FACTSHEET

Climate change science and solutions.

beyond ZERO emissions

Coal

Coal is a fossilised, combustible mineral.

Prehistoric vegetation, buried in bogs and swamps, was transformed into coal by geological pressure and high temperatures over many millions of years.

Coal is predominantly used as a fuel. It is burned to produce the heat that can be used to generate electricity and in the manufacture of iron, steel and cement.

Environmental Impacts of Coal Burning

Coal burning emits more greenhouse gases into the atmosphere than any other activity. The brown coal used in Victoria is particularly polluting.

The atmospheric emissions from coal power plants are over 100 times more radioactive than that of an equivalent sized nuclear plant.

Waste from coal burning contains mercury, arsenic, dioxin and other dangerous pollutants.

Coal power plants use enormous amounts of drinking-quality water. The Latrobe Valley Generators in Victoria use a third as much as Melbourne does each year!

Fast Facts:

- Coal was formed over many millions of years.
- Coal is burnt to produce heat used to generate electricity and in manufacturing.
- Coal burning is the single biggest contributor to climate change.
- 80% of Australia's electricity is generated through burning coal.
- Other countries such as Spain, Germany, Japan, South Korea and China have begun transitioning away from coal.
- Solar thermal is a proven, non-polluting technology that can replace coal as a baseload power source.

Coal

Coal In Australia

Australia's coal took 225 million years to form. At the current rate, it will have taken less than 300 years to extract and burn it all.

Successive governments have prioritised coal for energy and export income. Australia is the world's largest coal exporter.

However, Australia's reliance on coal has put us amongst the worst carbon dioxide polluters in the world per capita.

It also means that Australia is not positioned to reap the rewards of the coming renewable energy revolution. Countries like Germany, Spain, South Korea, Japan and China have begun to decommission their coal plants, replacing them with clean, efficient, solar and wind plants. They are creating green jobs and technical know-how while Australia misses out.

Eventually they will stop buying our coal altogether, leaving Australia with a small hole in its economy.

Coal for Electricity

Over 80% of Australia's electricity is generated by burning coal.

Coal power is extremely inefficient. Up to 80% of the energy released from burning coal is lost through thermal, mechanical and transmission inefficiencies.

Brown coal is a younger form of coal that contains high moisture content. This low-grade coal is even dirtier than black coal, emitting over 30% more greenhouse gases when burnt.

Victoria's brown-coal burning power stations, especially Hazelwood, have the dubious honour of being amongst the most polluting in the developed world.

Clean Coal?

The Government and the coal industry are promoting the concept of storing the emissions from the burning of coal underground. They call this idea 'Clean Coal'.

'Clean Coal' technology has not been implemented anywhere in the world despite the huge amounts of money being spent on it.

Alternatives

Solar thermal is a proven technology that has the ability to directly replace coal as a source of generating baseload electricity.

It works by storing solar energy as heat in insulated molten-salt storage tanks. The heat can be drawn out as necessary, day and night, to boil steam and drive the same turbines currently used in coal power plants.

Unlike coal, the solar energy used to power solar thermal plants will always be free, will never run out, and will not contribute to global warming.

Action:
Beyond Zero Emissions is working to secure Australia's future through a zero emissions economy.

If you would like to learn more about renewable energy or find more information about the work that Beyond Zero Emissions does, take a look at our website.

beyondzeroemissions.org