

# GOVERNMENT INVOLVEMENT IN PETROLEUM EXPLORATION AND DEVELOPMENT

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## Abstract

Successive governments have each played an important part in oil and gas exploration and development in New Zealand. That involvement encompasses the establishment and implementation of a regime to apply to all phases of activity; the management of the Crown owned resources, participation in some production, development and distribution projects, and the extraction of payment for the rights to the resource.

The Crown's ownership of *in situ* oil and gas was determined to be in the best interests of the nation on a number of grounds, and that principle has been reinforced in recent legislation. Mineral ownership and the right of government to determine the basic framework within which explorers and developers will operate, ensures that there will be continued government involvement. The extent of that involvement will be assessed by the government's perception of how the nation's interests can be best served and the specific objectives it may determine.

There is an apparent wide choice of mechanisms by which the government can achieve its objectives but a rigorous analysis of these objectives may significantly narrow that choice.

## Introduction

Let me begin by putting these questions to you. If you owned the mineral rights to your privately owned land, would you not seek to maximise any return from their development? And how would you go about achieving this?

Put these questions to a company with its many shareholders and I suggest that the answer, as in the individual's case, would be yes of course we should maximise the return so that we, the owners, benefit to the fullest extent possible. Furthermore, the company, if it decided not to develop the resource itself, would either want to sell the rights or would insist on being given shares in the development, something which would probably involve a seat on the board managing the development.

So what is different about countries? The New Zealand government's shareholders are the populace of New Zealand. The government owns all the rights to all the oil and gas *in situ* throughout New Zealand. It has a responsibility to all New Zealanders—its shareholders—to profit from that ownership. It owes it to them to maximise the return from national resources, just as exploration companies owe it to their shareholders to maximise the return on resources for their benefit.

Talk about shared interests and common goals all you like, but the bottom line is: we all aim to maximise profit for ourselves and to protect our own interests as best we can.

## State Involvement

In every country in the world, the State plays a significant role in the discovery and exploitation of mineral resources. That fact tends to be obscured by debate about the degree of State involvement.

The degree of State involvement in different countries can be categorised under four headings.

- The establishment of a regime setting the "rules" for explorers and developers. All countries have one.
- The imposition of taxation on production. Again, no country is going to overlook that opportunity.
- Ownership of the mineral estate. This, a feature of New Zealand's approach, is in fact much more widespread than many imagine. USA for example, is often quoted as the country where mineral ownership is in private hands, yet the Federal Government is a landholder of astonishing size, and as such, is the owner of vast tracts of that nation's mineral estate. Last year, for example, the Federal Government collected US\$190 million in receipts from mineral and energy operations in the National Forests (Table 1).
- Collection in one form or another of payment for the rights to either explore, or develop, or both. This is where the ingenuity of economists, politicians and bureaucrats has been really put to the test. A variety of mechanisms has resulted, all designed to achieve an adequate return to governments.

The point I am making is that the New Zealand Government is in tune with the rest of the world in involving itself in oil and gas exploration and development.

In New Zealand, government participation in petroleum exploration and development reached a peak during the Think Big era of the 1970s and 1980s. In that period, the Crown was a major participant in the hugely expensive Marsden Point refinery expansion, in the development of the Maui field, and in the downstream use of Maui and Kapuni gas. This included the construction of the Synfuels plant at

- US \$4.9 billion of mineral production
- 7 million acres geologically favourable for coal (50 billion tons)
- 45 million acres geologically favourable for oil and gas
- Giant deposits of oil and gas
- World-class deposits of:
  - coal
  - silver
  - zinc
  - platinum
  - lead
  - gold
  - copper
  - molybdenum
- Largest carbon dioxide project in the country (Bridger-Teton National Forest)
- Largest coal mine in the country (Thunder Basin Grasslands)
- Only platinum mine in western hemisphere (Custer National Forest)
- Most lead production in the country (Mark Twain National Forest)
- One of the largest molybdenum deposits in the world: 10 % of the free world's reserves, over 1.5 billion tons of ore (Tongass National Forest)

#### Annual Production

- 18 million barrels of oil
- 91 000 metric tons of copper
- 210 billion cubic feet gas
- 1 million ounces of gold
- 75 million tonnes of coal
- 20 million tonnes of sand and gravel
- 227 000 metric tons of lead

Table 1: Minerals in the United States National Forests, (1990) figures.

Motunui and the nearby Methanol and Ammonia Urea plants, and the reticulation of gas throughout most of the North Island. It included the promotion of CNG and LPG usage throughout New Zealand. It involved the Crown in the picking up of a 51% share in many exploration and mining licences, and participation in exploration joint ventures.

Government funding for these activities was huge. In the exploration area alone, consider the costs that the Crown incurred in drilling wells in places like Taranaki, Westland, Canterbury and the Great South Basin.

To accuse the Government of not having played its part in exploration and development, involving risks and costs, is to ignore recent history.

It is far too early yet to be able to assess the fruits of that huge investment, but it would be so easy to flag away much of any profit under the pressure of calls for removing the Crown from commercial participation. There are discoveries yet to be made which will be attributable, in significant part, to the Crown's commitment to large amounts of exploration expenditure for the public purse. The contributors to that purse should not be short-changed.

Compare the level of Crown activity in the 1970s and 1980s with the current level of State participation and it becomes very evident that the government's involvement is now that of a minor player. Companies' stake in New Zealand oil exploration is almost 90%, the State's involvement a little over 10%. That degree of State participation has not been determined by accident - it is a level considered appropriate to best safe-guard the nation's interest without having a distorting effect on commercial ventures. Like those of any prudent investor, the State's interests are widely spread, extending over 49 of the 53 exploration licences currently operating in New Zealand.

## Crown Ownership of Petroleum

I have drawn your attention to the fact that all governments throughout the world are involved in the exploration and development of their respective nation's petroleum resources. At this point, I would like to concentrate on just one aspect of that involvement, viz mineral ownership, and on why successive New Zealand governments have opted for continuing Crown ownership of petroleum. There is no better point of reference for this purpose than the Parliamentary debates surrounding the introduction of the 1937 Petroleum Act, which subject to some amendments, has been the legislation which has applied up until today. Its provisions remain largely intact even under the new Resource Management statutes. Certainly, the principle of Crown mineral ownership has been re-endorsed in the two new Acts which determine our future course.

In looking through the Hansard record of the Parliamentary debate of 1936 which culminated in the 1937 Petroleum Act, it becomes clear that there were five matters, above others, which convinced the law-makers to retain Crown ownership of all petroleum prior to its recovery. They were:

- the migratory nature of oil;
- difficulties of multiple ownership;
- acceptance that the nation as a whole should profit from the nation's resources;
- a conviction that the national interest, including security of supply, is best served by Crown ownership; and
- opportunism.

The commentary supporting these views, as contained in the 1936 Parliamentary Records, makes interesting reading. Here are some selected excerpts.

### On the migratory nature of oil:

"There is a scientific truth which has been established for many years—all things flow, nothing is constant, but change—that truth might well be embodied in this Bill."

"In common with animals, and unlike other minerals, water, oil and gas have the power and the tendency to escape without the volition of the owner. Their fugitive and wandering existence within the limits of a particular tract, uncertain."

"...we may penetrate the earth outside Parliament House, and get a flow of oil, but that oil may come from miles around, from under the properties of other people, making it impossible to decide its main source."

"...it would be very hard to domicile it under any particular spot."

"No one can say that oil in a particular area belongs to a particular individual; it is common property, the State being, therefore, the logical owner."

"I subscribe to the proposal that oil if found, should belong to the State. ... The trouble that has occurred in the USA between property owners has been tragic, and I am sure that if the USA had the opportunity again, it would decide that the State should own all the oil fields."

### On the difficulties of multiple ownership:

"Petroleum could flow under the properties held by innumerable people, and for that reason there was no possibility of assessing the rights - that is, if they existed at all."

"The acquisition of rights would be a difficult matter because of the multiplicity of titles."

"Before oil companies could prospect for oil they had to negotiate with a large number of private owners." ... "I was faced with the multitude of small landowners domiciled in every part of New Zealand."

"No worthwhile investor, knowing that he would have to deal with people other than the Crown, would be so unwise as to invest his money in this country in such circumstances."

"The Solicitor General said that one of the rights possessed by the landowner in England in 1840 was that he owned to the sky, and, I suppose, down to the centre of the earth. The Solicitor General termed it a relic of feudalism. Probably down about the core of the earth the landowner would get into trouble with the man on the other side."

"No one owner of the surface of the earth, within the area beneath which the gas and oil move, can exercise his right to extract from the common reservoir, in which the supply is held, without to an extent diminishing the source of supply to which all other owners of the surface must exercise their rights. The waste by one owner, caused by a reckless enjoyment of his right of striking the reservoir at once, therefore, operates upon the other surface owners."

"It has been said that it would be impossible to get capital to come here and prospect as long as there is private ownership in oil rights. The nation must take over those rights. Oil being of a migratory nature, it was necessary to do this. The history of the whole question goes back into English Acts, under which oil has been made national property for centuries."

"The doubts which hitherto existed as to the ownership of petroleum are now settled by providing that all oil existing in its natural condition, whether on or under Crown, native, freehold, or other land, shall be vested in the Crown. This makes it practicable to meet two of the greatest obstacles of the past - the grant of licences over sufficiently large areas, and the difficulties which any other arrangement would have involved in regard to payment of royalties."

#### **On acceptance that the nation as a whole should profit from the nation's resources:**

"We want this country to have the full benefit of any oil that may be found here. We do not want a repetition here of what has happened in other countries in regard to the exploitation of the oil industry."

"It was laid down that all oil rights must be vested in the Crown, and that no people in possession of land containing the fee-simple, or the right from the bottom of the earth to the sky, had any knowledge of the existence of oil - that is, that if oil did exist they were not conscious of it."

"Not one penny-piece of additional value is placed on the land because of the problematical existence of oil thousands of feet down."

"...there can be no question of the enhancement of the present value of land by reason of the existence underneath of oil which is not yet proved, and which although reached from one property, might be drawn from beneath other and relatively distant property. The landowner, therefore, suffers no loss by the State's assumption of the ownership of what exists only problematically, and assuming he will be fully compensated for any surrender of surface rights. Should search be successful, then the State may make a bargain with the development company for the sale to it of the oil that is trapped."

"It is utterly impossible to allow petroleum to become private property. It comes from the substrata, and may be drawn from very large areas of land, but nobody can say where the precise source of supply is located. It is just as logical to say that liquid lying on the surface of the earth, such as the sea, or the lakes, and that air above the earth are subject to private ownership, as to claim private ownership for oil and gas in the bowels of the earth."

"...the best legal knowledge ...on the matter lays it down as a principle that oil ...is not considered private property until it is released from the soil."

"This Bill will not in any shape or form take one penny-piece from the Native race, or from the freeholders; but it says in as many words that, if there should be oil under the ground, for which no person has been responsible, that oil belongs to the Crown, and we propose to grant licences to search for oil, under rigid conditions, in order that the people as a whole shall have their rights protected."

"Did they put the petroleum there? It was put there by God or by Nature, whichever term is preferred, and morally it does not belong to any individual whether pakeha or Maori. Surely the moral case is that it is the property of the whole of the people - Maori and pakeha - who constitute the population of this land, if we were to admit the right to the Maori to royalties, we could not deny that right to the pakeha."

"If as the result of expenditure of a lot of money we are successful in producing a payable flow of oil in this country, that oil belongs to the people of New Zealand."

#### **On a conviction that the national interest, including security of supply, is best served by Crown ownership:**

"The whole idea of the Bill is to get control of the oil, so that we can make contracts with private companies for the finding and working of the petroleum, or so that the State can find and work it on its own account."

"I believe that the sooner the Crown assumes control of the petroleum and owns it the better it will be, as such action will have the effect of avoiding many of the difficulties that have existed in other parts of the world."

"I have no objection to the Crown taking the oil. I think that is necessary in the national interest. It is of great importance from the defence point of view that every effort should be made to develop any oil resources there may be in New Zealand."

"From the point of view of defence, and from the point of view of modern transport and the enormous amount of money we send to countries which do not trade extensively with us, a Bill of this nature is absolutely essential."

"...any nation in the modern world would be in a very precarious position if for any reason petrol-supplies were not available to it."

"If this country were involved in a state of war there would be a great danger of being cut off entirely from overseas oil-supplies."

"...the interests of the defence of the Empire are dominant and should supersede everything else."

"...the object of the measure, which is, one cannot help feeling, the defence of the Empire."

"If we could only make a discovery of oil in payable quantities in New Zealand, what a boon it would be industrially and from the point of view of Empire defence."

"In the event of hostilities abroad our fuel-supply would be cut off almost immediately, and Australia would be in the

same boat. Australia would welcome most enthusiastically the discovery of oil so near to her shores; and Australia and New Zealand would be brought closer together as a result of that oil connection."

"The discovery of oil would make this country independent of the overseas oil magnates."

### **On opportunism:**

"The prospects for the discovery of oil in New Zealand are better than those in getting oil in Australia, and ever so much better than for discovering it in Great Britain, so I think we should make the most of our opportunities."

"It is idle for anybody to suggest that conditions which obtain in Britain or even in Australia are similar to conditions which obtain in this country. ...The prospects of getting oil (in the United Kingdom) are so remote that today it is not a sufficiently attractive proposition for the investment of private capital. ...That state of affairs does not obtain today in New Zealand. The existence of oil has been so far proved that private capital is prepared to come in and undertake the work and pay large sums to the Government for such rights as are conferred. There is no question of the Government being called upon to subsidise the companies."

"If successful, our adverse trade balance with Australia would be wiped out immediately. If oil is found in New Zealand this will be the only British country to have its own wells."

"I intend to support the measure because the leader has stated that certain interests are prepared to spend money in a comprehensive search for oil and that there are prospects of oil sources being discovered, perhaps to meet all the requirements of the Dominion, if this legislation is passed without delay."

"The Minister stated that within six months of the passing of this Bill companies would commence drilling. ...we know that the two biggest companies in the world have been negotiating with the Government, and that if oil is found in payable quantities it will be refined in the country, in consequence of which a considerable amount of employment will be provided for our people. Evidently, the negotiations have been satisfactorily concluded, and those companies will spend large sums of money."

## **Mechanisms for Managing Crown Owned Minerals**

Coming now to the present day, the question is how will this principle of Crown mineral ownership and a fair return from its minerals be applied in practice? In determining whether there will be a departure from existing practice, it is important to measure the effectiveness of that regime as it has applied over the past decade.

I suggest that the most appropriate means of measuring the effectiveness of the New Zealand regime is to compare it with those of other countries in the region, within which we have to compete for industry participation.

There are three key components in New Zealand's regime which have allowed the Crown to secure financial return for the development of its resources. Those three components are taxation, royalty and carried interest.

It is one of the Great Truths of the Universe that there will always be taxes (spelt with an "a" and without a capital "T"!). It is almost, but not quite, universal practice for governments to impose some kind of royalty on petroleum production.

This is not true of the third component of New Zealand's petroleum regime as it has been operating, i.e., the Crown's carried interest in petroleum prospecting licences.

## **Petroconsultants Study**

Earlier this year Petroconsultants Australasia Ltd were commissioned to prepare a report evaluating the economic effect of the Crown's 11% carried interest from the point of view of the New Zealand Government and the international oil and gas industry. I will refer here to some of its findings.

Bear in mind that this was an independent study prepared by a company which claims to be the world's largest petroleum information and consulting group.

For the purposes of comparison, five other countries were chosen from within the general region in which New Zealand must compete for exploration investment. These countries are Australia, Brunei, Malaysia, Papua New Guinea and Thailand. All of the regimes operating in these countries, except for that of Australia, have a carried interest component.

For the full study, models were prepared on hypothetical base cases of an 80 MMbbl offshore oil field with associated gas reserves of 300 Bcf and an onshore oil and gas field with crude oil reserves of 30 MMbbl and natural gas reserves of 15 Bcf. However, country comparisons were carried out on the effect of each regime using only the offshore model, as associated costs would be representative in broad terms of the region as a whole. In contrast, onshore developments and their associated costs are very dependent upon terrain, infrastructure and local conditions.

## **Conclusions**

### **Government Percentage of Total Economic Return**

New Zealand's level of government take at 57% of the total economic return from a project, is the lowest of all the countries studied, as shown below:

Malaysia	94%
Thailand	93%
Indonesia	90%
Brunei	85%
PNG	81%
Australia	69%
New Zealand	57%

Indonesia, the largest oil producing country in the region, was not included in the list of countries selected for analysis. However, the results of other studies by Petroconsultants indicate that the level of government take in Indonesia is in the region of 90%.

### **Components of Government Take**

In New Zealand the total government take is made up as follows: (taking the offshore development base case):

Income Tax	53%
Royalties	27%
Carried Interest	20%

### **Royalties**

Of all the fiscal regimes assessed, the New Zealand regime has the highest level of royalty as a percentage of total government take (Table 2). Using offshore development base case assumptions, in New Zealand the royalty represents 27% of government take. The next largest royalty contribution

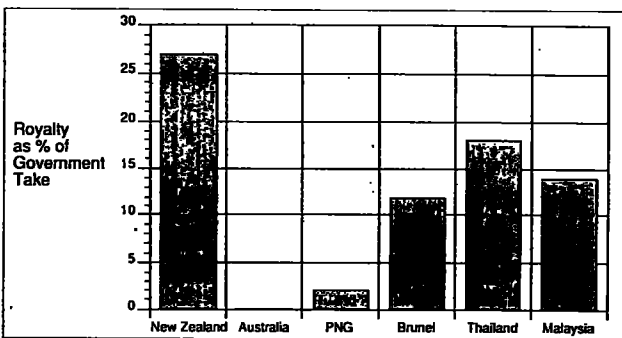


Table 2: Comparison of royalty contributions.

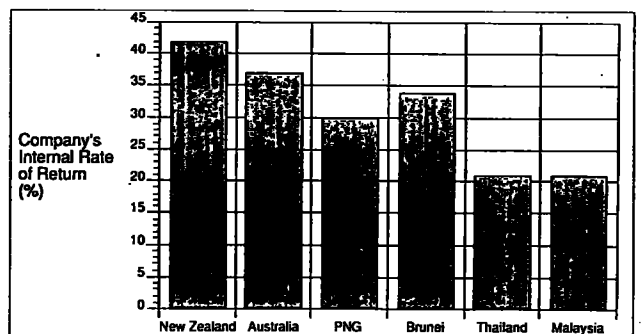


Table 3: Comparison of royalty contributions.

occurs in Thailand where the royalty provides 18% of government take.

The point to be noted here, is that if the carried interest did not apply and the present level of government take was to be maintained by use of an *ad valorem* royalty, then, that royalty rate would need to be increased from 12.5% to 18.6% in the offshore development base case. This is an increase of almost 50% and, if implemented, would place New Zealand's royalty rate among the highest in the world. I am sure that the industry would not find this favourable.

#### Carried Interest

A carried interest arrangement is a feature of many petroleum fiscal regimes around the world.

As shown below, the level of the carried interest varies widely among the countries considered.

Brunei	50%
PNG	22.5% maximum
Thailand	20% minimum
Malaysia	15% minimum
New Zealand	11%

#### Effect of New Zealand's Regime on Companies

The study concludes that New Zealand's regime gives the most favourable return to companies of all the regimes studied: (Tables 3 and 4) These findings confirm those of other independent studies comparing fiscal regimes, carried out by Petroconsultants.

#### Owner's Rights Preserved

Under New Zealand's carried interest provisions the Crown retains options and rights over a part of the group of resources which it owns. This is consistent with the rights and options which any other resource owner would expect to have.

#### Low Administration Cost

The cost to the Crown of administering the carried interest is very low at NZ\$500,000 per year in 1990/1991 terms. This is equivalent to NZ\$10,000 per licence per year on average.

#### New Zealand's Regime Simple and Stable

In other studies carried out by Petroconsultants involving international comparison, New Zealand's country petroleum risk environment is assessed as "quality". They conclude that the New Zealand regime is relatively simple and stable ...and that conclusion has been reached notwithstanding changes to the income tax provisions which have been criticised by the industry. Petroconsultants point out that the stability of a regime is important to international companies contemplating investment here, and that the government needs to pay attention to this. In other words, the government should tread warily before proposing changes.

Petroconsultants' report in its entirety, demonstrates that carried interest is a legitimate means by which the Crown can serve its own interests, whilst at the same time retaining a competitive regime attractive to explorers.

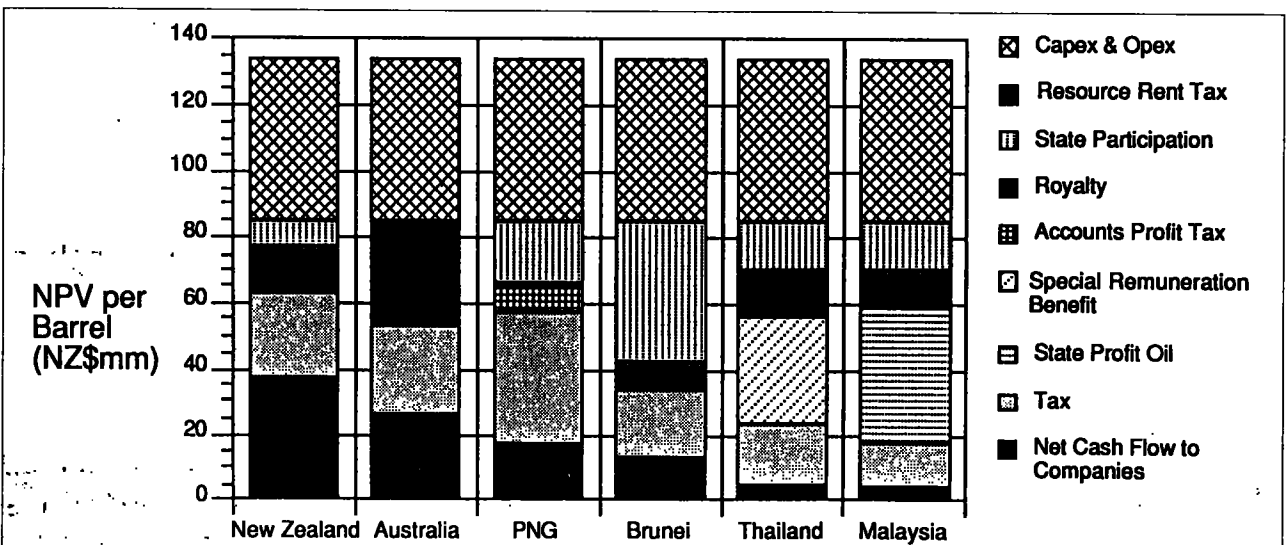


Table 4: Distribution of returns from petroleum sales in base case.

## Conclusion

I want to emphasise just two points. Firstly, let me refer you to the following statement made in a report from Petroconsultants, dated June 1991:

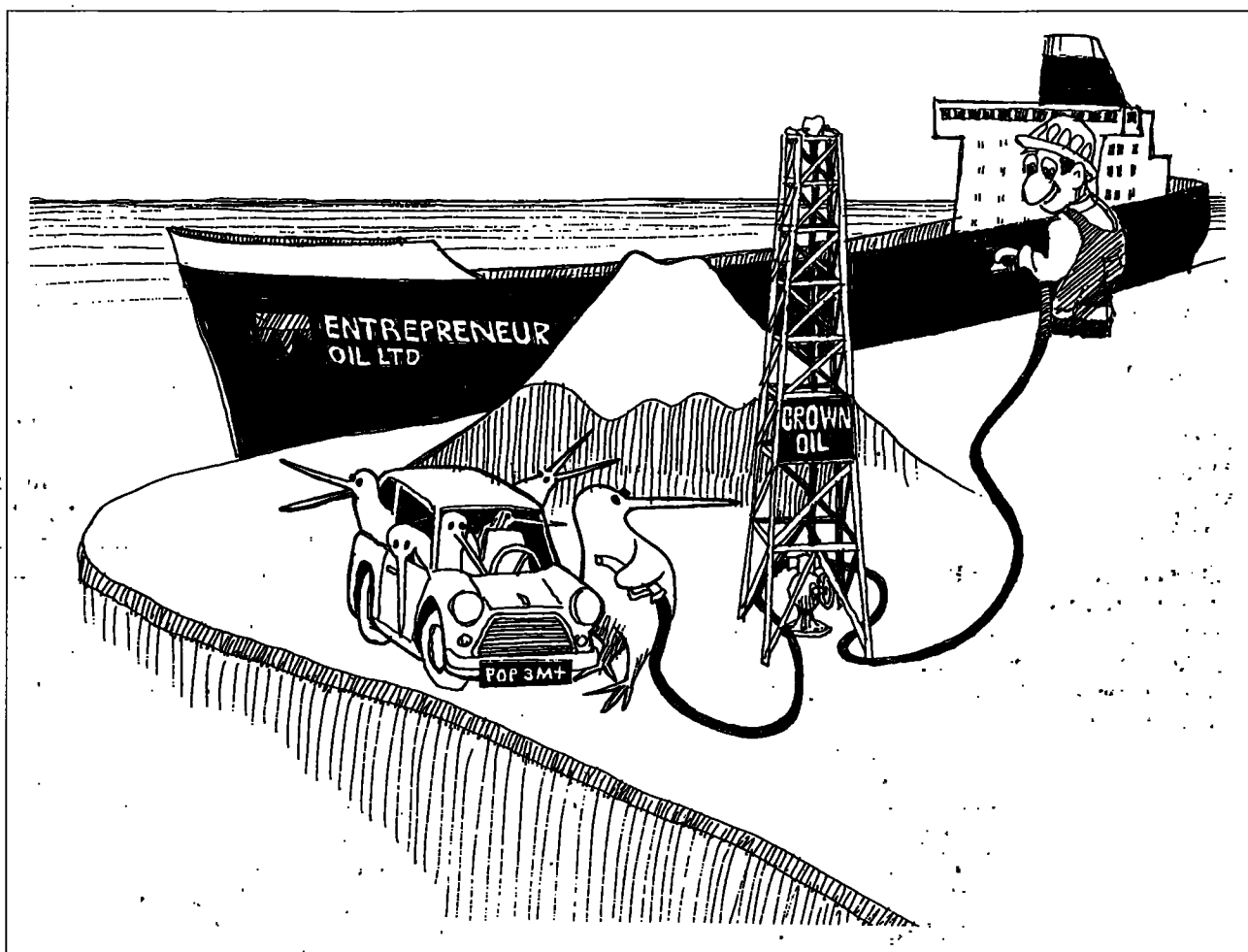
“Perceived geological prospectivity is of overriding importance. There would be no exploration industry without the prospect of discoveries being made.”

The point I make is that provided a nation's total government take can compete with takes of other countries in the region, the level it is set at, and just how that take is collected, is not critically important to potential explorers. Prospectivity is of overriding importance.

The chance to improve our prospectivity lies in drilling more wells. For that we need to provide a stable regime which is understood, and which works.

Since prospectivity is the overriding consideration, it matters little to potential explorers whether the government chooses to extract its take by means of a carried interest, or by some other means. In deciding on the appropriate mechanism, the Crown has only its self-interests to consider.

The second and final point I want to emphasise is that the Crown (or government) is required under the new Crown Minerals Act to obtain “a fair financial return from its minerals”. That to me is a challenge for us to go forth and ensure that the country as a whole prospers from any exploitation of its mineral resources. With this objective in mind, government is not dissimilar to the industry which has responsibilities to shareholders. Why should the government not behave in a like manner if it chooses to? Most of all why should the Crown accept criticism for doing what any other prudent mineral owner would?



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### Author

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