



Australia's Low Pollution Future Fact Sheet

Low-Emission Products and Technologies

Pricing emissions drives a structural shift in the economy from emission-intensive goods, technologies and processes towards low-emission goods, technologies and processes. As a result there will be strong growth in low and negative-emission sectors, such as renewable energy and forestry.

Low-emission goods and services become more competitive

The report shows that demand for low-emission goods and services increases, particularly where they provide an alternative to higher-emission commodities, or an emission trading market creates a new source of revenue.

These effects are particularly evident in the forestry sector. Consumers are expected to substitute towards wood products (a low-emission good) and forests have the potential to sequester carbon and generate credits for sale in an emission trading scheme.

Significant reduction in the emission intensity of transport is also expected, including through changes in the fuel mix, vehicle types and transport modes. Greater use of more efficient vehicle technologies, such as hybrids, and a shift towards smaller vehicles and towards rail, particularly for freight, is projected. Similarly, demand for diesel is expected to rise.

Renewable energy will play a key role

Renewable energy will have a key role to play in reducing Australia's energy-related greenhouse gas emissions. Initially, the primary driver of renewable energy will be the Government's target of 20 per cent of Australia's energy to be sourced from renewable sources by 2020.

In the longer term, the report illustrates that renewable technologies will become increasingly competitive and production methods will switch to less emission-intensive technologies and processes. In particular, electricity generation is expected to move from conventional fossil fuel technologies to renewable sources and carbon capture and storage.

By 2050, the report finds that the share of renewables grows to 40-51 per cent under emission pricing and the alternative energy sector is expected to be up to 30 times larger than it is today, creating significant employment opportunities.

Australia's wide range of low-emission technology options, including geothermal, wind, solar and wave energy could deliver large emission reductions in electricity generation over time, even if some technologies being explored do not prove commercially viable.

Low-emission technologies are important for Australia's mitigation costs

The Carbon Pollution Reduction Scheme will help stimulate the deployment of the many energy-efficient and low-emission technologies that are already available, as well as further research and development of low-emission technologies.

The report indicates that the speed at which low-emission technologies are developed will be important in reducing global and Australian mitigation costs, particularly as technological progress will affect the value of, and demand for, Australia's resources.

Faster technological progress will reduce global and Australian mitigation costs, while slower technological progress will increase costs. For example, Australia's costs as a share of GNP in 2050 are 25 per cent lower under more optimistic assumptions of technological progress and 25 per cent higher if carbon capture and storage is not viable.

Market-based mechanisms reduce the economic costs of mitigation

An accurate prediction of which mitigation opportunities and technologies will be the most cost-effective is impossible. This underscores the importance of broadly-based market-oriented policies, such as the Carbon Pollution Reduction Scheme, that create incentives for mitigation across all sectors without mandating where that mitigation occurs.