



## Fact Sheet

### CLIMATE CHANGE – POTENTIAL IMPACTS AND COSTS

#### SOUTH AUSTRALIA

For too long we have poured greenhouse pollution into the atmosphere – and we are continuing to do so at an alarming rate. Science tells us that this pollution is causing climate change.

We are already starting to feel the effects of this pollution. And projections show that if we don't act, it will only get worse with changing temperatures and rainfall patterns, more droughts, floods, water shortages, rising sea levels and extreme weather.

Australia – already the driest inhabited continent on Earth – is particularly vulnerable to climate change. The longer we wait to act on climate change, the more it will cost and the worse its effects will be.

#### Potential impacts and costs

South Australia is home to more than 1.5 million people or around 7.6 per cent of Australia's population. Already the nation's driest state, climate change presents South Australia with a particularly tough challenge.

The following are just a few examples of the potential impacts and costs to the State's industries, infrastructure, environment and people\*.

#### Industry losses

##### *Agriculture*

Over the last 50 years, South Australia has experienced marked drying throughout many of its agricultural districts.

Uncontrolled climate change will put at risk a large part of the State's **agricultural production**, valued at \$3.6 billion in 2006-07.

Comparing production under climate change relative to 'what would otherwise have been', and assuming no mitigation or adaptation, farm output from wheat could decline by 12.3 per cent by 2050; sheep by 11.7 per cent; and dairy by 11.3 per cent.

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Reduced rainfall and water availability could also affect the State's iconic **wine-growing** regions. In 2006-07 South Australia's grape production was valued at \$430 million, contributing 38 per cent of total Australian grape production



Vineyards, Kingston-upon-Murray, South Australia  
Christia Alston, DEWHA

### **Coastal zones**

It is plausible that uncontrolled climate change could see global **sea level rise** of 1 metre or more by 2100 and more intense storms, threatening coastal housing and infrastructure.

More than 60,000 buildings along the State's coast are likely to be at risk from sea-level rise, coastal flooding and erosion.

A subsiding coastline across Lefevre Peninsula and Barker Inlet will exacerbate the impacts of rising sea levels.

### **Human health**

As the number of very hot days (above 35°C) increases more people are vulnerable to heat-related illnesses and death, particularly the elderly.

In March 2008, Adelaide experienced 15 consecutive days of 35°C or above and 13 consecutive days of 37.8°C or above, almost doubling previous records and setting new records for any Australian capital city.

The average number of very hot days in Adelaide could increase to 21-26 by 2030. Annual heat-related deaths in the city for those over 65 could grow from 200 currently to 342-371 by 2020 and 482-664 by 2050.

Indigenous people living in remote communities are at increased risk with the number of Aboriginal children being admitted to hospital with diarrhoea likely to increase by 10 per cent by 2050.

### **Energy costs**

Many parts of Australia are already struggling through crippling drought, and with climate change such events will become longer and more severe.

Drought – likely to become more frequent as a result of climate change – has the potential to disrupt electricity generation capacity and affect the reliability of electricity suppliers.

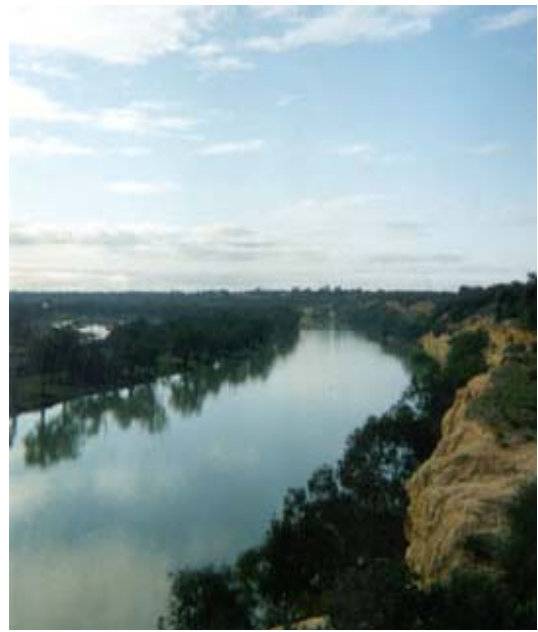
Increases in temperatures, particularly in the summer months will increase energy demand.

## The Murray-Darling Basin

Uncontrolled climate change will worsen the current water supply crisis in the Murray-Darling Basin. The Basin generates around \$23 billion in economic output, around \$10 billion of which is from agriculture.

As well as the impacts on its agricultural industries, Adelaide relies on the Basin for its domestic water supply and for up to 90 per cent of water for manufacturing (an industry which generates \$12 billion a year).

\* Note: Much work still needs to be done to analyse regional climate change impacts, and determine which areas might be most vulnerable. The Government is investing in this effort, through for example \$44 million to support the CSIRO Adaptation Flagship and \$50 million to support research led by the Adaptation Research Facility.



Cliffs along the Murray River, Waikerie SA (Chris Alston, DEWHA)

### Need for action

We must act now to reduce our greenhouse pollution to avoid the worst impacts of climate change and to protect our long-term prosperity, environment and way of life.

We must also act now to adapt to the impacts of climate change we are experiencing from the greenhouse pollution already in the atmosphere.

Tackling the problem will not be easy and there will be costs. But the longer we wait to act, the higher those costs will be.

The best way to minimise those costs is through our comprehensive Carbon Pollution Reduction Scheme. This is at the heart of the Government's comprehensive plan to tackle climate change through reducing emissions; helping regions, industries and communities adapt to climate change that we cannot avoid; and helping to shape a global solution.

Further information: <http://www.climatechange.gov.au>

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This information has been sourced from a range of materials, including: Australian Bureau of Statistics (2006) Population Statistics; Australian Bureau of Statistics (2008) *Value of Principal Agricultural Commodities Produced*, Australia, Preliminary 2006-07; Australian Bureau of Agricultural Resource Economics (2007) *Australian Commodities December Quarter*; Church et al, (2008), *Antarctic Climate and Ecosystems CRC Briefing: a post-IPCC AR4 update on sea level rise*; Department of the Environment and Heritage SA (2005) *Adelaide's Living Beaches, A Strategy for 2005-2025*; National Climate Centre (2008) *Special Climate Statement 15: An Exceptional and Prolonged Heatwave in Southern Australia*; CSIRO (2007) *Climate Change in Australia Technical Report 2007*, CSIRO Publishing; National Electricity Market Management Company Limited, (2007), *Potential Drought Impact on Electricity Supplies in the National Electricity Market* (accessed at [www.nemmco.com.au/about/900-0001.pdf](http://www.nemmco.com.au/about/900-0001.pdf)); Macquarie University, (2006), Risk Frontier; Australian Medical Association and Australian Conservation Foundation (2005), *Climate Change and Health Impacts in Australia*.