

21 April 2008

To Garnaut Climate Change Review Secretariat  
Level 2, 1 Treasury Place  
EAST MELBOURNE VIC 3002  
email at [contactus@garnautreview.org.au](mailto:contactus@garnautreview.org.au).

Dear Professor Garnaut

**RE: ISSUES PAPER 3 - CLIMATE CHANGE AND EMISSIONS STABILISATION**

Thank you for the opportunity to comment on the Issues Paper 3 - Climate Change and Emissions Stabilisation.

SA Water has contributed to previous State and Federal consultation processes for developing a national approach to greenhouse and energy reporting, and emissions trading.

We welcome this opportunity to comment on climate change and emissions stabilisation issues as we seek to better understand the risks that climate change will have on water supplies particularly with regard to water availability, quality losses and competition.

SA Water supports greater awareness on emission scenarios that influence risk management and planning.

Yours sincerely

Anne Howe  
**CHIEF EXECUTIVE**

## About SA Water

SA Water Corporation (SA Water) is wholly owned by the State Government and provides water and wastewater services to approximately 1.4 million people state wide. Employing about 1300 staff, SA Water has an annual turnover of over \$700 million and more than \$7 billion in assets. Network infrastructure includes 25 000km of water mains and 8 100km of wastewater mains, allowing the Corporation to service an area of approximately 1 million km<sup>2</sup>.

SA Water is strongly committed to reducing its greenhouse gas emissions and has been an active member of the Greenhouse Challenge Plus program since 2003.

Climate change impacts, higher standards for wastewater treatment and reuse, are likely to increase:

- the need for new infrastructure;
- electricity requirements (particularly for desalination);
- electricity costs (as carbon constraints are incorporated into standard energy pricing); and
- the cost of renewable energy and carbon offset products.

## Use of Emission Scenarios in Planning and Risk Management

Emission Scenarios deal with human behaviour projected to indicate global warming. Emission scenarios appear to be poorly understood by many, and are under-used to inform both the priorities for greenhouse gas mitigation and the level of risk that must be covered in adaptation responses.

In this submission SA Water seeks to convey two messages:

1. Low emissions scenarios will not materialise without a change in global behaviour under-scoring the importance of an emissions trading scheme that is effective in reducing emissions.
2. Adaptation strategies should cover the risks associated with the emissions pathway that nations are currently following.

### **Low emissions scenarios will not materialise without a change in global behaviour under-scoring the importance of an emissions trading scheme that is effective in reducing emissions..**

SA Water shares the concern outlined in the discussion paper that the recent boom in fossil fuel based economies is driving emissions behaviour that exceeds even the A1FI Emissions Scenario. There is also little evidence that global economies are beginning to change or are likely to change to a lower emissions pathway in the foreseeable future.

Given Australia's particular vulnerability to climate change with respect to water availability it is therefore important that Australia adopt a leadership position by managing its direct emissions, under-scoring the importance of Australia's proposed Emissions Trading Scheme.

,Furthermore, if annual greenhouse gas emissions have climbed to be greater than the A1FI scenario despite the mitigation efforts of the global community to date, a new emissions pathway should be defined for risk management and planning.

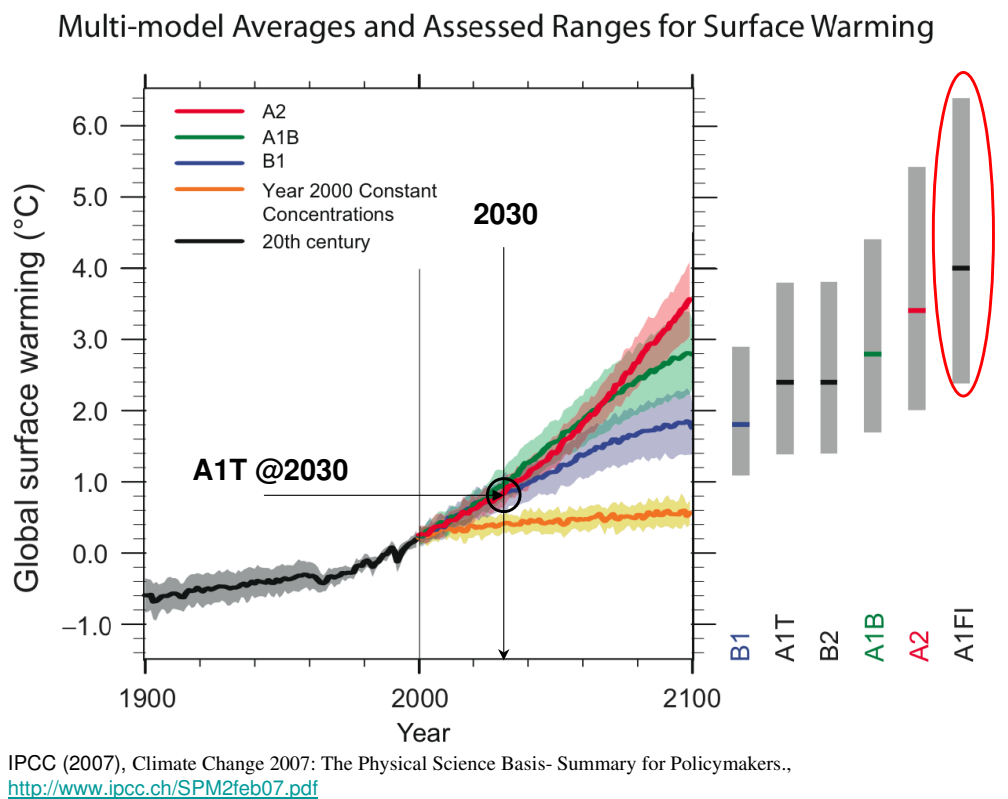
### **Adaptation strategies must cover the risks associated with the emissions pathway we are on.**

There is a tendency for risk managers and planners to chose what they perceive to be 'non extreme' emission scenarios for the basis of adaptation strategies and long term infrastructure design. If

however such a choice ignores the global emissions pathway that we currently follow, flawed assumptions may be used. For this reason, SA Water agrees there should be greater awareness of the need to *stress test* adaptation options and long life infrastructure proposals with national and regional climate change models being based on the A1FI emissions scenario or the actual (potentially even higher) emissions scenario as it becomes defined.

It is appropriate that Government publications such as the [Climate Change Scenarios for Initial Assessment of Risk in Accordance with Risk Management Guidance](#) and CSIRO publications guide Australia’s planners and risk managers in such a way that will ensure Australian communities and infrastructure will cope with climate change based on the appropriate level of risk and on suitable time scales. To date such documents tend to guide risk managers and planners only up to 2030.

Beyond 2030, (just 22 years from now) the different scenarios really begin to accelerate change. In the IPCC Emissions Scenario chart below, the point at which the A1T scenario intercepts with the year 2030 has been identified as this is often used to define the climate risk level.



It is appropriate to guide planners to consider such high rates of temperature change, where the risks are predictable and plausible at current rates of emissions growth.

It can be seen that by 2030, global temperatures may rise by a further three quarters of a degree compared with year 2000. This increase is in addition to the observed increase that we have experienced over the past century (also around three quarters of a degree). To plan Australia’s long term future and infrastructure such as reservoirs and irrigation regions, there will also be a need to manage the risk out to the year 2100, and for the further 2.5,3,4 (best estimate),5,6 and 6.5 degrees Celsius of global warming that are plausible under A1FI conditions.

The A1FI fossil intensive emission scenario is not extreme, when it is considered that global emissions behaviour is already exceeding this scenario.

SA Water supports the Garnaut Review team to provide advice for an effective Australian Emissions Trading Scheme that reduces emissions effectively and encourages other nations to do likewise to change from a high emissions pathway to a low emissions pathway.