New Zealand's mineral estate

Crown-owned minerals are those minerals that are owned by New Zealanders and administered by the Crown, as set out in the Crown Minerals Act 1991.

The Crown automatically owns all petroleum, gold, silver, and uranium in New Zealand and has rights to all minerals in the Exclusive Economic Zone (EEZ) - offshore between 12 and 200 nautical miles (nm) - and the Extended Continental Shelf (ECS - when the shelf extends beyond the EEZ out to a maximum of 350 nautical miles).

The Crown also owns about half of the in-ground coal, metallic and non-metallic minerals, industrial rocks and building stones in New Zealand – either by right or because they are in Crown-owned land.

These resources are collectively referred to as the ‘Crown mineral estate’.

Other minerals are owned privately, in most cases by the land owner.

Determining mineral ownership in any particular title or land holding is often not an easy task. It will, in many cases, be necessary to search back to the first alienation of the land from the Crown to establish whether or not the minerals continue to be held with the fee simple title, or had been reserved by the Crown, or had been excluded as a result of any subsequent transaction (such as a transfer or a Public Works Act acquisition).

Land Information New Zealand (LINZ) [http://www.linz.govt.nz/] has a list of Accredited Crown Property Suppliers that can undertake title searches to determine mineral ownership.

Minerals in New Zealand

Petroleum (oil and gas)

Petroleum consists of organic chemical compounds called hydrocarbons that may be found as liquid crude oil, gas and even solid forms.

New Zealand’s producing oil and gas fields are in the Taranaki Basin, which sits offshore and onshore of the west coast of the North Island.

There are 17 other known petroleum basins across New Zealand's EEZ. These frontier basins are largely underexplored and are considered to have significant potential for commercial petroleum discoveries.
Petroleum is used as a transport fuel and as raw material for a wide variety of derivative products such as plastics. It is used in the manufacture of a range of day-to-day items such as soapless detergents, cosmetics, synthetic rubber used in car tyres and shoes, and fertilisers – altogether known as the petrochemical industry.

Natural gas, which can be discovered with oil, is the cleanest burning fossil fuel (by energy content) giving it an important role in the global transition to a low-carbon future due to its potential to displace coal as an energy source.

**Coal**

Coal is a fossil fuel rock created from organic matter. It was formed millions of years ago when plants fell into peat swamps and were buried by heavy earth and rocks. Over a very long time, the weight of the rocks and heat in the ground turned the plants into coal.

Half of New Zealand’s coal production is exported for use in steel making: as a fuel supply and as a key ingredient. The carbon in coal is a strengthening agent in steel.

There is a considerable demand for coal domestically. Coal is used as a fuel for industrial processes, such as dairy processing in the South Island. It is also used to heat some horticulture businesses, tanneries, hospitals and schools.

In New Zealand the three most widely found coal types are:

- Bituminous – a high grade coal which is mainly exported for steel making.
- Sub-bituminous – mainly used domestically for steel making at Glenbrook, power generation at Huntly, and other industrial processes.
- Lignite - low-rank coal mainly used for industrial applications. Lignite also has potential for other applications, including conversion to urea and liquid fuels.

Coal production in New Zealand is centred in the Waikato, the West Coast and Otago/Southland. The majority of production is from opencast operations at Rotowaro and Stockton.

**Gold and silver**

Gold is a soft, malleable metal, suitable for many uses. Gold is commonly used in jewellery and in dentistry but has some relatively unknown uses: It is a highly efficient electrical conductor, so small amounts are used in electronic devices, like cell phones, computer chips and televisions.

Significant gold mining sites in New Zealand today include hard rock mines in Waihi, Coromandel and Macraes Flat, Central Otago and alluvial (river/glacier gravel) gold mines on the West Coast and Otago. Northland and Central North Island may also be prospective for gold.

Silver - produced together with gold in hard rock mines - is also used for jewellery, electronics and medicine.

**Non-metallic minerals**
A number of other industrial rocks and minerals are produced for local and export markets, including aggregates (used largely for roading and construction), limestone (used in fertiliser and industrial processes), and ironsand (used for steel production).

**Clay, pumice and silica**

Clays, including bentonite, are used to make bricks, tiles and pottery, as filters in the manufacture of paper, paint, pharmaceutical and animal health products. It's also used in the production of beer and wine, laundry detergent, suncream and children's crayons.

Most of New Zealand's pumice was formed during volcanic eruptions in the last 20,000 years. It is used to manufacture wallboard, plaster, and lightweight concrete.

Silica sand is used in glass manufacture. Other uses include foundry sands and as a filler in the building industry.

**Offshore minerals**

New Zealand also has significant offshore mineral potential, including ironsands (off the North Island’s west coast), phosphate (Chatham Rise), concentrations of gold, silver, copper, lead and zinc from undersea vents known as seafloor massive sulphides (Kermadec Arc and Colville Ridge).

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