



SUPPORTING ANTARCTIC SCIENCE

Taking off the blindfold as we face climate change

Antarctic science is the cornerstone of understanding global climate change impacts. The instability of the East Antarctic ice-sheet is a global existential threat. Yet Australia's Antarctic Science Program is facing a funding crisis. The Antarctic Climate and Ecosystems CRC and the UTAS Antarctic Gateway have no funding certainty. The Greens will invest in Antarctic and Southern Ocean science and properly value the contribution that these scientists make.

Until recently it was thought that the East Antarctic ice-sheet was going to be stable in the face of global warming. Australian scientists discovered that this is not the case and that if it was to collapse there would be several additional metres of sea-level rise.

Australian Antarctic scientists have filled massive holes in global climate knowledge including the role of the Southern Ocean in the recent climate pause and the links between Antarctic snowfall and long-term drought in Southern Australia. Antarctica and the Southern Ocean are the cutting edge of climate policy.

The work done by these scientists is critical to understanding the climate futures of all regions and industries within Australia. Forecasting for droughts, floods and fires in Tasmania can only be improved by supporting our Antarctic and Southern Ocean science.

Yet cuts to the CSIRO Land and Water and Oceans and Atmosphere divisions have decimated our science capacity. The funding for the Antarctic Climate and Ecosystems Cooperative Research Centre (CRC) and University of Tasmania (UTAS) Gateway project ends very soon and current Liberal policy is not to continue funding for CRCs that work primarily in public good science. The Australian Antarctic Division of the Department of Environment hasn't boosted its science capacity in years and while new infrastructure, such as an ice-breaker, is on the way, we don't want to see a future where we are sending an empty vessel to and from Antarctica each summer.

Hobart should be the world's most vibrant Antarctic gateway city. To do this we need to have a science framework that is well funded and provides genuine career prospects. The Greens' Antarctic and Southern Ocean science package is worth \$115.7 million over the forward estimates period.

The Greens will:

- invest \$4.4 million per year to establish a designated ice-sheet unit within the Australian Antarctic Division

- re-fund the continuation of the Antarctic Climate and Ecosystems CRC and the UTAS Antarctic Gateway at current funding levels
- require the Productivity Commission to provide a full economic valuation of the output of Australia's Antarctic Science Program and knowledge base
- establish the role of Antarctic Envoy in the Department of Foreign Affairs and Trade
- ensure that a full response is provided to all 35 recommendations contained in the Press Review within the first three months of the term of the new Government
- provide funding for additional sea-faring days for CSIRO's RV Investigator.

> AUSTRALIAN ANTARCTIC DIVISION – ADDITIONAL SCIENCE UNIT

The Australian Antarctic Division has had the same number of FTEs for many years despite the increasing importance of Antarctic science to Australia's national interest.

The Greens will invest \$4.4 million per year to establish a designated ice-sheet unit within the Australian Antarctic Division. This will consist of an additional 30 scientists, raising the overall staff level at the AAD from 380 to 410. Scientists within the unit will include a range of post-doctorate, early career, mid-career and senior scientists.

This investment will provide a 27% boost to the science funding currently annually allocated within the AAD.

This unit will provide an annual risk assessment to Parliament in regards to the risk of Antarctic ice-sheet collapse.

It is important that the AAD has a boost to its science capacity because only long-lived institutions can provide the framework to carry out the very long-term globally collaborative projects that are necessary in Antarctic and climate science.

> ANTARCTIC CLIMATE & ECOSYSTEMS CRC – ANTARCTIC GATEWAY

The Greens will re-fund the continuation of the Antarctic Climate and Ecosystems CRC and the UTAS Antarctic Gateway at current funding levels. The CRC funding is due to end in 2018-19 and the UTAS Gateway in 2016-17.

Although the CRC and the UTAS Gateway currently work well together in a collaborative fashion, consideration should be given to a formal merger creating one entity with a unified set of science and technology objectives. The entity would be funded and operate under the CRC framework (\$5 million pa) and would receive supplementary funding via the Australian Research Council (\$8 million pa). This new Antarctic collaborative entity would work closely with industry and the Higher Education sector to build globally significant partnerships.

The new institution would focus on supporting the AAD with its research agenda focussing on shorter-term research projects and technological innovation. It would also work with industry and governments across Australia using the Antarctic science knowledge base to assist with climate modelling and adaptation.

The Greens Antarctic Science Package provides \$57 million towards these entities. Concurrently with merger talks, consideration must also be given to establishing a long-term funding model that provides certainty beyond the current four and five year funding cycles.

> VALUING ANTARCTIC and CLIMATE SCIENCE

The Greens would require the Productivity Commission to provide a full economic valuation of the output of Australia's Antarctic Science Program and knowledge base.

Antarctic and climate science informs massive short and long-term investment decisions made by industry and all levels of government. These include decisions ranging from crop planting to how high above sea-level a new airport should be built.

Often the economic value of this information is overlooked when short-term decisions about research funding are being made. If there was a clear understanding of the value of this knowledge-base, research funding would become more secure.

This cost of this analysis would be borne by the Productivity Commission as part of their usual work program.

> ANTARCTIC ENVOY

The Department of Foreign Affairs and Trade will establish the role of Antarctic Envoy. The Antarctic Envoy will be based jointly in Hobart and the Australian Embassy in Beijing.

The role of the Envoy would be to foster Antarctic co-operation and represent Australia in the Antarctic Treaty and the

Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR).

The Envoy will be charged with progressing the Marine Protected Area bid, building global research partnerships and encouraging international investment into Hobart. This cost will be borne by DFAT through internal reprioritisation.

> FULL RESPONSE TO THE PRESS REPORT

The Liberals promised a detailed response to the Press Report provided by Professor Tony Press into regards to 20-year Antarctic Strategy but only provided a thin response with no specific new funding for science and no mentions of the role of universities.

The Greens will ensure that a full response is provided to all 35 recommendations contained in the Press Review within the first three months of the term of the new Government. This will include a detailed position on the minimum number of scientists required to meet scientific objectives and a thorough infrastructure and base renewal plan.

> *RV INVESTIGATOR* – 300 days per year at sea

The Greens will provide funding for additional sea-faring days for CSIRO's *RV Investigator* so that annual days-at-sea can increase from 180 to 300. The purpose is to allow scientists to carry out additional research journeys and reduce reliance on private contracting out of the vessel to carry out public good science. Leasing out the *RV Investigator* to fossil fuel companies for exploration or any other reason will be banned.

The cost of this over the next decade is \$194.5 million.

> Costings

The Parliamentary Budget Office costed the Antarctic and Southern Ocean science package at \$115.7 million over the forward estimates period.