

# Air quality

## Sulfur dioxide (SO<sub>2</sub>)

South Australia's

Environmental trend and condition report card 2018



STATEWIDE



Trend  
**Stable**



Condition  
**Very good**



Reliability  
**Very good**

### Trend

**In South Australia, annual average levels of SO<sub>2</sub> remain below the national standard, but they have increased in Port Pirie since 2005.**

SO<sub>2</sub> is generally not a concern in most of South Australia. An exception is Port Pirie, where the local smelter is contributing to elevated levels. For this reason, SO<sub>2</sub> is monitored at one site in Port Pirie (Oliver Street), and at two sites in metropolitan Adelaide (Northfield and Le Fevre 2) (top figure). This report card is based on data from these three monitoring sites.

Since 2005, the annual average level of ambient SO<sub>2</sub> measured at Northfield has remained stable and low. A similar trend is observed at Le Fevre 2 since 2014 (bottom figure).

In Port Pirie, the trend in the annual average concentration of ambient SO<sub>2</sub> is getting worse (bottom figure), but is expected to improve in the future as a result of new technology installed as part of the Port Pirie Smelter Transformation Project.

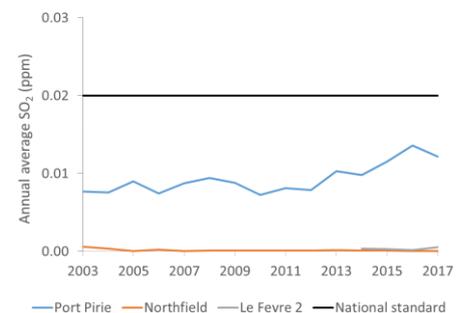
### Condition

**The condition of ambient SO<sub>2</sub> levels is rated as very good across most of South Australia, and good in Port Pirie.**

In 2017, the annual average levels of ambient SO<sub>2</sub> in metropolitan Adelaide were very good and remained well below the national standard. The annual average concentration of SO<sub>2</sub> in Port Pirie was good and was less than the national standard (bottom figure). However, on numerous occasions, levels were elevated for short periods. Note that air quality impacts from the smelter are managed using state-based legislation.



**SO<sub>2</sub> levels in Adelaide are stable and well below the national standard; levels in Port Pirie are increasing but below the national standard**



### Why is air quality important?

SO<sub>2</sub> is an air pollutant that can be harmful to human health and the environment.

Effects on human health include irritation of the respiratory system. People with asthma and other respiratory conditions are most at risk. SO<sub>2</sub> also forms secondary particles, contributing to fine particle levels, which have health impacts.

Environmental effects can include damage to trees and plants by damaging foliage and decreasing growth.

### What are the pressures?

Industries that process sulfur-containing compounds or burn fuels containing sulfur are the main sources of ambient SO<sub>2</sub>. These include smelters, oil refineries, power-generating activities and shipping.

Vehicle emissions used to be another source of SO<sub>2</sub> from fuel combustion. However, fuel quality standards have reduced the level of sulfur allowed in fuels, reducing emissions.

### What is being done?

Australian Government legislation has been an important driver in reducing SO<sub>2</sub> emissions through the management of fuel quality, vehicle emissions and shipping. A review of the national standard is under way as part of the National Clean Air Agreement. In Port Pirie, the Smelter Transformation Project is expected to significantly reduce emissions in the future. Closure of the Port Stanvac Oil Refinery (2003) and the Port Augusta Power Station (2016) have reduced ambient concentrations in those areas.

For further information see: [technical information](#)



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