
OUTCOME 2

Antarctic

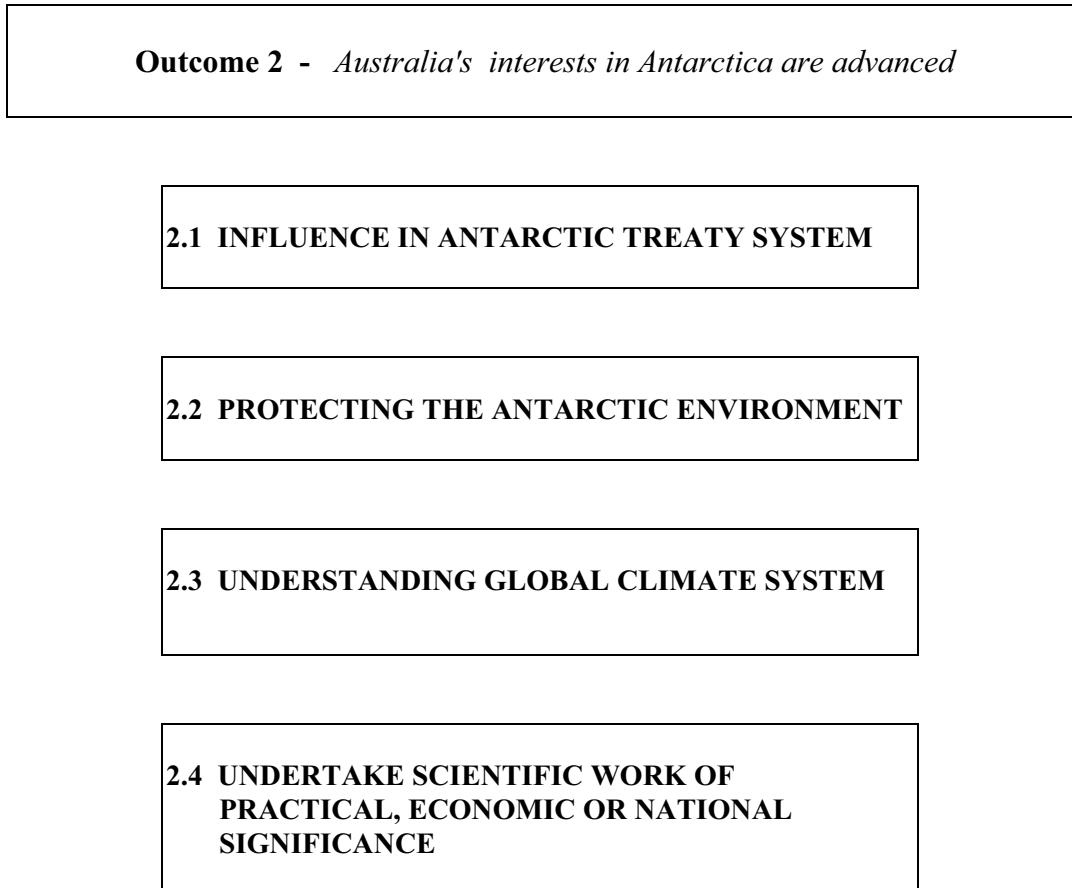
OVERVIEW

The following section provides details of the budget implications for Outcome 2 (Antarctic). Specifically it provides in the following order:

- a diagrammatic representation of the output groups and individual outputs for Outcome 2;
- a description of Outcome 2;
- details of the Budget Measures that impact on Outcome 2;
- a table (Table 2.1.2) providing details of the financial resources for Outcome 2;
- a description of how the departmental outputs comprising Outcome 2 contribute to that outcome;
- a table (Table 2.2.2) which provides performance information for each administered item and departmental output; and
- general information on performance, evaluation and competitive tendering and contracting.

Relationship Between Outcome 2 and Contributing Outputs

The following chart provides a diagrammatic representation of the output groups under Outcome 2 (Antarctic).



Note: Revenue from Government through appropriations contributes 98.9% to the total output price for this outcome for 2004-05.

CHANGES TO OUTCOMES AND OUTPUTS

There are no changes to the output structure, from the previous year, for Outcome 2.

OUTCOME 2: *Australia's interests in Antarctica are advanced*

Australia's Antarctica interests are advanced through the Australian Antarctic Division (AAD), the leader of Australia's Antarctic programme.

Australia's Antarctic policy interests are:

- to maintain Australia's claim to sovereignty over the Australian Antarctic Territory;
- to maintain Antarctica free from strategic and/or political confrontations;
- to protect the Antarctic environment, having regard to its special qualities and effects on our region;
- to take advantage of the special opportunities Antarctica offers for scientific research;
- to be informed about and able to influence developments in a region geographically proximate to Australia; and
- to derive any reasonable economic benefits from the living and non-living resources of the Antarctic (excluding deriving such benefits from mining and oil drilling).

The Government believes that active participation in the Antarctic Treaty System (ATS) is the best way of advancing Australia's Antarctic policy interests.

These policy interests are advanced through the four goals for Australia's Antarctic programme set by the Government in 1998:

- to maintain the Antarctic Treaty System and enhance Australia's influence in it;
- to protect the Antarctic environment;
- to understand the role of Antarctica in the global climate system; and
- to undertake scientific work of practical, economic or national significance.

These four Government goals form the outputs of the Antarctic outcome.

The AAD pursues the Government's four goals through a wide variety of actions including:

Policy

- Taking a strong role in the Antarctic Treaty System in such forums as the Antarctic Treaty Consultative Meetings, the Committee for Environmental Protection (the Director of the AAD is currently Chair of the CEP); at meetings of the Commission for the Conservation of Antarctic Marine Living Resources; at the International Whaling Commission; in the Agreement on the Conservation of Albatross and Petrels; and by taking the lead on issues and developing initiatives for international consideration in consultation with other agencies as appropriate.

Environment protection

- Developing and using ways to minimise human impacts, remediating past work sites and undertaking research designed to ensure that environmental and fisheries management is based on sound scientific principles and information.
- Administering and enforcing a suite of legislation covering environmental protection in the Australian Antarctic Territory and the Territory of Heard and MacDonal Islands.

Conservation of marine living resources

- Playing a key role nationally and internationally in combating illegal, unreported and unregulated fishing of subantarctic marine living resources and by proposing new measures to help prevent illegal, unreported and unregulated toothfish catches and market access for such catches.

Research

- Conducting and facilitating scientific research which contributes to knowledge of global climate through the study of ice, water and atmosphere and by contributing to the world climate research and meteorological studies.
- Conducting and coordinating scientific research in Antarctic and the Southern Ocean.
- Undertaking and supporting scientific research of practical, economic or national significance by providing data and support for Australian and international clients and by conducting research in physical, biological and human science. In doing so, the AAD also seeks to build up systematic knowledge of the Antarctic and its environment and, to understand the role of this region in the global climate system.

Logistic infrastructure

- Chartering ships and aircraft to provide transport between Australia and Antarctica and within the Antarctic continent, operating permanent stations and providing infrastructure on the Antarctic continent and in the subantarctic where it advances Australia's Antarctic interests. This infrastructure provides the platform for the conduct of scientific research that facilitates the achievement of the Government's goals and outputs for the Antarctic outcome.

MEASURES AFFECTING OUTCOME 2

There are no measures for the Australian Antarctic Division in the 2004-05 Budget.

TOTAL RESOURCES FOR OUTCOME 2

The following Table 2.1.2 provides details of the financial resources for Outcome 2. It shows the expenditure for each output, revenue from Government, revenue from other sources and the total price of outputs. The average staffing level for this Outcome also appears at the end of the table.

TABLE 2.1.2 – TOTAL RESOURCES FOR OUTCOME 2

	Estimated	
	Actuals 2003-04	Budget 2004-05
	\$'000	\$'000
ADMINISTERED APPROPRIATION	0	0
ADMINISTERED SPECIAL ACCOUNTS	0	0
DEPARTMENTAL APPROPRIATIONS		
Output 2.1 – Influence in Antarctic Treaty System	13,440	13,698
Output 2.2 – Protecting the Antarctic Environment	33,680	34,327
Output 2.3 – Understanding Global Climate System	20,914	21,315
Output 2.4 – Undertake Scientific work of practical, economic or national significance	17,450	17,785
TOTAL REVENUE FROM GOVERNMENT (Appropriation)	85,484	87,125
<i>Contributing to Price of Departmental Output</i>	<i>98.9%</i>	<i>98.9%</i>
REVENUE FROM OTHER SOURCES		
Output 2.1 – Influence in Antarctic Treaty System	144	144
Output 2.2 – Protecting the Antarctic Environment	362	362
Output 2.3 – Understanding Global Climate System	225	225
Output 2.4 – Undertake Scientific work of practical, economic or national significance	188	188
TOTAL REVENUE FROM OTHER SOURCES	919	919
TOTAL PRICE OF DEPARTMENTAL OUTPUTS	86,403	88,044
DEPARTMENTAL SPECIAL ACCOUNTS	0	0
TOTAL ESTIMATED RESOURCING FOR OUTCOME 2	86,403	88,044
AVERAGE STAFFING LEVEL (NUMBER)	392.0	392.0

CONTRIBUTION OF OUTPUTS

The Government's goals for the Antarctic programme, which are reflected in the outputs of the Antarctic outcome, are achieved primarily through Australia's policy positions in the international forums within the Antarctic Treaty System, and through the conduct of strategic scientific research directly targeted at the Government's goals.

Enhancing Australia's influence in the Antarctic Treaty System is achieved through the development of policy proposals, briefings and management measures, and by effective negotiation within the forums of the Antarctic Treaty System. These policy positions are supported by scientific research, particularly in support of the Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR) and the Antarctic ecosystem research conducted by AAD scientists within the Antarctic Climate and Ecosystem Cooperative Research Centre (ACE CRC) and by environmental research supporting Australia's positions in the Committee on Environmental Protection (CEP).

The remaining outputs are achieved directly through scientific research undertaken in Australia's Antarctic programme and supported by the logistic infrastructure provided by the AAD.

The Antarctic Science Advisory Committee has recently completed a detailed consultative overview of the directions for Australia's science programme for the five-year planning period 2004/05-2008/09. The recommendations of this report have been agreed by the Parliamentary Secretary to the Minister for the Environment and Heritage, The Hon Dr Sharman Stone.

The new Antarctic Science Strategy 2004/05 – 2008/09 aligns with the Government's National Research Priorities (NRP) particularly with "*An environmentally sustainable Australia*" but additionally with "*Safeguarding Australia*", "*Frontier technologies for building and transforming Australian industries*", and "*Promoting and maintaining good health*".

The Government has adopted a clear strategic focus for the coming five-year period with priority Antarctic science in the following multi-disciplinary areas:

- Ice, Oceans, Atmosphere and Climate
- Southern Ocean Ecosystems
- Adaptation to Environmental Change
- Impacts of Human Activities in Antarctica

The first three priorities focus research effort on global phenomena that influence the quality of life that Australian's enjoy in the 21st century. They contribute to the development of policy on climate prediction and change, ecologically sustainable use of the Southern Ocean, and measures to protect biodiversity in the face of environmental change. The fourth priority area underpins Australia's leadership position in Antarctic environmental protection and remediation, and supports Australia's eminent position in the Committee for Environmental Protection established by the Protocol on Environmental Protection to the Antarctic Treaty.

PERFORMANCE INFORMATION FOR OUTCOME 2

The following Table 2.2.2 lists the performance information that the Australian Antarctic Division will use to assess the level of its achievement of Outcome 2 during 2004-05. It is comprised of two parts:

- (A) overall achievement - planned performance information for each output group; and
- (B) performance information for departmental outputs - quantitative, qualitative and price for each output group.

TABLE 2.2.2 – PERFORMANCE INFORMATION FOR OUTCOME 2

(A) Effectiveness – Overall Achievement

OUTPUT 2.1 – INFLUENCE IN ANTARCTIC TREATY SYSTEM

EFFECTIVENESS STATEMENT

The Antarctic Treaty System is maintained and Australia’s influence within the System is enhanced.

DESCRIPTION

Australia is a significant player in the ATS and the AAD takes an active role in developing policy and pursuing Australia’s interests in the following forums:

- Antarctic Treaty Consultative Meetings (ATCM);
- Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR);
- Committee for Environmental Protection (CEP);
- Council of Managers of National Antarctic Programmes (COMNAP);
- Standing Committee on Antarctic Logistics and Operations (SCALOP);
- Scientific Committee on Antarctic Research (SCAR); and
- Meetings under the Convention for Conservation of Antarctic Seals (CCAS).

The on-going scientific research of the Antarctic Marine Living Resources (AMLR) and Human Impacts programmes supports Australia’s positions within CCAMLR and the CEP. Other science programmes contribute to international research programmes sponsored by SCAR, scientific agencies of the United Nations and other bodies.

(B) Performance Information for Departmental Outputs

OUTPUT 2.1 – INFLUENCE IN ANTARCTIC TREATY SYSTEM

To maintain the Antarctic Treaty System and enhance Australia's influence within the System	<i>Quality</i>	Australia's positions are advanced in the decisions of the Antarctic Treaty System.
	<i>Quantity</i>	Number of policy proposals and briefings completed for and participation in international forums.
	<i>Quality</i>	Provide Chair and other support for the Committee for Environmental Protection.
	<i>Quality</i>	Influence, by directed research, the decisions of ATS.
	<i>Quantity</i>	Report on technical and practical measures to minimise environmental impacts in the Antarctic region.
	<i>Quality</i>	Effective administration of the Australian Antarctic Territory and the Territory of Heard Island and McDonald Islands in accordance with Australian legislation and international obligations.
	<i>Quantity</i>	Number of permits issued or administered under Antarctic environmental protection legislation
	<i>Quality</i>	All new activities subjected to prior environmental impact assessment in accordance with legislation and relevant management plans.
<i>Price - Output 2.1</i>		<i>\$13.842m</i>

(A) Effectiveness – Overall Achievement

OUTPUT 2.2 – PROTECTING THE ANTARCTIC ENVIRONMENT

EFFECTIVENESS STATEMENT

The Antarctic environment is protected.

DESCRIPTION

Australia plays a leading role in the protection of the Antarctic environment. The AAD seeks to protect the environment of Antarctica, the Southern Ocean and the Territory of Heard Island and MacDonal Islands by minimising human impact, remediating past work sites, and undertaking research to ensure that environmental and fisheries management is based on sound scientific principles and information.

Measures designed to protect the Antarctic environment include:

- potential environmental impacts, including cumulative impacts, are considered in the planning of activities undertaken in Antarctica;
- Australia’s international obligations under the Protocol on Environmental Protection to the Antarctic Treaty are met; and
- projects are successfully completed in accordance with the strategic direction of the Antarctic Science Strategy 2004/05 – 2008/09 through the priority programmes of Southern Oceans Ecosystems; Adaptation to Environment Change; and Impacts of Human Activities in Antarctica.

Southern Ocean Ecosystems

The Southern Ocean is a vast resource that must be understood in order to be managed effectively. Australia maintains a high profile in the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) which has responsibility for conservation and the sustainable fisheries in waters below the Antarctic polar front (around 60°S). The conservation and fisheries regimes established by CCAMLR are based on the best available scientific information about population sizes, biodiversity and the ecological relationships in the Southern Ocean. A new and significant aspect of this programme is a study of whale biology, designed also to provide scientific support to Australia’s policy interests in the International Whaling Commission. Much of the research in the Southern Ocean Ecosystems programme focuses on population modelling and future predictions in the light of known pressures. By working with the Antarctic Climate and Ecosystems Cooperative Research Centre (ACE CRC), the programme will examine the effect of physical variability of the Southern Ocean, including climate change, on its rich biota. The programme will contribute to Australia’s National Research Priority “*A sustainable Australia*”.

(A) Effectiveness – Overall Achievement (continued)

Adaptation to Environmental Change

The current biological diversity of Earth reflects an evolutionary history of adaptation to environmental change and the selection of adaptations that allow continued existence, or enhanced survival resulting in species proliferation. The Antarctic environment harbours many organisms at the limits of their distribution, and in a rapidly changing environment. The extreme conditions of the Antarctic and Southern Ocean have led to remarkable biochemical, physiological and behavioural adaptations, the study of which is leading to the discovery of interesting and potentially beneficial chemicals and gene sequences. Studies in this programme will investigate how biodiversity copes with subtle changes in the environment and will contribute to Australia's National Research Priorities "*A sustainable Australia*" and "*Safeguarding Australia*".

Impact of Human Activities in Antarctica

Past human activity has left its mark in some areas of Antarctica and, as Antarctic tourism and other activities grow, the pressures on the environment will also grow. The Environmental Protocol to the Antarctic Treaty requires activities in Antarctica to be conducted so as to limit adverse impacts, and that future activities are planned on information sufficient to make informed judgements about their impacts. To achieve environmental protection for Antarctica, management decisions must be based on ecologically sound principles and be supported by, and show an understanding of, fundamental ecosystem processes. This programme addresses these issues, and supports Australia's high standing in the Committee for Environmental Protection. The programme will contribute to the National Research Priority "*A sustainable Australia*".

(B) Performance Information for Departmental Outputs

OUTPUT 2.2 – PROTECTING THE ANTARCTIC ENVIRONMENT

To protect the Antarctic Environment	<i>Quality</i>	Environmental impact assessments completed for all relevant activities in Antarctica.
	<i>Quantity</i>	Number of environmental impact assessments reviewed or completed.
	<i>Quality</i>	Australia’s obligations under the Protocol on Environmental Protection to the Antarctic Treaty are met.
	<i>Quantity</i>	Number of environmental policy proposals and briefings completed for ATCM and CEP.
	<i>Quantity</i>	Extent of the collection of scientific data and/or modelling of natural phenomena and/or development of scientific instrumentation to be used in further scientific research or operational planning.
	<i>Quality</i>	Extent to which environmental management practices in Antarctica are improved as a result of initiatives promulgated by AAD.
	<i>Quality</i>	Extent of advice provided to industry, national agencies and Government.
	<i>Quality</i>	Successful completion of relevant projects in accordance with the Antarctic Science Strategy 2004/05 – 2008/09.
<i>Price - Output 2.2</i>		<i>\$34.689m</i>

(A) Effectiveness – Overall Achievement

OUTPUT 2.3 – UNDERSTANDING GLOBAL CLIMATE SYSTEM

EFFECTIVENESS STATEMENT

That our understanding of Antarctica’s role in the global climate system is advanced.

DESCRIPTION

Scientific research is conducted in the Antarctic, subantarctic and in the Southern Ocean to enhance our understanding of Antarctica’s role in the global climate system. Projects will be undertaken in 2004/05 in accordance with the strategic direction of Australia’s Antarctic scientific research programme 2004/05 – 2008/09 through the priority programme of Ice, Ocean, Atmosphere and Climate, conducted through the ACE CRC, and supported by AAD logistic infrastructure.

Antarctica and its surrounding ocean are dominated and shaped by the presence of snow and ice which, while themselves controlled by the climatic regime and very sensitive to climate change, also influence and provide major feedbacks to the global climate system. Many globally significant processes are driven by this unique environment including the uptake of carbon dioxide by the ocean; the overturning circulation of the deep ocean; the balance between storage and discharge of fresh water from the Antarctic ice-sheet; modification of surface energy, mass and momentum exchange by ice masses; the ozone ‘hole’; and energy transfer between all levels of the atmosphere to space. This programme examines these interactions to better understand how Antarctica creates, drives and influences climate patterns far to its north. The Ice, Ocean, Atmosphere and Climate programme will contribute directly to Australia’s National Research Priorities “*A sustainable Australia*” and “*Frontier technologies for building and transforming Australian industry*”.

(B) Performance Information for Departmental Outputs

OUTPUT 2.3 – UNDERSTANDING GLOBAL CLIMATE SYSTEM

To understand the role of Antarctica in the global climate system	<i>Quality</i>	Successful completion of relevant projects in accordance with <i>Australia's Antarctic Science Programme Strategic Plan 2000-2005</i> .
	<i>Quality</i>	External assessment of the quality of the outputs of the research programme.
	<i>Quantity</i>	Number of research reports, articles and papers prepared and publicly released.
	<i>Quantity</i>	Extent to which information, data and research findings of an informative or educational nature are distributed to outside parties (measured by website hits, printed material distributed, presentations etc).
	<i>Quantity</i>	Extent of the collection of scientific data and/or modelling of natural phenomena and/or development of scientific instrumentation to be used in further scientific research or operational planning.
	<i>Price - Output 2.3</i>	<i>\$21.540m</i>

(A) Effectiveness – Overall Achievement

OUTPUT 2.4 – UNDERTAKE SCIENTIFIC WORK OF PRACTICAL, ECONOMIC OR NATIONAL SIGNIFICANCE

EFFECTIVENESS STATEMENT

To conduct scientific work that will enhance Australia’s economic and national goals or have a practical benefit to the people of Australia.

DESCRIPTION

Scientific research undertaken as part of the Australian Antarctic programme and supported by the logistic infrastructure of the AAD enhances Australia’s economic and national goals and provides practical benefit to all Australians. Some areas of scientific research include weather observations that lead to more reliable forecasting in Australia and internationally and a longer term understanding of climate variability; maintaining records of sea ice conditions to improve the safety of navigation by sea; conduct of geoscience to improve our understanding of past climate change and mineral deposits within Australia with the past links through Gondwanaland and continental drift; and making observations and conducting research into the upper atmosphere and space weather to improve the forecasting of radio reception interruptions and the technological impacts solar eruptions activity.

Australia is also investigating the interaction of natural variability of the Southern Ocean with the ocean’s biota, to improve understanding of commercially important marine species and their sustainable harvesting.

Research into how pollutants from abandoned Antarctic tip sites interact with local marine flora and fauna has led to new ways to contain and treat leaching materials. Such technology and research is now being shared with other nations interested in cold-climate site remediation.

The AAD manages the Australian Antarctic Data Centre as the leading depository for Antarctic scientific data that is collected by Australian researchers in Antarctica and provides access for researchers and as part of Australia’s obligations under the Antarctic Treaty System to researchers of member nations.

(B) Performance Information for Departmental Outputs

OUTPUT 2.4 – UNDERTAKE SCIENTIFIC WORK OF PRACTICAL, ECONOMIC OR NATIONAL SIGNIFICANCE

To undertake scientific work of practical, economic and national significance	<i>Quality</i>	Successful completion of relevant projects in accordance with <i>Australia's Antarctic Science Programme Strategic Plan 2000-2005</i> .
	<i>Quality</i>	External assessment of the quality of the outputs of the research programme
	<i>Quality</i>	Extent to which fisheries management practices are improved as a result of initiatives promulgated by AAD.
	<i>Quantity</i>	Number of research reports, articles and papers prepared and publicly released.
	<i>Quantity</i>	Extent to which information, data and research findings of an informative or educational nature are distributed to outside parties (measured by website hits, printed material distributed, presentations etc)
	<i>Quantity</i>	Extent of advice provided to industry, national agencies and Government.
	<i>Quantity</i>	Extent of the collection of scientific data and/or modelling of natural phenomena and/or development of scientific instrumentation to be used in further scientific research or operational planning.
<i>Price - Output 2.4 \$17.973m</i>		

PERFORMANCE INFORMATION

Achievement of planned performance will be reported in the Department of the Environment and Heritage's 2004-05 Annual Report.

EVALUATIONS

There are no significant evaluations scheduled for 2004-05.