



## **Australian Government**

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# **Australian Government Approach to the Responsible Management of Nanotechnology**

## **Introduction**

Nanotechnology involves the manipulation of matter at the molecular scale and has the potential to address key economic, social and environmental challenges. Nanotechnology has broad application across a wide variety of industries including manufacturing, construction, mining, agriculture, environment, health, energy and communications. Many Australian researchers and companies are now working on developing and applying nanotechnology to make new products and services.

While nanotechnology brings opportunities and benefits it also requires effective oversight by governments, researchers and industry to develop and maintain a responsible and viable nanotechnology capability in Australia. The novel properties that may provide benefits to society also raise concerns about how engineered nanomaterials may interact with human and other biological systems.

This document outlines the approach of the Australian Government to capturing the benefits of nanotechnology whilst addressing health, safety and environmental concerns.

The high level objectives set out below are intended to provide a comprehensive framework for research into and the application of nanotechnology:

1. protect the health and safety of humans and the environment;
2. foster informed community debate; and
3. achieve economic and social benefits from the responsible adoption of nanotechnology.

The challenges posed by nanotechnology result from its breadth, both in terms of science – cutting across physics, chemistry, engineering and biology – and the wide range of the potential applications that it can help to develop. There are established and robust regulatory arrangements already in place to address human health and environmental safety issues associated with these materials and products, as well as manufacturers' and suppliers' liability obligations. Relevant Australian Government agencies are gathering information from all available scientific sources and have established comprehensive networks for the exchange of information on the use of nanotechnology both within Australia and internationally and will adjust procedures if necessary. There has so far been no demonstrated need for a specific regulatory system for engineered nanomaterials.

# Australian Government Objectives for the Responsible Management and Oversight of Nanotechnology

## **Objective 1: Protect the health and safety of humans and the environment**

Appropriate consideration of risks to human health and safety and the environment is an integral part of the development and application of nanotechnology.

This will be achieved by continuing to:

- use an evidence based approach to making decisions about nanotechnology;
- use existing regulatory frameworks to deliver an efficient and effective response to the health, safety, and environmental impacts of nanotechnology;
- ensure that regulatory schemes are reviewed to assess their ongoing ability to deal with the impact of nanotechnology, and regulatory or procedural changes implemented as necessary;
- apply a precautionary approach consistent with Australia's international obligations, including the Rio declaration; and
- ensure information about the health, safety and environmental impacts of nanotechnology is based on scientific evidence.

## **Objective 2: Foster informed community debate**

Public awareness and engagement on nanotechnology aims to assist the community to be informed about the technology and to contribute to policy development.

This will be achieved by continuing to:

- engage and inform the community on the benefits and risks of nanotechnology to provide an understanding of its potential impact upon society and enable community contribution to policy development; and
- ensure decision-making processes are open, transparent and engage stakeholders.

## **Objective 3: Achieve economic and social benefits**

Building nanotechnology capabilities is essential for protecting the health and safety of humans and the environment, promoting engagement and understanding in the community, maintaining a responsible and sustainable nanotechnology capability, and ensuring new and improved products and process achieve economic, social and environmental outcomes.

This will be achieved by continuing to:

- support nanometrology (accurate measurement at the nano-scale) as an essential resource for providing industry and regulators with world class measurement facilities that support the development, management and monitoring of nanotechnology;
- maintain international engagement through participation and monitoring developments that facilitate responsible research, standards and regulation;
- coordinate and co-operate across government on nanotechnology issues to facilitate a coherent approach to research, policy and regulation; and
- develop and maintain a responsible and viable nanotechnology capability in Australia.