

Taranaki Basin

All of New Zealand's producing oil and gas fields are located in the Taranaki Basin. Most currently producing fields are located onshore, although the majority are relatively small and account for only about one third of potentially recoverable petroleum reserves. The greatest volume of discovered reserves are contained in a very few large fields with well over half in the offshore Maui field.

The basin is an oil, gas and condensate province. A majority of fields, including the large Maui and Kapuni fields, contain mainly gas but nearly all fields produce a proportion of oil/condensate. The offshore Tui and Maari discoveries are predominantly oil. Depending on how some smaller fields are amalgamated, there are 10 fields currently on production. The Maui field has recently accounted for about three-quarters of New Zealand's hydrocarbon production, but is now in decline and will only partly be replaced by the offshore Pohokura and Kupe fields which are likely to come into production over the next few years.

More about the Taranaki Basin

- [Prospectivity \[1.3 MB PDF\]](#)
- [Plays \[32 kB PDF\]](#)
- [Reservoirs \[1.1 MB PDF\]](#)
- [Outer Taranaki Basin \[217 kB PDF\]](#)
- [Exploration history \[35 kB PDF\]](#)
- [The geology, production and exploration history of the producing fields, with summary logs of the main wells \[870 kB PDF\]](#)
- [Structural styles of the main fields](#)
- [Fields under appraisal/development \[31 kB PDF\]](#)
- [A map of North Island gas distribution pipelines is available on the Natural Gas Corporation website](#)
- [Taranaki Basin Map](#)
- [Taranaki petroleum fields map](#)

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Key facts

Location

A basin of about 100,000 sq km on the west coast of the North Island. Most of the basin is offshore, although the majority of producing fields are onshore.

Geology

Composite basin morphology from diverse episodes of tectonic activity. Cretaceous to Quaternary basin fill up to 9 km thick.

Wells drilled

Over 350 onshore and offshore exploration wells drilled since 1955.

Producing fields

Offshore: Maui (gas-condensate and oil). Onshore: Kapuni (gas-condensate), McKee (oil and gas), Tariki/Ahuroa (gas-condensate), Waihapā/Ngaere (oil and gas), Ngatoro (oil and gas), Kaimiro (oil and gas), Mangahewa (gas-condensate), Rimu (oil and gas), Motoroa (oil).

Fields under development

Pohokura (gas-condensate, offshore), Windsor (gas-condensate, onshore).

Fields under appraisal

Kupe (gas-condensate, offshore), Maari (oil, offshore), Stratford (gas-condensate, onshore).

Recent discoveries

Offshore: Tui (2003, oil), Karewa (2003). Onshore: Goldie (2001, oil), Surrey (2002, oil and gas), Kahili (2002, gas-condensate).

Prospects

High current success rate. Multiple objectives ranging from large, deep gas/oil targets to small, low-risk, shallow oil/gas. Plays include inversion structures, thrust features, extensional structures, volcanic edifices, submarine fans, diagenetic traps and half-graben fill. Producing reservoirs range in age from Paleocene to Pliocene. Potential Cretaceous reservoirs are undrilled. Extensive areas of the basin are still poorly explored.

Potential and known source rocks

Late Cretaceous coals and interbedded shales, Paleocene marine shale.

Potential and known reservoir rocks

Late Cretaceous to Eocene terrestrial-paralic-nearshore sandstones, Late Cretaceous to Eocene coal measures, Eocene turbidites, fractured Oligocene limestone, Miocene volcanoclastics, Miocene turbidites and Pliocene prograding sands. Most discovered reserves are in Eocene sandstones.

Hydrocarbons

Paleogene reservoirs are primarily gas-condensate, although Kapuni F sands are oil. Neogene reservoirs are primarily oil.

Downstream infrastructure

Maui offshore platforms and FPSO, six onshore production stations, hub of the North Island gas pipeline network. Export hub for crude oil, methanol and LPG.

Regional gas consumers

Methanex methanol plants at Motonui and Waitara, capacity 2,430,000 tonnes methanol; Taranaki CC 355 MW; NGC Kapuni 25 MW; Fonterra Dairy Plant, Whareroa 65 MW; Contact Energy New Plymouth 450 MW (currently undergoing conversion to oil). Direct high-pressure pipeline from Taranaki to Huntly power station gas/coal 1000 MW 80 km south of Auckland. Huntly e3p gas 400 MW planned (2006).