs may be higher than necessary if best-practice approaches to regulatory design, administration and/or enforcement are not being used. The extent to which a regulation's costs are higher than necessary is termed excess or unnecessary regulatory burden. Box E.1 describes some of the ways in which unnecessary burden can impact on industry.

Box E.1 Impacts of unnecessary regulatory burden on firms

- Unnecessary (administrative) compliance costs can reduce firms' profitability and influence production decisions in ways that are unintended by the regulation.
- Regulatory arrangements can create a competitive disadvantage for firms depending on their size and geographical location.
- The introduction of safer or more effective chemicals can be impeded as a result of regulatory burden.
- Some regulatory reforms can reduce the net benefit to the community by increasing compliance costs with no offsetting benefit, or replacing some compliance costs with other larger costs.

The Commission asked all governments to provide data on the cost of administering their chemicals and plastics regulations. A survey of firms subject to those regulations was not pursued given the diversity of firms and regulations involved, and the difficulty of ensuring a representative sample, and designing questions firms could readily answer. Instead, the Commission issued a general request to industry bodies and individual interested firms to submit evidence about cases where compliance costs are claimed to be excessive.

However, compliance and administration costs can be difficult to quantify, and the costs of unnecessary burden even more so. Chapter 2 discusses unnecessary burden and the difficulties inherent in obtaining cost data related to chemicals and plastics regulation. It is difficult for firms to identify the incremental costs of regulation from the costs they would otherwise record for accounting purposes. Further, it is unrealistic to expect individual businesses to know what compliance costs would be under best practice regulation, and to calculate that part of the cost that comprises unnecessary burden. Similarly, regulators (such as a workplace safety authority) often operate across a range of industries and products, and may have difficulty attributing costs to regulating for any one particular industry or product.

The Commission has sought to include stakeholder evidence, including cost data, in the relevant chapters of the study. As it was not possible to include all the information contained in submissions, the purpose of this appendix is to consolidate the compliance and administration cost information that was submitted to the study. This information is intended to provide examples of the types of compliance and administration costs faced by firms and governments respectively, and some broad indicators of their likely magnitudes.

The Commission received a limited amount of cost information that could be used to determine the relative efficiency of existing formal regulation, and therefore the

information contained here is largely anecdotal. The Commission has not attempted to quantify the compliance or administration burden — neither the overall burden nor any element that may constitute that unnecessary burden — of chemicals and plastics regulation. The costs highlighted in this appendix do not represent a comprehensive inventory of costs related to chemicals and plastics regulation, nor has the Commission attempted to verify any of the information.

Further, this appendix considers cost information only, and does not include information relating to the benefits of regulation, nor does it take into account the potential costs to the community of any regulatory gaps.

E.2 Compliance costs can reduce firms' profitability and unduly influence production decisions

Firms are typically required to demonstrate compliance with various regulations through reporting and documentation, which takes time and resources. Regulation will also often involve the payment of fees for registrations, licences, inspections and security checks.

If regulation is unjustified, excessively prescriptive, overly complex, duplicative or inconsistent, it is likely to impose unnecessary costs on firms and influence production decisions in ways that are unintended by the regulation. For example, firms may need to spend additional time trying to understand complex requirements and fulfil duplicative reporting and documentation obligations.

Firms may also need to adopt procedures or use inputs in order to meet regulatory requirements, over and above that required for profitable operation. Further, firms may indeed choose to use alternative procedures or inputs in order to avoid becoming subject to regulatory requirements. For example, a firm might choose a certain input, manufacturing or transportation method over an otherwise cheaper, more effective, alternative, to avoid the costs and inconvenience brought about by regulation imposed on that alternative.

Hazard and risk assessment

A significant proportion of the compliance cost information provided by industry was in relation to hazard and risk assessment (chapters 4 and 8). Table 4.1 contains international comparative data on assessment fees for non-polymer chemicals provided by ACCORD Australasia (sub. 42). Box 4.3 contains participant examples of National Industrial Chemicals Notification and Assessment Scheme (NICNAS)

application data costs for products they maintain are already established in the US market.

Science Industry Australia provided an example from Eppendorf South Pacific Pty Ltd relating to the cost of complying with regulation for very small quantities of silicon grease and reagent grade water that it imports for laboratory uses:

... NICNAS requires companies to pay a relatively large annual fee of \$381 for very small quantities of Tier 1 chemicals. DHA [Department of Health and Ageing] sets the annual fee according to the monetary value of the chemical in question. In this instance, the annual fee is \$381 for each incidence of chemicals valued at between \$1 and \$499 000. The NICNAS fee is aimed at recovering costs associated with the implementation of the *Industrial Chemicals Act 1989*.

... the science industry includes suppliers and users of small to medium amounts of high purity chemicals. The chemical transactions often involve less than 1 gram of material. However, these quantities are regulated in the same or similar ways as bulk chemicals are regulated elsewhere in the chemicals and plastics industry. (sub 55, pp. 1-2)

Chapter 8 also provides discussion of the costs of registration for agricultural and veterinary (agvet) chemicals. Table 8.1 contains international comparative data on registration fees, noting that part of the observed differences can be explained by the differences in cost-recovery arrangements of the agencies that charge the fees.

Control-of-use for agvet chemicals

Industry maintained it incurs unnecessary costs as a result of variation in jurisdictions' control-of-use regulations for agvet chemicals. Specifically, users operating in multiple jurisdictions incur costs as a result of variation in the training, licensing, insurance and record keeping requirements, and off-label use arrangements.

Section 8.3 discusses issues relating to control-of-use in more detail and table 8.2 highlights the differences in jurisdictions' regulation of pesticide use. The Aerial Agricultural Association of Australia (sub. 17) and Croplife Australia (sub. 35) identified areas where unnecessary compliance costs arise for aerial applicators who operate in multiple jurisdictions (box E.2). Further, inconsistency in requirements across jurisdictions has implications for competitive neutrality, with operators in some jurisdictions facing higher compliance costs than operators in other jurisdictions. Competitive neutrality is discussed in section E.3.

Box E.2 Interjurisdictional inconsistency in control-of-use regulations: aerial application

Croplife Australia and the Aerial Agricultural Association of Australia (AAAA) expressed concern that inconsistent regulations for aerial application of pesticides in different states and territories are imposing unnecessary costs through duplication of licensing, differing training and record keeping requirements, and approaches to compliance and education:

For example, despite the Federal/State Product Security and Integrity Committee and various working groups considering the issue since 2001, there is still not an agreed nationally consistent licence regime for the licensing of pilots and businesses engaged in aerial application. Each State still pursues their own licensing regime and charges.

Similarly, States have different record keeping and training requirements. A key issue for AAAA is the ongoing lack of requirement in all States except NSW for mandatory training for all chemical applicators, including ground applicators and farmer applicators.

State by State reform of control of use regulation is disjointed and uncoordinated, with each State adopting a different philosophical approach to the management of chemical application.

The reviews in each jurisdiction take up valuable industry time, result in different compliance regimes and add to confusion and cost for the increasing number of aerial applicators that operate in a number of jurisdictions for good economic reasons. (AAAA, sub. 17, p. 5)

Croplife Australia also raised the following:

All states except South Australia and Queensland have a requirement for aerial agricultural operators to carry \$30 000 insurance to cover potential spray drift damage. It is questionable whether state governments should regulate businesses for what should be a business decision. (sub. 35, p. 30)

Public health

A number of examples of unnecessary costs for firms related to the public health aspects of chemical use (chapter 5). With regards to poisons, participants identified institutional arrangements and decision making processes for poisons scheduling and regulation, inconsistencies in controls between jurisdictions, and overlaps with other areas of regulation as factors adding to the compliance burden (section 5.1).

Inconsistencies across jurisdictions in retail storage controls for schedule 5 and 6 poisons were identified by participants as a source of unnecessary compliance costs for chemicals manufacturers, distributors and retailers who operate in multiple jurisdictions (section 5.1). New South Wales and South Australia take a quite prescriptive approach, and either more general or no requirements apply in other

jurisdictions.¹ This could also have some impact on competitive neutrality, potentially giving a competitive advantage to those firms operating in a less costly regulatory environment (discussed in section E.3).

An issue was raised in relation to recognition of foreign labels and unique Australian labelling requirements for consumer products (section 5.3). In its submission, ACCORD Australasia (sub. 42) provided member examples of compliance costs relating to over-labelling (box E.3). Appendix G (section G.2) discusses potential costs and benefits associated with aligning with, or deviating from, labelling schemes of Australia's major trading partners.

Box E.3 Burden of unique Australian labelling requirements

An ACCORD member noted that certain products must display specific weights and measures information on packaging of 'low risk products' for the Australian market, and that the labels on certain products originating from the EU and the USA do not comply with these specifications:

[This requires] us to either go to the lengths of having our own packaging artwork for Australia, which is not a very large market and therefore the costs are high for us, or overlabel our products often with two or more overlabs per product. To have our own packaging, we need to order large quantities of stock to justify the dedicated production run and this can result in high overstocks in our warehouse as well. The overlabelling of products results in double-handling which poses a logistical obstacle which is time-consuming and expensive. (ACCORD Australasia, sub. 42, p. 9)

Another ACCORD member estimated the cost to over-label a product because of unique Australian requirements is approximately 50 cents per unit. Based on the number of units sold in Australia in 2006 (130 million), the additional costs to industry in any one year, could be as high as \$65 million.

In the past, other ACCORD members have provided the following advice regarding costs of over-labelling:

Over labelling of products, both primarily and secondarily, which involves the double-handling of the product affecting the quality and retail image of the product (i.e. removal of cellophane, removal of jar from carton and application of sticker to front and back jar label, application of sticker to front and back of carton). Using a particular product example, 7300 units ordered requiring local over labelling where the cost of compliance affected the profit margin by a 9 per cent loss on the net profit for this product.

Labelling changes can be costed - it ranges from \$25 000 to \$75 000 depending on the type/quality/extent of packaging. (ACCORD Australasia, sub. 42, p. 9)

¹ However, the Commission notes that South Australia is currently implementing a number of initiatives including removal of licensing requirements for manufacturers and wholesalers of Schedule 5 and 6 substances (SA Government, sub. DR110).

Another example provided by ACCORD Australasia referred to overlaps in the controls for domestic (household) poisons, and for those used in the workplace (section 5.1). This can impose unnecessary compliance and administration costs on firms and governments respectively.

Duplication and inconsistency in the decision making arrangements for regulating food safety were cited as an issue for industry (section 5.5). In particular, the operation of a dual system where the Australian Pesticides and Veterinary Medicines Authority (APVMA) prescribes minimum residue levels (MRLs) and Food Standards Australia New Zealand later writes those MRLs into the Food Standards Code can lead to lengthy delays, and therefore costs, for farmers.

Transport

Participants in this study noted that jurisdictional variation in explosives transport regulations — developed by individual jurisdictions, which refer to Australian Code for the Transport of Explosives by Road and Rail (AEC) — imposes unnecessary compliance costs, especially for firms operating in multiple jurisdictions (chapter 7). According to the Australian Explosives Industry and Safety Group Inc. (AEISG) the inconsistencies that currently exist in the AEC ‘are a costly irritant to the nationwide transport of explosives’ (sub. DR94, p. 1).

Further, the AEISG stated that the current version of the AEC includes unique Australian requirements in relation to packaging and labelling (sub. DR94, p. 4). The AEISG maintained that these involve considerable compliance costs and inconvenience, given the extent to which explosives are now imported and exported.

The Australasian Railways Association (sub. DR95, p. 6) argued that for rail operators transporting explosives and other dangerous goods on the same rail services, the lack of integration of the AEC and the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG Code) is a source of inefficiency, given the added regulatory complexity and paperwork involved for operators. The Commission has noted the possible merits of amalgamating the two codes, but considers that inter jurisdictional differences in explosives transport regulation should be addressed first.

The current updating of the ADG Code and AEC to largely align with the latest version of the UN Recommendations on the Transport of Dangerous Goods Model Regulations, will lessen compliance costs for importers and exporters. The compatibility of land transport regulation with that of domestic air and sea transport, which are already based on the latest UN Code, will also be enhanced.

Occupational health and safety

Use of chemicals in the workplace is subject to occupational health and safety regulation, which is based on national standards and implemented at a jurisdictional level. Inconsistency in the implementation and interpretation of the standards by jurisdictions was raised by industry as a source of unnecessary compliance costs (chapter 6).

The Australian Safety and Compensation Council (ASCC) developed drafts for a consolidated system of national standards and codes for workplace hazardous chemicals to replace the existing national standards, model regulations and codes for hazardous substances and dangerous goods (section 6.3). The proposed new system is based on the Globally Harmonised System of Classification and Labelling of Chemicals. The ASCC estimated the costs for it to implement the new system would be around \$230 000 over five years. In addition, it was estimated that the cost to states and territories would be less than \$1 million, and to industry more than \$452 million, over the same period. However, some industry participants and regulators suggested that the costs may have been underestimated.

The ASCC estimated the benefits to industry of a 10 per cent reduction in the time taken for risk assessments would deliver savings to industry with a net present value of over \$174 million.² The new system is also considered to offer benefits to industry through information sharing and trade facilitation. The ASCC estimated the net present value over 30 years of these benefits to be \$442 million, however, the Commission considers this to be a significant overestimate.

Environment

Regulation for managing the impact of chemicals on the environment is discussed in chapter 9.

The Plastics and Chemicals Industries Association (PACIA) (sub. 33a, pp. 30–31) identified the increasing overlap and inconsistency of regulation in relation to climate change as an area of concern:

An area of significant concern to PACIA is the increasing overlap and inconsistency of regulation in relation to climate change ... The growth in regulation is further complicated when considering the inextricable link between energy use and greenhouse emissions. As such, there is significant overlap in the areas of emissions reporting, emissions trading, energy efficiency programs and environmental approvals process.

² This figure is the ASCC's estimate of the net present value of the savings calculated over a period of 30 years using a discount rate of 7 per cent.

The reporting burden is the single biggest concern to the plastics and chemicals industry in relation to greenhouse and energy policy. Companies currently report to a number of voluntary and mandatory schemes, including:

- Greenhouse Challenge Plus programme;
- Energy Efficiency Opportunities (EEO) programme;
- Requirements under the State and Territory Government Approvals processes;
- State and Territory Government Greenhouse Gas Inventories, such as the Western Australian Greenhouse Gas Inventory (WAGGI); and
- State and Territory Greenhouse, Energy and Water Schemes, such as the Victorian Government Environment and Resource Efficiency Plans (EREP).

... a PACIA member company estimates that the cost of dealing with duplicate legislation would be \$30 000 per site each year. The cost comprised mostly additional labour required to duplicate reporting etc, but there is also an additional cost that is caused by having to prepare and conduct different inductions and training programs in each state due to the need to cater for local differences in legislation.

PACIA also provided compliance costs information associated with the National Pollutant Inventory (box E.4 and table E.1).

Box E.4 PACIA cost estimates for compliance with National Pollutant Inventory requirements

PACIA provided the following description of costs relating to compliance with the National Pollutant Inventory requirements:

To help determine the financial impacts of the amended variation, the Department of the Environment and Water Resources commissioned EECO Pty Ltd to investigate and report on the financial impact associated with transfer reporting under the new requirements.

This report investigates the costs of reporting transfers to the National Pollutant Inventory (NPI). The obligation to report transfers is part of a variation to the current NPI NEPM [National Environmental Protection Measure] requirements. A case study on the chemical industry was completed very late in the review stage to explore the tasks necessary for industry to report transfers and their associated costs.

For the industrial estate, the total cost for transfer reporting in the first year is \$26 300 and includes the set-up costs plus ongoing costs.

The total cost of transfer reporting in the second year (and thereafter) is \$12 200. The approximate cost of ongoing transfer reporting per facility is \$2440.

The estimates represent the additional costs of mandatory transfer reporting. In some cases, a facility may determine that they do not need to report transfers, but they nonetheless incur costs in learning the transfer requirements and determining the facility's reporting obligations. Ongoing costs beyond the first year are lower as the reporting obligations are known and the need for waste characterisation (including chemical analysis) is reduced or eliminated.

To properly self-assess the need to report transfers, a facility needs to:

- review regulatory requirements
- review the NPI substances for which they exceed the reporting threshold
- identify the waste streams that may contain these NPI substances
- review existing data including waste stream analyses
- identify any data gaps and if required, obtain the required data.

Where significant data gaps exist, laboratory analyses may be required. Analytical costs are mostly incurred in the first year as transfer factors should be developed for subsequent years. Ongoing analyses are only needed for highly variable waste streams or to modify transfer factors to account for significant process changes.

Source: PACIA (sub. 33, attachment 1, p. 33)

Table E.1 PACIA reporting cost estimates: National Pollutant Inventory

<i>Task</i>	<i>Staff 1 (\$200 p/hr)</i>	<i>Staff 2 (\$150 p/hr)</i>	<i>Staff 3 (\$100 p/hr)</i>	<i>Staff 4 (\$50 p/hr)</i>	<i>Analyses</i>	<i>Subtotal</i>
First year						
Understanding regulatory requirements	2 hrs	8 hrs	2 hrs	1 hr	..	\$1 850
Determining reporting obligations	..	19 hrs	6 hrs	..	..	\$3 450
Performing calculations, measurements and estimates	..	30 hrs	11 hrs	1 hr	\$1 500	\$7 150
Reporting transfers	2 hrs	7 hrs	1 hrs	2 hrs	..	\$1650
Total staff hours	4 hrs	64 hrs	20 hrs	4 hrs	..	..
Total	\$800	\$9 600	\$2 000	\$200	\$1 500	\$14 100
Subsequent years						
Understanding regulatory requirements	1 hr	4 hr	1 hr	..	..	\$900
Determining reporting obligations	..	10 hrs	6 hrs	..	..	\$2 100
Performing calculations, measurements and estimates	..	28 hrs	12 hrs	1 hr	\$1 500	\$6 950
Reporting transfers	2 hrs	10 hrs	3 hrs	1 hrs	..	\$2 250
Total staff hours	3 hrs	52 hrs	22 hrs	2 hrs	..	..
Total	\$600	\$7 800	\$2 200	\$100	\$1 500	\$12 200

.. Not applicable

Source: PACIA (sub. 33 attachment 1, p 34).

E.3 Regulatory arrangements can have anti-competitive outcomes

Firms in different jurisdictions — national and international — invariably operate in different regulatory environments, and therefore the compliance costs they face vary in magnitude and nature. This can have implications for competitive neutrality — that is, firms in one jurisdiction may enjoy a competitive advantage over similar firms in other jurisdictions if they operate in a less costly regulatory environment.

Regulation can also impact on competitive neutrality when the relative compliance burden is greater for smaller firms, which may find it more costly to understand and meet regulatory obligations than larger, more established firms operating in the same regulatory environment. For example, a small firm may need to engage external consultants to deal with complexity in legislation, staff time taken to

perform compliance related activities will be at a higher premium, and up-front costs such as those associated with testing and registration to introduce new chemicals will be relatively more costly for a smaller firm.

However, firms in a highly regulated environment will not necessarily be at a competitive disadvantage to similar firms operating in other less regulated jurisdictions. In their report to the Royal Commission on Environmental Pollution, Mahdi, Nightingale and Berkhout cited an argument that:

... countries adopting stricter regulations can achieve competitive advantage by stimulating socially desirable innovations and gaining first mover advantages for their firms which can, in turn, be exploited in other markets. (2002, p. 25)

A number of examples were provided to this study that highlighted the areas where industry considered that inconsistency and gaps in various areas of regulation across jurisdictions have the potential to create anti-competitive outcomes.

Participants raised concerns in relation to the implementation of the National Registration Scheme through control-of-use regulations (for agvet chemicals) administered by states and territories. One of the issues raised was the costs imposed by the lack of consistency across jurisdictions. The inconsistent regulation of off-label uses in particular — allowing off-label use in some jurisdictions and not others — is identified as an area where anti-competitive outcomes could occur (section 8.3).

The AAAA also raised the following issue regarding inconsistencies in the regulation of aerial application and ground application of pesticides:

A key economic and competition issue is the unlevel playing field between aerial application and ground application. Despite state regulators publicly and consistently indicating they receive considerably more complaints and undertake more investigations regarding poor ground application than aerial application, most states continue to require licensing and high training and other standards from aerial application, but no or limited licensing, training or record keeping for most ground applicators. (sub. 17, p. 5)

In relation to chemicals in consumer products, the absence of a single national system of generic consumer product safety has led to the duplication of effort and inconsistent treatment of similar risks and hazards across jurisdictions, while providing little demonstrable offsetting benefit to the community (section 5.2).

Jurisdictional inconsistencies in controls to prevent the diversion of chemicals to illicit drug manufacture — in particular the failure of some jurisdictions to tailor controls to the level of risk, potentially leading to more stringent regulation than is necessary — can impose unnecessary costs on firms and result in anti-competitive

outcomes for national firms compared to firms operating in a single jurisdiction (section 5.4).

PACIA provided a case study (box E.5), which it used to illustrate the implications of inconsistencies in the application of the Illicit Drug Code for firms dealing with ammonia gas on a national level. PACIA maintained that inconsistency added to compliance costs as a result of complexity, which also undermined compliance. In addition, PACIA sought to demonstrate the anti-competitive outcomes that inconsistent adoption of voluntary schemes can have.

Box E.5 PACIA case study: the Illicit Drug Code and treatment of ammonia gas

PACIA provided the following case study to highlight inconsistencies in the application of the Illicit Drug Code:

Western Australia legislated some provisions of the Illicit Drug Code in 2004. However, that state made a decision to alter the nationally agreed categories of a number of chemicals it scheduled. As an example, the legislation categorised ammonia gas as a Category I chemical with all the attached obligations. The Code categorises ammonia gas as a Category II chemical, and thus this alteration presented significant change and issues for the companies who deal with ammonia gas on a national level.

Clearly ammonia gas has widespread use in refrigeration processes, and practical aspects of dealing with repeat and regular orders from account customers means that provision of End User Declarations on each and every supply is a[n] ... unnecessary and burdensome requirement. Furthermore, the requirement to delay supply for 24 hours has significant unintended consequences in some situations (such as dealing with refrigeration breakdowns etc), yet the regulations have no exemption power to allow discretion in application.

One PACIA member deals with approximately 260 orders for ammonia each year. That company has a centralised national call centre which deals with supply in all states. The cost of having very different processes in only one state has made business operation complex, and contributed to the additional cost of training staff.

Source: PACIA (sub. 33, p. 16).

There are also inconsistencies in the dangerous goods regulations and major hazard facilities (MHF) regulations (section 6.4). For example, large variations in charges for obtaining a licence or registering a MHF (depending on the jurisdiction's requirements) coupled with the absence of formal regulation in some jurisdictions could place some firms at a competitive disadvantage (table D.2).

E.4 The introduction of safer or more effective chemicals can be impeded

There are costs associated with the introduction of new chemicals. New industrial chemicals that are not listed on the Australian Inventory of Chemical Substances (AICS) must be assessed by NICNAS before they can be used in Australia. Firms must cover the costs of data preparation (testing) for the application and the assessment of the application. Industry participants to this study expressed concerns that these costs are often prohibitively high, and discourage innovation and the uptake of new technologies.

Industry argued that, not only are the assessment and notification charges higher in Australia than other jurisdictions such as the US, the EU and Japan, but often the relevant testing and evaluation has already been done in other jurisdictions and the chemicals well established in their respective markets. It further argued that these high costs, together with the small size of the Australian market, can make the introduction of new chemicals commercially unviable — even though those chemicals, in some instances, may be safer and more effective.

It is interesting to note an argument cited by Mahdi, Nightingale and Berkhout in their report to the Royal Commission on Environmental Pollution with reference to the impact of regulation on innovation in the chemical industry:

There is no consensus about whether regulation inhibits or stimulates innovation in industry; it is likely that in most cases regulation both inhibits and stimulates innovation, playing a modulating role. For instance, in many countries the most successful firms and industries are also those that face the highest levels of regulation — pharmaceuticals in the UK compared to France, chemicals in Germany, pulp and paper in Sweden and aerospace and finance in the US. Despite a long tradition of research on the question of how regulation influences innovation in different industries and in different countries, it is far from clear where the balance between these two effects falls. (2002, p. 1)

Whether the environment is highly regulated or otherwise, it is reasonable to expect that the effectiveness and efficiency of that regulation will be relevant to both the uptake and creation of new products and technologies. The issues most frequently raised by industry focused on the reduced profitability and lost opportunities for Australian firms as a result of regulatory burden associated with the introduction of new chemicals.

Impacts on profitability and decision-making for importer–suppliers

Some examples that were submitted to this study aimed to demonstrate the ways in which the costs of introducing new industrial chemicals impacted on firms' profitability and decisions about whether or not to proceed with introduction.

Albright & Wilson (Australia) Ltd. provided the following, in which it compared the costs to firms of obtaining new product approval/registration in Australia and the US:

Albright & Wilson (Australia) Limited has recently taken on a new Agency. Our Principal is a small innovative US company which has developed and patented several new chemical entities which have significant advantages over products using existing technologies, in terms of performance, use of renewable resources, etc. The cost of listing one of these new products on the TSCA [Toxic Substances Control Act] Inventory is USD 100. The laboratory tests required by US authorities to establish the safety in use and impact on the environment cost around USD 20 000. In Australia, by contrast, a standard NICNAS notification costs close to AUD 15 000, with a number of additional costs if any of the information is to be treated in confidence etc., and the cost of carrying out the substantially more extensive testing required to achieve listing on the AICS [Australian Inventory of Chemical Substances] can easily be of the order of ten times the cost of testing required in the USA. (sub. 5, pp. 2–3)

Care should be taken when comparing such fees and charges, as the various cost recovery arrangements for each of the agencies will determine the degree to which these are reflective of true assessment costs.

PACIA provided an example of a member who recently completed the notification of two new chemicals, which are components of new water-borne epoxy systems developed for protective coatings:

Such technology is slowly starting to replace solvent-containing systems which present serious problems for both workers and the environment. The notifications cost the company approximately \$40 000 AUD each, which means virtually no profit will be made for several years in Australia from either of the two systems. Clearly the replacement of chemicals with safer alternatives is not happening unless a high cost is paid. Even allowing for the use of a Commercial Evaluation permit to test the market [for] specified customers, there is the underlying issue of the company really not knowing the commercial viability of a product until the notification has been completed and the large amount of money spent. (sub 33a, p. 19)

Access to new technologies for local industry and consumers

Industry provided examples that aimed to demonstrate ways in which arguably unduly high costs for the introduction of new industrial chemicals and technologies can disadvantage industry and consumers. One issue raised by industry was the loss

of competitiveness by local manufacturers who compete with imported products that contain substances not listed on the Australian Inventory of Chemical Substances.

Endeavour Chemicals provided the following example as a representative of a medium size coatings resin company in Europe producing speciality resins (binders) for paint systems:

Most of [the] work is in new developments in the water based area. What we tend to find is that we have new products we would like to introduce which would be better for ecology and health and safety at the factory level but when we get to the evaluation stage, it becomes obvious that the volumes in the Australian market do not compensate for the costs involved in getting the product registered.

This tends to leave the Australian market languishing with old technology. This old technology is usually more harmful to environment and worker combined, hence NICNAS is effectively working against [its] own charter which is to protect environment and worker/public safety. A lot of the evaluation of these polymers has been already done in Europe, the USA, and Japan etc and are readily used, so the evaluation is duplicated just for our small 20 million population country.

The set up of NICNAS tends to favour the large multi-national [which has] much greater resources. It undeniably stifles innovation and entrepreneurial activities. (sub. DR67, p. 1)

Remove Obstacles to Australian Manufacture (ROAM) provided the following case studies:

- A water repellent coating primarily for use on aircraft windshields cannot be manufactured in Australia because the key ingredient is not listed on the AICS. The total volume of the ingredient that could be used (if accredited) is such that the cost of accreditation cannot be justified.
- Currently a liquid photopolymer is used within the printing industry for use in printing corrugated cardboard. In principal an excellent closed loop system where all unused polymer is recycled. However the polymer contains a monomer that has a high odour and high skin sensitisation levels. A new monomer enjoying wide use in the USA is available that does not have these shortfalls [but is] not listed on the AICS. Either we put up with a process that impacts negatively on worker health or we export the job of printing cartons!
- An importer wanted to introduce a new bacterially active substance for use in anti-perspirant/deodorants. The substance is accredited for use in Europe, USA and Japan. The cost of NICNAS accreditation was such that introduction was not completed and large export contracts for a local personal care manufacturer were lost.
- A major producer of printing inks in competition with imports finds that imports often contain ingredients not listed on the AICS or on the MSDS [Material Safety Data Sheet]. Those ingredients cannot be used in Australian manufactured inks but

the imported products are not assessed/tested by NICNAS in spite of referrals from local makers.

- Plastic bags as supplied in supermarkets of the biodegradable type manufactured from a corn starch derived polymer are being imported into Australia. However that same polymer is not listed on the AICS so it cannot be imported and converted into safe, environmentally desirable plastic bags by Australian producers. (sub. 3, pp. 4-5)

ACCORD Australasia (sub. DR91) argued that unique Australian requirements are an impediment to the integration of Australian businesses into global supply chains and have negative implications for Australian export manufacturers as well as importers of new technologies. ACCORD's member survey of impacts of NICNAS regulation highlighted that an estimated 38 per cent of assessments required unique Australian data for chemicals and ingredients already in use in other major economies (sub. DR91, p. 3).

E.5 Reforms can add to the regulatory burden

Regulatory 'fixes' and additional layers of regulation can add to complexity, and therefore to the compliance burden for industry. Regulatory reforms are sometimes undertaken to accommodate exceptions or special circumstances of various industry sectors. If a regulatory 'fix' falls short of achieving its objectives, it may not be adopted by its target group, or can create new costs for industry and regulators alike.

In addition, new layers of regulation are often introduced to deal with emerging issues or changing public expectations. These can add to compliance costs through duplication and inconsistency with existing regulation, which are then exacerbated if inconsistently adopted and implemented across jurisdictions.

Regulatory 'fixes': low regulatory concern chemicals (LRCCs)

Some industry stakeholders argued that the costs associated with new mechanisms for regulating LRCCs remain too high, and controls are not commensurate with risks, which they maintain, has resulted in a poor uptake of these mechanisms (section 4.3). Science Industry Australia provided a case study to support this view in the context of the research and development exemption. Similarly PACIA argued that the provisions for self-assessment of polymers of low concern did not function for similar reasons.

Science Industry Australia also provided a breakdown of the estimated costs of reporting to 100 science industry companies each importing an average of 600 chemical entities in laboratory quantities each year (table E.2).

Table E.2 Science Industry Australia estimates of reporting costs associated with low regulatory concern chemicals

<i>Item</i>	<i>Cost per year</i>
	\$'000
Indirect costs per company of the paperwork – assuming 600 chemical entities per company	6
Opportunity costs (loss of strategic time)	10
Total cost per company	16
Total cost to science-industry companies	1 600

Source: Science Industry Australia (sub. 55).

PACIA (sub. 33a, p. 20) provided a case study containing compliance cost information associated with the Low Regulatory Concern Chemical Program, which is discussed in chapter 4. PACIA's comparison of NICNAS's fees for self-assessment for polymers of low concern and standard polymers of low concern at September 2007 provided an upfront saving of \$1689. However, PACIA estimated the additional costs of annual reporting and auditing to be \$1800 — thus more than offsetting the initial saving (assuming a near zero discount rate) (box E.6).

Box E.6 PACIA case study: self-assessment of polymers of low concern

This case study provides a comparison of costs associated with standard and self-assessment polymer of low concern notification fees respectively:

Costs of annual reporting

Administrative cost factors

a) Yearly Data Extraction of product data for specific products containing the new chemical

There will be ... up to 25 or more products each containing a different percent composition of the new chemical and each has to be tracked each year for five years using non-routine reporting periods August–September.

Consider a simple case with only three products containing the self assessed chemical (three products is a low estimate for paint, adhesives, lubricants, moulding plastics)

Time to extract end use product data from one business with senior management approval 3 x 0.5 hr = 1.5 hr

b) Unique and varying data calculation

Apply the unique percentage concentration per product to produce total kilograms used 0.25 hr

c) Data Entry

Enter above data in NICNAS report for each chemical 0.25 hr

Total hours 1.8 x fully loaded hourly rate \$180 per hr = \$324 per year

Over 5 years = \$1620

Cost of Audit:

Post preparation (collation and binding) of the data file and support papers for a NICNAS application is 1 hour = \$180.

(If NICNAS have further questions an additional 1–3 hours may be added but this is ignored for this example)

Cost Comparison

Difference between SA [self-assessment]/PLC [polymers of low concern] and Standard PLC = \$1689 (Saving)

Total reporting and audit costs = \$1800 (Additional cost)

Source: PACIA (sub. 33a, p. 21).

Additional regulatory layers: security sensitive ammonium nitrate controls

The special controls placed on security sensitive ammonium nitrate (SSAN) are an example of an additional regulatory layer aimed at dealing with an emerging issue. These controls were imposed to improve national security when a risk was identified for certain ammonium nitrate products to be obtained for illegitimate purposes.

The SSAN regulations impose direct costs on industry in the form of charges for various licences, permits and security background checks. These are summarised in table 10.3.

As discussed in section 10.3, there is a significant degree of inconsistency across jurisdictions in a number of areas including: licensing arrangements; reporting requirements; and storage and handling requirements. This creates administrative complexity, particularly for firms operating in multiple jurisdictions.

The lack of recognition of licences across jurisdictions imposes unnecessary administrative costs on industry. As there is no nationally coordinated system for background checking, a background check on an applicant wishing to gain licences for multiple jurisdictions would be repeated by the licence issuing agency in each jurisdiction. The additional costs to firms are in fees for background checking and the time taken to conduct the check on each occasion. PACIA (2007a) has reported that it can take up to nine months to obtain SSAN related licences in New South Wales.

Participants in this study also argued that controls in some areas of SSAN regulation are excessive. For example, some groups argued that requirements in some jurisdictions for SSAN to be stored as an explosive may be too stringent, although there is no nationally agreed position on appropriate storage and handling requirements for SSAN. Industry also questioned the value of some of the reporting that is required by regulators in different jurisdictions.

AEISG estimated that the regulation imposes approximately \$3 million per year in compliance costs for the explosives industry (table E.3), and further, that a system of national regulation would reduce these compliance costs by 50 per cent:

The SSAN Regulations have required a paradigm shift in the manner in which member companies employ their operating staff and secure their activities to the requirements of the relevant regulator. The following table is an estimate of the additional costs imposed on the industry by the SSAN Regulations. These are aggregated over all AEISG members dealing with SSAN and cover all identifiable security costs in all jurisdictions but do not cover the impact of Major Hazards Facilities Regulations ... (sub 45, pp. 11–12)

Table E.3 **AEISG estimated costs to the explosives industry arising from SSAN regulation**

<i>Item</i>	<i>Capital</i>	<i>Operating</i>
	\$m	\$'000
Licensing and operating cost	..	3 000
Global Positioning System (GPS)	2.5	1 000
Unsupervised Handling Licences (UHLs)	..	500
Security and validation staff	..	530
Dual licences where necessary	..	75
TOTAL	2.5	5 630

.. Not applicable

Source: AEISG (sub. 45, p. 12).

E.6 Cross-cutting issues

The Productivity Commission's 2006 research paper on the Potential Benefits of the National Reform Agenda (PC, 2006b) estimated that compliance costs across all industries in Australia could be as high as 4 per cent of GDP. Using this estimate, and an extrapolated measure of industry output of \$31 billion³, the Chemicals and Plastics Leadership Group (sub. DR113, p. 9) estimated that the chemicals and plastics industry compliance burden could be in the order of \$1.3 billion annually. This is considered to be a very blunt assessment of compliance burden — it assumes a constant 4 per cent compliance burden across industries, and bases this calculation on already broad approximations of compliance burden and inconsistent measures of output. For example, the ABS estimated industry output in 2005–06 to be \$9 billion (table C.1).⁴

Chemicals and plastics regulation also imposes compliance costs on users of chemicals. Firms across many industries must comply with workplace, environmental, transport, public health and national security regulation, in relation to their use and disposal of chemicals.

ACCORD Australasia — which represents the consumer, cosmetics, hygiene and specialty products sector — undertook a survey in order to gain members' views on the impact of the current chemicals regulatory arrangements. The issues touched upon in the survey relate mainly to industrial chemicals and cut across the issues

³ Based on the 2006 National Institute of Economic and Industry Research report, which notes that in 2004, output of the Victorian chemicals sector was \$12 billion, 39.6 per cent of national level.

⁴ Based on industry value added and excluding medicinal and pharmaceutical products.

discussed in previous sections of this appendix. The key results of the survey, as reported by ACCORD, are in box E.7.

Box E.7 Summary of results of ACCORD Australasia survey

ACCORD reported the key findings of its survey as follows:

- 89 per cent of ACCORD industry and regulatory consultant members responded to the ACCORD Industry Survey.
- 92 per cent of survey participants having experience with NICNAS reported negative impacts from this association.
- 93 per cent of respondents who have experienced difficulties with NICNAS reported that products/formulations from their worldwide portfolio are unavailable in Australia due to Australian regulatory factors.
- Products are formulated/re-formulated to avoid dealing with NICNAS.
- The current regulatory system is a barrier to innovation.
- The consequences of regulatory burden reported by members show that Australia is placed at a disadvantage with regard to commercial opportunity, compared to the major EU and US markets.
- Costs, data and time factors are individually cited in over 50 per cent of cases as causes of regulatory burden.
- Based on financial estimates provided by a reasonably representative sample of ACCORD member companies, it is estimated that the lost-opportunity cost to the industry represented by ACCORD for the last few years (in terms of products being unavailable on the Australian market) is \$400 million.
- The current regulatory system is biased against innovation and product introduction by SMEs [small and medium enterprises] (companies with a turnover of less than \$10 million).
- 36 per cent of non-SMEs were still prepared to pursue Australian market entry for a chemical/product despite saying that the data requests in Australia were too great, compared to 5 per cent of SMEs.
- 16 per cent of non-SMEs were still prepared to pursue Australian market entry despite saying that regulatory costs in Australia were too high, compared to nil for SMEs.
- In around 50 per cent of cases where a company has the opportunity to self-assess through the LRCC [low regulatory concern chemicals] initiative, they choose not to do so, for reasons such as onerous auditing requirements.

(Continued next page)

Box E.7 (continued)

- In general, with the various LRCC reforms, at the time of introduction of the chemical the regulatory burden is reduced, but annual reporting has significantly increased the ongoing regulatory compliance and red-tape burden for industry.
- Irrelevant data is often requested and it is frequently considered that the level of assessment is greater than the level of risk.
- An average of 38 per cent of assessments required unique Australian data.
- There would be advantage in streamlining and co-ordinating the activities of the different regulatory agencies, especially in terms of determining which agency is actually responsible for any given product or situation.

Source: ACCORD Australasia (sub. DR91, p. 3).

E.7 Administration costs

Administration costs refer to the costs of designing and implementing regulation. Administration includes undertaking consultation and legislative processes, and establishing and operating regulatory agencies or regulatory functions. As with the costs of compliance to industry, government (and therefore communities) can incur unnecessary costs as a result of regulation that could be designed and/or implemented more effectively and efficiently.

In Australia, the administration of chemicals and plastics regulation can be broadly described as follows:

- Ministerial councils and relevant standing committees set policy and oversee its development and implementation.
- Bodies such as NICNAS and APVMA undertake hazard and risk assessment functions.
- Standard-setting bodies, such as ASCC, the National Transport Commission and APVMA perform risk management functions, developing standards and codes.
- Governments legislate, administer and enforce the regulations.

In general, policy setting functions tend to be funded from general revenue, therefore the community covers the associated cost.

Regulatory agencies can operate on a partial or full cost-recovery basis, where industry contributes to or fully funds their operating costs. Agencies can raise revenues through various premiums, fees, levies and other charges.

NICNAS operates on cost-recovery principles and is principally funded by company registration fees, and fees and administration charges for new assessments. In 2006-07, total revenue was \$8.6 million. Around \$5.9 million (69 per cent of total revenue) was collected via company registration fees, with most of the remainder collected through chemical assessment fees (DOHA 2007a).

APVMA also operates on cost-recovery principles and is principally funded by a levy imposed on sales of registered agvet products, and application and annual registration fees. APVMA also collects licensing fees from manufacturers of veterinary medicines. In 2006-07, total revenue was \$25.3 million, of which \$17.7 million, or around 70 per cent, was through the sales levy (APVMA, 2007a).

The funding arrangements for other agencies relevant to this study are discussed in more detail in appendix F.

Overall, the Commission noted the small amount of data received from jurisdictions in relation to administration costs. While the costs of chemicals-specific regulation, for some agencies, may not always be separately identified by their respective accounting systems, it is expected that these costs could be fairly accurately estimated. Such cost data, along with measures of regulatory quality, would provide a starting point for quantifying the effectiveness and efficiency of regulatory administration in each jurisdiction.

Meaningful comparison of administration costs for chemicals-specific regulation across jurisdictions would be complex given the differences in institutional arrangements, size and population, cost structures, and other factors such as community preferences. In addition, there would be the need to make judgements about the size of the net benefit to the community, or otherwise, that is delivered by each jurisdiction's regulatory regime. A benchmarking exercise would enable reasonable comparisons to be made of administration costs across jurisdictions.

Another useful exercise would be to consider opportunities to increase administrative efficiencies. This could include for example, looking for opportunities to reduce duplication across jurisdictions, and to consolidate functions and pool resources.

Chapter 8 provides discussion of the opportunities to consolidate functions of jurisdictional control-of-use regimes for the regulation of agvet chemicals. Administration cost data for three jurisdictions are provided (table E.4) in the context of this discussion, rather than for the purpose of making comparisons, noting the reasons above.

