



Activity 5.2

GRAPHING ENERGY PRODUCTION

Australian energy-producing industries link into the global economy when coal, oil and gas are imported or exported. At current production levels, Queensland has enough black coal for another 400 years. Australia is the largest exporter of black coal in the world. Coal is Queensland's biggest export earning commodity. Thirty-six per cent of export coal is sent to Japan and about 25 per cent to Western Europe.

Since the 1980s we have been almost self-sufficient in crude oil. But these reserves could be exhausted within 20 years, and we may have to return to a dependency on imports. We have greater supplies of natural gas, and export some in liquid form.



Australia both imports and exports crude oil and oil products, because a mix is required to make different fuels. Export earnings from crude oil are worth \$2 billion a year and liquid natural gas (LNG) earned \$1.6 billion per year. We export some oil to Asia, but also import oil from Indonesia, Saudi Arabia, Vietnam, United Arab Emirates and Papua New Guinea. We export liquid natural gas from the Northwest Shelf off Western Australia to Japan. In 2000, a deal was signed to buy natural gas from Papua New Guinea and transport it by pipeline to Gladstone in Queensland.

Australian energy-producing industries link into world ecological systems when our coal, oil and gas are burned, releasing gas and pollutants into the atmosphere. Greenhouse gases stay in the atmosphere, possibly contributing to global warming. Other pollutants have a more direct effect on us as they become part of the water cycle. These are hazardous at the local level, but can also be carried long distances by air movement. In Europe, acid rain is responsible for damaging large parts of forests.

Aim:

When you have completed this activity you will be able to show in graphic form how Australia's energy production is linked to global economic and ecological systems.

You will need:

- Information from the Fact Sheet as well as the information above
- A blank outline map of the world
- A good atlas

Procedure:

- Read the information. Draw a graph to show the value of coal, oil and natural gas to Australia. Put energy resources on the horizontal axis.
- Take the blank outline map of the world. Using the atlas, find all the places mentioned in the information above, and mark them on the map.
- Decide on a legend showing coal, oil, natural gas and air pollution in different colours. Draw this legend at the bottom of the map.
- Using the information above, draw arrows to and from Australia to show exports and imports. The arrow head should point to the country we export to, and towards Australia for imports. Draw the arrows in the colours you chose to represent the three energy resources in your legend.
- Do some research on world wind patterns. You might use key words like climate patterns, atmospheric pressure or wind patterns. Your atlas might possibly show these on a map. Wind patterns change from season to season, so choose one season and draw arrows in the appropriate colour to show where Australia's air pollution might travel.

