

# Policy directions for the petroleum industry

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## Introduction

The businesses of exploring for oil and gas in New Zealand, and developing, producing and marketing the resources discovered, are subject to a wide range of statutes and regulations. These arise from policy settings rooted in a framework that can be represented as “English common law”, but regularly moulded by progress and cycles of political philosophy. A useful summary of the history of petroleum law in New Zealand was presented at an earlier conference by Grinlinton (1996).

At the end of the “Maui Era”, government and industry participants and stakeholders must urgently recognise the emergence of some fundamental changes in the suite of factors within which both government policies and enterprise strategies are crafted. Laws and policies, and their clarity and integration, need to be fully appreciated for companies engaged in exploration, development and production to be confident in their investment strategies. Equally, optimal design and integration of government policies, and the laws, regulations, and structures that arise for the administration of these industries need to duly appreciate the domestic and global commercial environment that participants operate in. The general nature of New Zealand’s legal and political systems represent a strategic advantage that goes some way to compensating for the natural disadvantages suffered by a small economy remote from global markets.

There are many important policy issues impacting on the upstream petroleum industry in New Zealand at this time. Ideally, they need to be approached under a clearly defined set of umbrella principles. It is important that policies reflect the fact that the government has interests as owner of petroleum, in addition to exercising the power to regulate its extraction and tax the value derived from the resource.

As long as it remains undiscovered, petroleum delivers no value whatsoever to the nation. Therefore, policies should be directed at facilitating discovery and development. Through discovery and development of new oil and gas fields, New Zealand’s government will have new opportunities and flexibility in economic policy, energy policy, regional development, Maori participation and many other areas.

## Resources Policy

### Minerals Programme for Petroleum

Of central relevance at this time is the development of the second Minerals Programme for Petroleum, required under Crown Minerals Act 1991 to be promulgated by 1 January 2005 (being 10 years after the issue of the current, original Programme).

When the current Minerals Programme for Petroleum was drafted following the passage of the Act, in the early 1990’s, the prevailing political philosophy placed considerable faith in the efficacy of lightly or unregulated markets to bring forth supply when called for by consumers. Previous settings through most of the 20<sup>th</sup> century (until the change of government in 1984) had implicitly assumed a need for some sort of incentivisation for exploration, with specific instruments ranging from payment of a bounty, nationalization of mineral resources (to create a 1-stop shop for mineral rights, in effect), issuance of an effective franchise to large British interests, creation of a state oil company, and a wide range of tax incentives. All of these were considered improper and counter-efficient by the late 1980’s, with government interventions largely purged from all productive sectors of the economy, so the purpose of the 1995 Minerals Programme could only at best be to enable (but not promote) discovery and development. Given that it coincided with an era of excess energy capacity for the duration of a reasonable planning cycle, there was no counterweight from energy policy considerations to plead a special case, and an industry at probably its lowest ebb in terms of exploration and development investment activity perceived no case to argue for incentives.

In the current policy climate I suggest that we should review the purpose of the Minerals Programme (as the core element of resources policy) very carefully. The underlying statute incorporates in full the key provision of its antecedent the Petroleum Act (1937) in holding all oil and gas mineral rights for the Crown – strenuously defended by the present government in the face of a thoroughly researched report issued by the Waitangi Tribunal in relation to Nga Ruahine and others’ claim over petroleum mineral rights.

In summary, the continuing nationalization of mineral rights, justified in 1937 and now, probably quite validly, as necessary for the efficient operation of investment, requires the Crown to act as a rational owner in respect of that asset and *promote*, not merely enable, the realization of its latent value through discovery and development.

Of course, the goal of discovering and developing all of the resource existing in the realm will be tempered and in some cases either facilitated or constrained by legitimate laws and policies arising from other high-level policy settings.

## **Related policy areas**

### **Economic policy settings**

The present government has won two elections with the declared policy goal of elevating New Zealand's ranking (in terms of per capita GDP) in the OECD, considered to require an annual growth rate of not less than 4%. This is universally recognized as a very significant challenge, and the notion that it could be achieved through a simple transformation from a commodity export base to a hypothetical "knowledge economy" has subsided with the global demise of speculative technology investment propositions.

Government's 2004 Budget Policy Statement provides some broad detail on how economic policy will be conducted. That a word search of this document for "energy" fails to return a reference indicates perhaps that the importance of energy to economic performance at the national level is perceived as less than primary.

A vast proportion of the financial and human capital stock in the New Zealand economy is invested in enterprises that compete globally when competitively-priced energy is reliably available, and may not when it isn't. Therefore, to align with the economic goal in place, energy policy should be directed at assured supply and globally competitive prices for the nation's firms.

### **Energy policy**

Awareness of the decline of Maui gas deliverability compounded by repeated climatic constraint on New Zealand's hydro-electricity deliverability over the past 3 years has brought energy policy into a level of public and political interest unprecedented since the OPEC oil shocks of the 1970's. Sound and durable energy policy needs to be founded on a clear appreciation of indigenous energy resources however, just as economic development policy cannot neglect energy policy in the current circumstances (while it safely could and did a decade ago). The current sense of urgency in energy policy development reflects to a certain extent, a sudden awakening from a regrettable period of neglect of this obvious, if unfashionable, reality.

Current energy policy settings are complex, and lack clarity as to which of a range of goals are paramount. It has been explicitly left to the market – this industry, without any special incentives added or disincentives removed – to strike a balance that the economy was assumed capable of tuning to. More recently, the rude coincidence of "50 year" dry spells affecting hydroelectric capacity in both 2001 and 2003 has demonstrated the vulnerability of key sectors such as wood processing, and throughout the economy, and the significance of the downward redetermination of Maui's economically recoverable gas reserves has begun to be appreciated. Energy policy settings have proceeded to

fluctuate rather wildly and unhelpfully, with interventions of dubious value such as the establishment of an Electricity Commission, foreshadowed to assume a regulatory role in respect of gas, in the process becoming the Energy Commission.

Let's assume that standards of government in New Zealand are sufficiently strong for this episode of panic to be short-lived, and for a policy climate in which sensible interventions that will actually underpin sensible economic goals will ensue. Indigenous oil and gas resources have the potential to restore globally competitive energy for the New Zealand economy, but a significant increase in effort and investment will be required, and it may be too late to even hope that developed natural gas capacity can be sustained continuously at or above demand (considering that the capacity to manufacture and export methanol failed to secure about 50PJ of its gas feedstock requirements in the past year).

### **Research science and technology policy**

In renewing its Energy research portfolio during 2002, FRST demonstrated its recognition of the potential for and economic significance of undiscovered oil and gas resources, by increasing the annual funding for programmes conducted by the Institute of Geological and Nuclear Sciences and the University of Waikato. Under a separate, more targeted scheme, significant subsidisation of an evaluation of coal-seam gas potential by Coal Research Ltd on behalf of Kenham Holdings, has also been provided by FRST.

One concern I have with the operation of government's not inconsequential investment in knowledge to underpin resource discovery is poor targeting of results. More or less annual workshops such as that held in conjunction with this conference, and an impressive flow of scholarly articles largely in international academic publications not routinely or easily accessed by industry professionals, do not adequately arm those who can apply emerging knowledge in exploration and development. More effective use could be made of the internet, and of Crown Minerals systems, as a conduit. The autonomy of the major science providers and their academic culture makes for excellent research but often poor delivery to those intended to apply it effectively for the national as well as private good.

I believe there is a strong example to model in Australia's unified treatment of mineral and energy resources and the related science via the agency Geoscience Australia within the Department of Industry, Tourism and Resources). Through this agency, the Australian government has undertaken a thorough strategic review of the country's energy outlook and the potential for indigenous resources to contribute, and has allocated over A\$60 million to programmes, including substantial acquisition of new geophysical data, with the goal of catalysing the discovery of an entire new producing region, while also supporting a healthy existing industry to tap the full potential of existing producing regions as they have matured.

## **Competition policy**

Competition in New Zealand is governed by the Commerce Act (1986) which has been applied to the oil and gas industry on a number of occasions in recent years. A small economy creates some special difficulties in that market concentration is relatively easily achieved. There may only be room (turnover) for no more than 2 or 3 participants in a particular niche that might be occupied by a dozen in a larger economy. New Zealand's energy markets exemplify this, and consequently tend to be close to uncomfortable concentration of market power at best. During 2003, the Commerce Commission ruled after exhaustive deliberations to permit joint marketing of Pohokura gas. It is difficult to see how the alternative ruling would have meaningfully reduced concentration of market power, although it would have been manifest differently, adding pointless complexities to an already complex development planning process.

It is important in applying competition law that the subject markets are thoroughly understood. To date, little consideration has been given to what might be called the exploration market, as opposed to the production and wholesale markets which depend upon its effectiveness. The deficiency of capital inflows into this market was noted by Taylor (2000) and remains obvious from at best modest growth in activity levels. This cannot be ascribed to barriers to entry but rather to the strategic planning climate for the sector globally.

Timely access to market information is essential for markets to operate effectively. Conversely, confidentiality of key information is treasured and widely regarded as a fair advantage for existing participants. At present, exploration information is generally only released on request after 5 years or after the permit and any subsequent permit expires or is revoked or surrendered, whichever occurs first. The availability of such information as seismic data and well results following expiry or the surrender of the permit under which it was collected, provides for greatly enhanced effectiveness of subsequent exploration over the same area, and helps ensure very low barriers to entry.

Field reserves, as reported to government by field owners, have been published twice a year. Production information is released after 5 years, in the form of monthly returns. Access to more up-to-date and complete (detailed) field performance data would be of value to companies engaged in exploration, reducing uncertainty about prospect economics by analogy. It would also provide some basis for assessment of field reserves, and related uncertainties, that could improve the operation of downstream markets especially at the "large project" scale.

## **Regional development policy**

Notwithstanding many decades of sporadic exploration effort in several onshore regions and in various sectors of the continental shelf, the oil and gas industry has only taken root in Taranaki, where it is one of the cornerstones of the regional economy together with dairy production and processing (and in 2003, serving as a movie set for *The Last Samurai*). On geological fundamentals, several other regions

may eventually experience discovery and development, and the implications for their regional economies justify carefully-conceived instruments to promote a full evaluation of the potential. Ultimately, this can only be achieved when wells are drilled.

A discovery remote from Taranaki's infrastructure would face significant thresholds for commerciality, especially for gas notwithstanding rapidly improving price expectations. Industry is well aware of this risk, and only commits capital to exploration when large reserves and prolific reservoirs are indicated. Concessions are probably necessary, to break down the reluctance to explore the full extent of New Zealand's opportunity set.

## **Treaty claims**

Government has been emphatic in rejecting a formal claim to petroleum in spite of the sympathetic findings of the Waitangi Tribunal. This seems to reflect a perception that partial or full Maori ownership of mineral rights would be regarded by industry as a commercial risk or impediment and would thereby curtail exploration and development investment. This has not discouraged officials from indicating "capacity-building" policies and foreshadowing the construction of a parallel bureaucracy to impose cultural, but not commercial, interests of Maori tribes onto the operations of exploration, development and production.

Given the deficiency of capital into oil and gas exploration, combined with the financial strengthening of Maori entities as a result of grievance settlements and (in several cases, notably Ngai Tahu) successful investment performance, I wonder whether the potential undiscovered resources of New Zealand might not be realized more effectively with Maori participation than without it. The growth of New Zealand's fishing industry since its reform coupled with the transfer of substantial property rights to Maori entities may be salutary.

## **Environmental policy**

The cornerstone of environmental law in New Zealand (although not applying beyond the 12 mile limit of the Territorial Sea) is the Resource Management Act (1991). This statute replaced a myriad of poorly coordinated provisions and sought to streamline development proposals by subjecting them to "sustainability" tests by agencies mainly at local and regional levels. Proponents are required to identify all environmental effects of a proposed development or resource use, and avoid, remedy or mitigate any adverse effects on the environment.

The RMA has become widely criticized, but with criticism probably evenly balanced between those who feel its provisions are too strict and those who feel they are too weak. Undoubtedly there is considerable room for improvement in the performance of some agencies, but the essential features of the RMA should be persevered with, and ideally extended to the full continental shelf, under a new agency.

New Zealand's government is an enthusiastic signatory to the Kyoto Protocol. Increasing efficiency in energy use is also a key plank of current policy settings. Paradoxically, while globally natural gas is increasingly valued as an improvement on less clean fossil fuels by which a steady and achievable transformation to healthy economies with lower emissions of greenhouse gases and reduced energy intensity, New Zealand has failed to sustain our stock of natural gas reserves in spite of the strong indications of incomplete discovery. In neglecting the design and implementation of effective stimuli to discovery and development, New Zealand is left less well equipped than it could be to materially affect global energy intensity and adaptation to climate change.

## Conclusions

Government's policy towards the Crown mineral estate should move urgently from "enabling" to "promoting" settings. Measures to be developed and implemented should be examined closely to ensure optimal effectiveness.

The key impediment to appropriate levels of investment is a shortage of capital for exploration, reflecting the real risks involved. There are limits to the extent that these risks can be reduced through investment in technology and research, so while continuing to make appropriate investments in knowledge, and targeting the transfer of results, it will probably be necessary to induce investment through fiscal measures, in particular allowing the application of tax losses to offset profits earned more widely than at present.

Particular consideration should be directed at the effect of a complete lack of natural gas infrastructure away from Taranaki. It would not be prudent for government or industry to make such investment ahead of discovery, but measures to reduce the chronic risk of "stranded gas" in such situations as offshore Canterbury might include a zero royalty period tied to the quantum of capital investment required to render a first commercial development remote from existing infrastructure commercially viable.

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MAC BEGGS is a petroleum geologist and a Principal of GeoSphere, a Wellington-based company engaged both directly and as consultants in exploration for oil and gas in New Zealand, since 1997. His interest in the role of policy has been stimulated by membership of the Ministerial Advisory Committee on Ocean Policy in 2001, and occasional assignments for various ministries. Dr Beggs is Chair of the Oceans Programme for the Centre for Advanced Engineering (CAE).

New Zealand would do well to retain (and extend across our extensive continental shelf territory) the principles of effects-based environmental regulation, while imposing measures to ensure that bureaucratic processes are efficient.

The key to development and implementation of effective policies lies in the strength of the public service – the quality of the people and also of the systems and structures. At present, Resources and even Energy are unduly remote from the hub of public policy structures. Government's economic growth goal and the social and environmental goals that depend upon it are imperilled until the security of supply and competitive cost of energy to enterprises in our economy are placed much more centrally in the policy matrix. The potential to discover, develop and leverage the value embodied in the under-explored Crown mineral estate would inevitably emerge from such a shift as a focal area for high-impact policy development.

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## Acknowledgements

Helpful comments on this paper have been made by Peter Whitehouse, Professor Barry Barton, and Kristina Temel. Discussions with Glenn Thrasher, Mike Patrick and Clyde Bennett have also contributed.