

Environment Protection Authority

Becoming a harms-based regulator – developing a problem-solving culture

Published as part of the EPA Change Program to transform the EPA into a sharper, more effective and modern regulator.

Becoming a harms-based regulator – developing a problem-solving culture

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ISBN 978-1-921495-41-0

August 2013

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Foreword

The EPA has embarked on a journey to implement systematic harm identification and problem solving into its current planning and regulatory approaches. The harms-based regulatory approach will enhance the current approach by ensuring the EPA focuses on managing the most harmful things.

Harms are defined as complex, multi-dimensional problems that are present in the environment. They are the consequence of a range of contributing factors, which if well understood and analysed, can be specifically targeted in order to fix or mitigate the harm. A smarter regulator has both the capability and discipline to firstly identify the harm and then to fully understand the factors contributing to that harm in order to decide where best to focus its regulatory intervention.

A harms-based approach will deliver better environmental regulation with attention focused on minimising harm to human health and wellbeing, the environment and markets. This approach will assist in delivering outcomes aligned with the *EPA Strategic Plan 2012–2015* and its ability to influence government policy.

The harms approach is also consistent with the DPSIR (Driving Forces, Pressure, State, Impact and Response) framework, and together they take a disciplined and structured approach to understanding the cause, nature and impact of problems, and importantly the most effective and targeted way to solve them.

The implementation of this new way of doing business, in conjunction with EPA's current risk-based responsive regulatory approach, will provide the organisation with a comprehensive approach to environmental regulation.

The journey to embed the harms-based regulatory approach will take time and be an ongoing reform process. The EPA is committed to ensuring it is best equipped to tackle the biggest environmental and human health challenges for South Australia.



Campbell Gemmell
Chief Executive
Environment Protection Authority

1 Overview

In mid 2012, the EPA Change Program was introduced with the aim to transform the EPA into a sharper, more effective, credible and modern regulator. The first stage of the Change Program involved developing strategies to tackle our weaknesses, build upon our strengths and increase our effectiveness, credibility and expertise. Ten key areas of reform were identified.

This report provides the findings in relation to key reform area 5: Regulatory Practice – harms reduction program. The harms reduction program was initiated in recognition of the fact that some environmental, radiation protection and community issues are not effectively addressed through standard approaches.

The EPA has described and published its risk-based responsive regulatory approach. This approach focuses on using a current suite of regulatory tools in a principled and consistent way. To complement this regulatory approach the EPA has initiated a project to develop as a harms-based regulator to better identify the nature and scale of impacts, prioritise those that should be addressed by the EPA, develop more effective responses and better manage these projects, and incorporate this into the EPA's business planning processes. The benefits of implementing this approach will assist the EPA in tackling harms that are not being solved using current tools and approaches and will lead to a more responsive regulatory approach.

A project, *Review of South Australian Environment Protection Authority regulatory practice – tools and approaches*, has also been undertaken. The project team audited current systems, interviewed key staff and staff of other regulatory agencies, and reviewed current practice against better practice regulatory theory. Recommendations fell broadly into three categories: strategy, tools and supporting systems. This work, in association with the harms-based regulatory tools will ensure the EPA is a best practice regulator tackling the right things in the right way.

The shift from being focused on illegal things to focusing on illegal and harmful things is the way in which EPA will tackle harms in the future. As shown in Figure 1 there are many things that are illegal but not harmful. Prioritising action against these issues is a poor use of resources. The priority for action is centred on those activities that are illegal and harmful and will ensure that the EPA is focused on the most important issues.

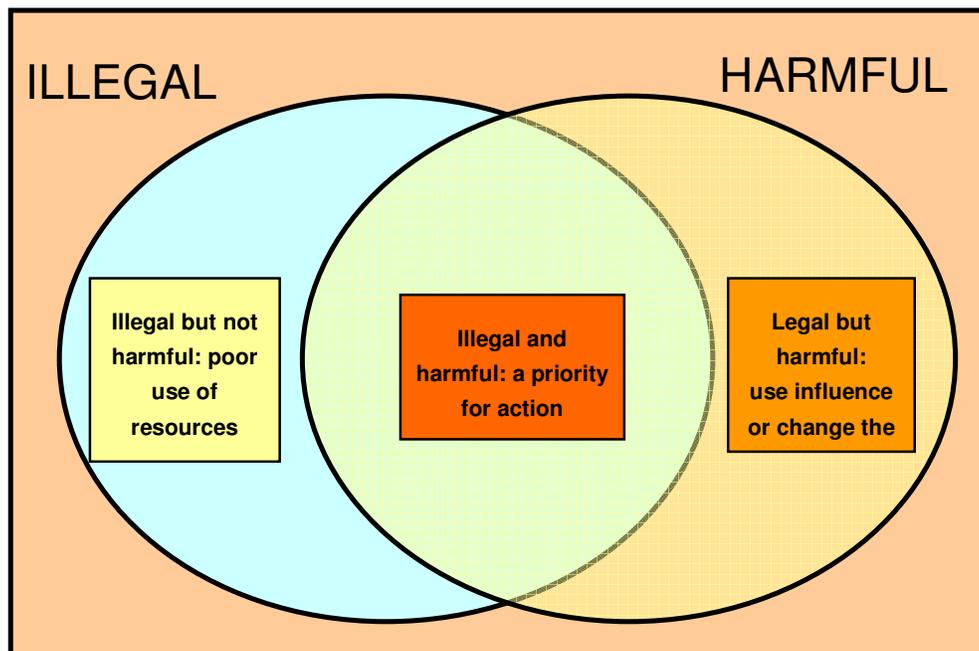


Figure 1 Conceptual model of the harms approach

Identifying priorities

Figure 2 outlines how the EPA undertakes existing regulatory activities and how the harms problem-solving approach is prioritised within the existing regulatory approach.

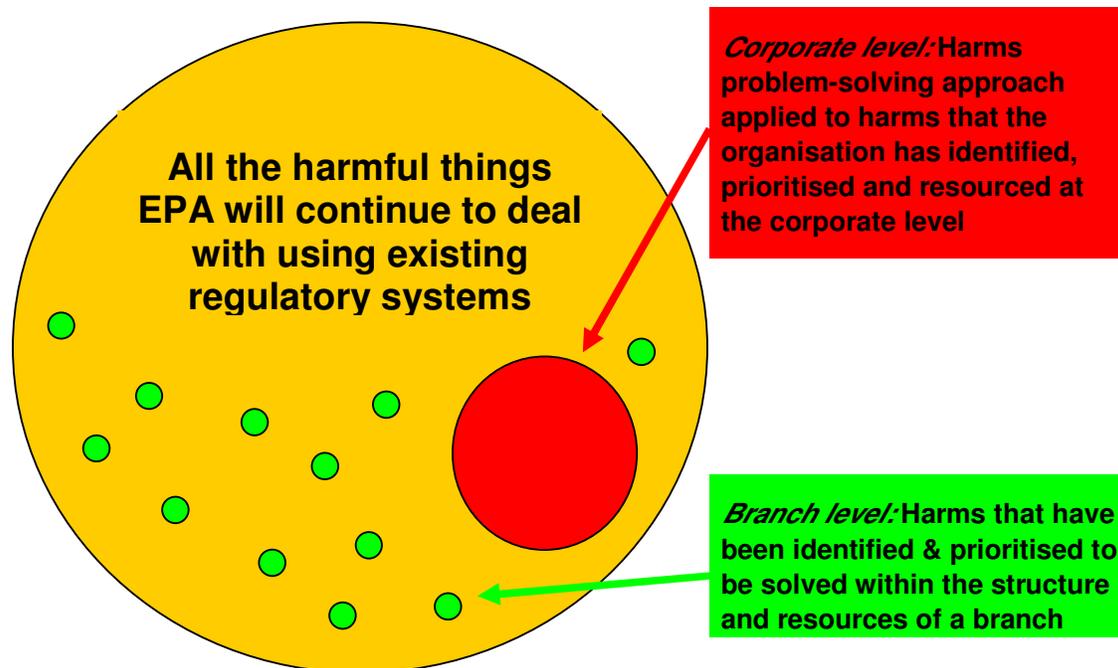


Figure 2 Managing harms

What are harms?

Harms are broadly defined as complex, multi-dimensional problems or risks facing our environment. They are the consequence of a range of contributing factors, which need to be well understood and analysed so that they can be specifically targeted in order to most effectively fix or mitigate the harm.

For the EPA's purposes a harm is an external problem within the jurisdiction of the *Environment Protection Act 1993* (EP Act) or the *Radiation Protection and Control Act 1982* and may cause, or be at risk of causing at least one of the following:

- harm to human health and wellbeing
- harm to the natural, agricultural or built environment
- market or economic impact (eg legitimate operators regulated by EPA disadvantaged by non-compliant operators creating an uneven playing field).

The harms approach is not designed or suited to dealing with isolated incidents like a single emergency or high-level broad concepts such as air quality, water quality or site contamination.

A harm is not the same as, and does not replace, the 'environmental harm' definition in the EP Act. It applies to a broader range of harmful issues including harms under radiation legislation.

Many harms facing the EPA are successfully addressed through its current system based, responsive or case based compliance and enforcement methods. These existing systems and approaches are equally important and necessary to deploy as the most effective way of dealing with problems.

Especially when faced with consistent and high-volume harms, developing a streamlined business process is most often a preferred approach. Optimising these systems delivers the most efficient outcomes. However, some issues will not respond to these processes and a more tailored, project-based, problem-solving intervention is required.

A tailored harms approach may be more appropriate where:

- current regulatory approaches have been tried but have failed, or
- there are harms for which no one has responsibility or where responsibility falls across branches, divisions or organisations, or
- harms fall within a branch or division but the systems and processes of that branch are not well positioned to solve that problem.

In cases where a harm is thriving despite our conventional efforts and normal business systems, then specific harm problem-solving projects can be applied. This is in contrast to problems against which we are succeeding with current regulatory tools.

Identifying harms

To date targeted consultation has developed a register of 90 potential harms. The EPA's six environmental pressures (see page 8), state of the environment reporting, monitoring, expert opinion, data analysis and community concern have all informed this process. Harms are then prioritised using a risk matrix.

The identification and prioritisation of harms in a register will facilitate engagement across the EPA and government as the EPA will be able to identify and demonstrate where cross-government approaches are required to solve problems, and then influence other agencies to support the problem-solving process. The harms register will be used as the starting point for assessing and prioritising harms for action.

Solving harms

The harms approach is built on the concept developed by Professor Malcolm Sparrow, a leading regulatory expert from Harvard University¹ and focuses effort and resources towards the identified biggest environmental harms.

The designation as a harm means that a disciplined data driven, project management approach will be used to firstly understand the harm/problem and then address it in a tailored way. This approach will enable the EPA to tackle issues that were traditionally difficult to resolve solely using a responsive compliance and enforcement approach or the normal tools in the usual systematic processes. This project is focused on understanding the key harms, picking the most important, and utilising supporting processes, systems and performance metrics to implement the harms-based approach.

As an example a pressure identified in the EPA Strategic Plan, waste management, is currently being tackled via a harms problem-solving approach through the Waste Change Program. This project complements the EPA's regulatory approach by working to understand the priority issues and problems within the waste management arena and will apply both a harms-based and systems-based problem solving approach to fix them.

The harms approach is also consistent with the DPSIR (Driving Forces, Pressure, State, Impact and Response) model (P. Kristensen 2004), and together they take a disciplined and structured approach to understanding the cause, nature and impact of problems, and importantly the most effective and targeted way to solve them (Figure 3). In this example changes in the state of any of the EPA harm categories can lead to impacts upon the community, business and EPA revenue.

¹ *The Character of Harms: Operational Challenges in Control*, 2008

DPSIR terminology	Drivers	Pressures	State	Impact	Response
Harms terminology	High-level causes of harms	Causes of harms	The change in state that represents the harm	Why is the harm important?	Interventions

Figure 3 Relationship between DPSIR and Harms terminology

The DPSIR approach is an extension of the Organisation for Economic Cooperation and Development (OECD) pressures–state–response (PSR) model. This approach is used by European agencies and the US EPA, and is being used by the EPA as a framework, in conjunction with the harms concept, to assist in picking and prioritising important harms that have been identified for action to be solved.

EPA culture and organisational development

The harms approach drives a culture that focuses effort on identifying important problems and tailoring actions to suit the problem. This approach focuses on the environmental and regulatory outcomes that EPA wishes to achieve rather than what activities the EPA carries out. It is an outward looking tactic, rather than an inward looking one.

The effective implementation of this approach will expand the EPA’s toolkit and has the potential to allow it to achieve more within its allocated resource budget. However, this will require an organisational development approach that rethinks resource allocation and roles, and provides greater capacity and flexibility to support a greater project-based harms approach while still adequately resourcing other important business processes and systems.

What is a harms problem-solving approach?

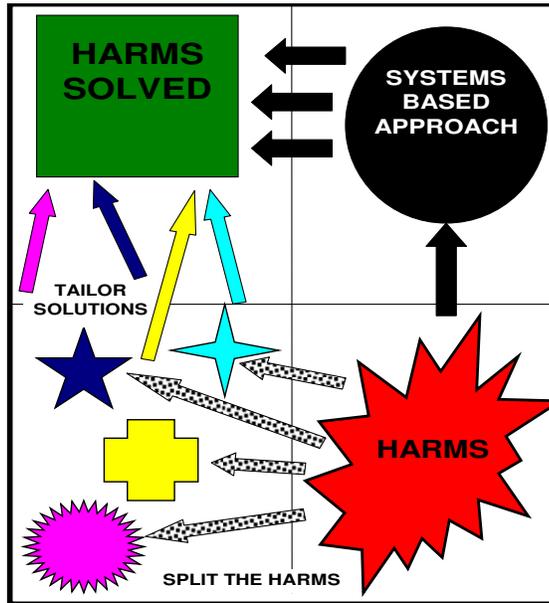
The cornerstone of the harms-based approach to solving a problem is to understand and define the harm, and then being able to measure it. This allows interventions to be designed to fit the harm, rather than trying to fit the harm to an existing business system or process.

To adequately understand a situation it is important to detail the cause of the harm and the resulting harm. Broader problems should be broken down into well defined harms that can be solved by individual projects run by a project manager and their selected team (Figure 4).

An Internal Operating Procedure (IOP) will be developed to outline the process of implementing a harms problem-solving method in a systematic way. The purpose of the IOP is to:

- define what harms are and what the harms problem solving process is in the context of the EPA’s business and regulatory approach
- describe the harm problem-solving governance and operational structure
- outline the EPA methods for harm identification, nomination, risk analysis and prioritisation
- outline the harm definition and problem-solving method to be used on the EPA’s nominated harms.

The harms approach complements our other regulatory systems, it does not replace them



Source: Malcolm K Sparrow, John F Kennedy School of Government, Harvard University

Figure 4 Applying the right tool to the right problem

2 Identifying, prioritising and solving harms

The EPA Strategic Plan outlines six high-level pressures which guide harm identification and prioritisation. They are:

- 1 major point sources of pollution and waste
- 2 South Australia's legacy issues, particularly site and groundwater contamination and the interface of industry and residential dwellings
- 3 increasing urban and infrastructure development and renewal
- 4 inappropriate or illegal management of wastes and resource recovery
- 5 broader issues of state-wide significance, eg management of the River Murray, potential impacts of renewable energy, and impacts of climate change
- 6 expansion of mining in South Australia and its associated infrastructure.

These pressures provide the foundation for categorising, identifying and the prioritisation of harms. Harms will be identified through the business planning process. However, the harms process should be agile enough to also identify and address any new high-risk issues that are uncovered outside the strategic and annual business planning process, even if these harms do not fall under the umbrella of the six strategic high-level challenges. The harms identification process outlines a 'step-by-step' process to identify and prioritise a harms project (Figure 5).

The prioritisation of identified harms will be facilitated through the management of a harms register, via a harms coordinator appointed by Executive. The role of the coordinator is to collate incoming nominations, provide assistance to the nominators where required and screen nominations that do not meet the harms criteria developed by the EPA.

The harms coordinator assists with the risk analysis process, including seeking extra information for the nominator if necessary to allow appropriate risk analysis. The harms are then considered by Executive with recommendations for prioritisation. Once Executive has selected the corporate level harms, projects and resources are deployed around the particular problem. These projects are governed and monitored regularly by Executive, including determining when the project is complete, if the project needs to be refocussed, or indeed ceased if not successful.

The harms-based approach provides an additional tool to complement the EPA's existing compliance and enforcement approach.

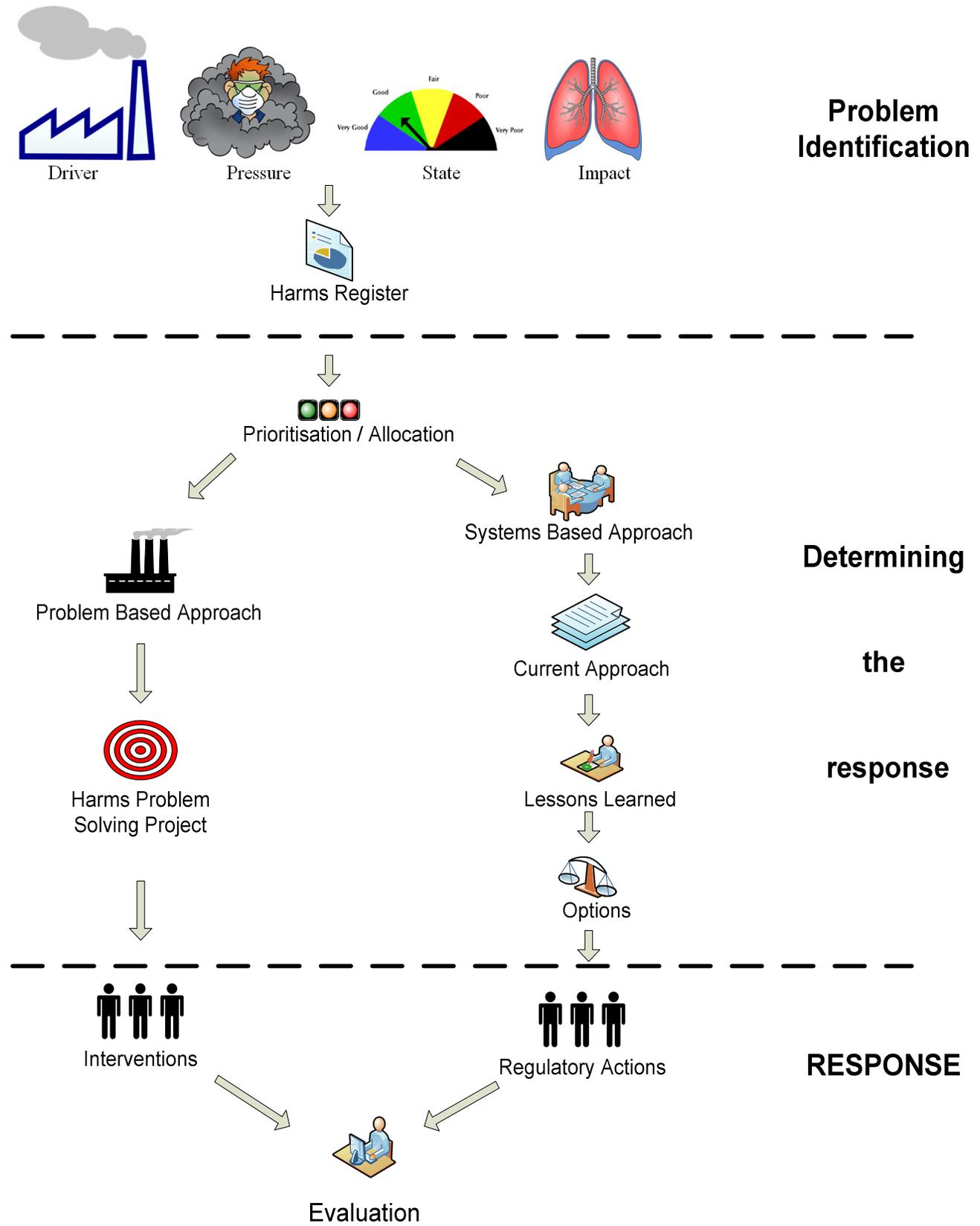


Figure 5 Conceptual harms identification process

3 The EPA and state strategic framework

The harms project contributes to a fresh strategic approach by the EPA. Its Change Program seeks to achieve the following outcomes to drive a regulatory approach to deliver better environmental regulation with attention focused on minimising harm to human health and wellbeing, the environment and markets by:

- renewed focus on the performance measurement framework to drive business outcomes
- a coordinated, project-based, problem-solving approach to address environmental harms not captured through EPA's existing regulatory approach,
- back-to-basics review of the EPA's corporate risk register, and
- a focus on organisational development to deliver strategy.

Figure 6 demonstrates how the EPA's priorities align internally and with those across government. The diagram also shows how the identification and management of harms fits within this framework.

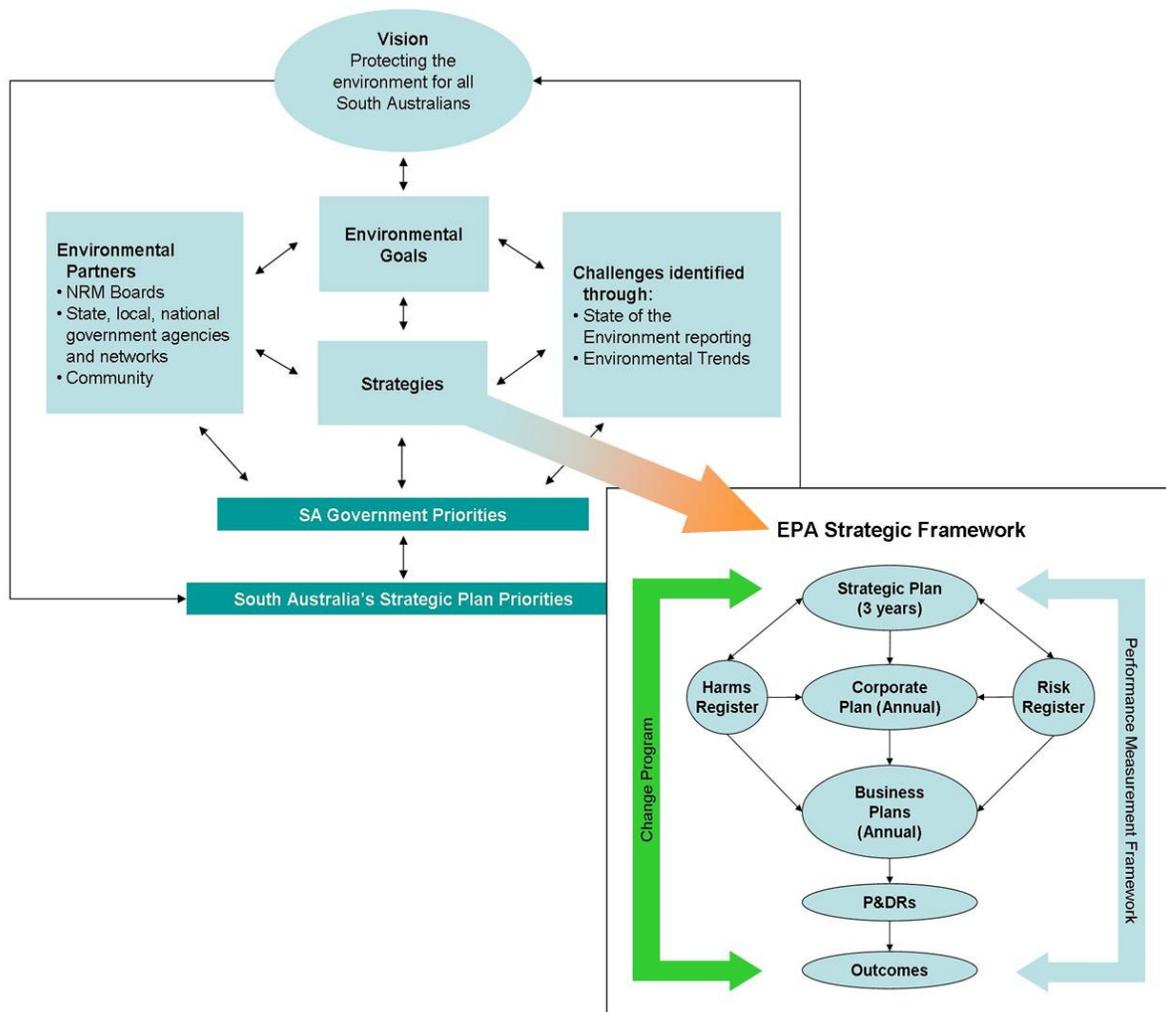


Figure 6 The EPA strategic framework linked to its strategic priorities

4 Other harms-based approaches

EPA Victoria

EPA Victoria has in the last four years, undertaken a major regulatory reform program. A key to this reform program was the review of their existing regulatory approach resulting in the development of a strategy to become a 'modern regulator'. This strategy included a holistic approach to compliance and enforcement which included an organisational restructure to complement its regulatory model. They defined their regulatory principles around which reforms would be based. This was followed by clearly documenting their regulatory approach in a public document. This harms-based approach in Victoria is called 'strategic activities' and is a key aspect of their annual compliance plan.

Other key initiatives, tools and supporting systems include:

- development of an annual compliance plan, which includes strategic (harms-based) programs and systems-based approach to operational programs
- annual performance statements (certificates of compliance) which were developed and widely used to ensure compliance requirements are raised to the highest levels in companies.

DEP Florida

Findings internationally, including at the Florida Department for Environmental Protection (DEP), have shown that operational staff who might not have a high level of access to, or engagement with strategic or business planning are often very good at identifying significant harms that an organisation is finding difficult to resolve or manage. Therefore, to maximise the chance of identifying important harms it is critical to make sure that staff at all levels and across all functions of the EPA are engaged in this process and have a simple way of nominating harms, both within and outside the business planning process.

DEP's experience with its environmental problem-solving program shows it takes three key ingredients:

- 1 Interest and support from top and middle management.
- 2 Enthusiasm among staff for identifying unsolved problems and teaming up to solve them.
- 3 System support for teams using the environmental problem-solving process.

Where these do not exist, momentum wanes and so does problem solving. But where all three exist, DEP produces results in a structured way. DEP has commissioned many teams to tackle projects by analysing the problems, and looking for innovative and efficient solutions.

5 Next step

Embedding this approach into the EPA will build a culture around the need to focus on the right things and doing them using the best tools available. A detailed understanding and use of data, information and analysis is required to support the identification and prioritisation of harms at a corporate and branch level. This systematic process will support the allocation of resources in a targeted and strategic way that minimises harm to the environmental and human health challenges for South Australia, and ensures the EPA deploys its resources in the most effective way.

6 References

Sparrow MK 2008, *The Character of Harms: Operational Challenges in Control*, Cambridge University Press, Cambridge, 264 pp.

Peter Kristensen 2004, *The DPSIR Framework*, National Environmental Research Institute, Denmark.