

THE CHALLENGES OF INTERNATIONAL GROWTH AND COMPETITIVENESS

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Honoured Guests, Ladies and Gentlemen:

I want to express my appreciation for the invitation to be a keynote speaker at this 1989 New Zealand Oil Exploration Conference. Not only am I honoured to have the privilege of addressing such a prestigious audience, I am also delighted to have an opportunity to visit this beautiful city of Queenstown and the South Island.

My first association with New Zealand goes back approximately two years when I joined TCPL Resources and became involved in their programme in the Taranaki basin. The Company's local history goes back to 1985 and has primarily been centred around the Kupe South discovery, which I will comment on in more detail later.

I would like to extend my congratulations to the Conference Organizing Committee, which I understand primarily consisted of the Petroleum Unit of the Ministry of Energy. Additional acknowledgement is extended to the Petroleum Exploration Association of New Zealand, for sponsoring the Conference. This Association is a recently reorganized group of local oil companies with common interests in the exploration, production and marketing of petroleum in New Zealand. The group has been increasingly active and should serve as a strong voice of the industry.

I further congratulate the Organizing Committee for the excellent programme they have put together, both technically and socially.

Developing a Keynote Address around this year's Conference theme of *Toward Maturity, An Industry in Growth*, causes one to focus initially on the current state of the industry, both locally and globally. One definition of maturity is given as *having attained the normal peak of natural growth and development*. In this context, the local industry must be prepared to face the challenges of international growth and competitiveness to achieve a state of maturity. The goal is admirable, but it will not come easily or quickly.

Throughout these three days, you will be considering in some depth many of the issues facing the oil industry both in New Zealand and globally. In my address, I will look at some of the challenges facing the industry locally and try to place them in the context of the world energy scene. I will not attempt to present a crude oil price forecast as it appears that the previous zeal in this area has abated somewhat recently. In any event, industry attention will be focused on the forthcoming OPEC Price Monitoring Committee meeting following which we may all have a better forecast of future developments.

GLOBAL INDUSTRY ACTIVITY

Let us first look at the industry issues in a global sense.

Low oil prices have become entrenched in the market place. The pursuit of market share has led to a retreat from policies that stressed the protection of both volume and price and a shift to policies that no longer aim at defending the \$18 barrel. Market share within OPEC is the key. The low price environment is having profound impacts on all segments of the oil industry and is forcing shifts and adjustments in the strategies and positions of all participants.

The low price environment has forced companies in all segments to reposition for the future. Overall, the persistence of a low price environment has promoted consolidation. Virtually every company has gone through an intense contraction involving extensive cost-cutting. The contraction has been a response, first of all, to reduced cash flows and revenues. It is also a reaction to uncertainty, the expectation of price volatility, and the demands of the financial markets. Companies continue to put highest priority on controlling costs, as reflected by leaner staffs, greater operating efficiencies and more cautious exploration and development strategies.

Current rig activity in North America continues to remain exceptionally low. In the U.S. the number of working rigs is just over 900, far below the peak of nearly 4000 earlier in the decade.

In Canada, approximately 25% of a 504 rig fleet were working in August. This compares with full year averages of 40% in 1987 and 45% in 1988. No immediate improvement is expected.

The buying and selling of reserves and the acquisition of exploration and production companies became noteworthy following 1986. The collapse of oil prices in 1986 constrained all companies' cash flows substantially, although the subsequent reduction in capital spending provided many larger companies with substantial amounts of cash to use for acquisitions of either reserves or companies, or to acquire their own common stock. Many companies, both large and small, have sold reserves or have announced plans to sell reserves. The major reasons for selling are:

- (a) Inadequate return on invested capital.
- (b) Need to reduce debt.
- (c) Expectations that oil prices will remain depressed.

During the first six months of 1989, a total of \$7.5 billion of oil and gas assets changed hands through mergers and acquisitions in Canada. This is in excess of two times the full year's exploration and production budget for the country. In

addition, it is estimated that approximately 30 companies are offering a further \$3.6 billion in assets for sale. The prices are believed to result in reserve sales in the range of \$4-6 per BOE.

Mergers and acquisitions are tending to diminish drilling activity in two ways. First, they require the allocation of critical resources competing with other uses, namely, management time and money. Secondly, the new, larger companies have more reserves than their components did and can afford to be more selective with regard to areas they choose to explore and develop. Recent mergers and acquisitions have already reduced drilling activity in this way.

ROLE OF NATURAL GAS

The saving grace of drilling activity in North America in the next few years may be the increased attention being directed to gas markets. Exporters will need to establish and maintain reserves in order to handle increased contract volumes and this could lead to substantial growth in drilling for natural gas.

The emerging role of natural gas as an energy source is expected to be significant. One of the reasons is an increasing concern in the U.S. about growing reliance on oil imports. U.S. oil imports accounted for more than half of the nation's total petroleum needs in July, marking the first time in twelve years that oil imports have surged that high. The API reported that oil imports in July rose to 8.5 million barrels per day, or 50.4% of total U.S. consumption. During the first half of 1989, the U.S. produced an average of 7.8 million barrels per day, the lowest six-month average in 25 years. It is very evident that when imports increase, exploration decreases. With imports over 50%, the issue of an import tax is likely to surface once again. It is claimed by some that an import tax would stimulate conservation and oil development, but, more important, it would stimulate greater demand for natural gas, which is more abundant than oil in the U.S.

The Department of Energy estimates that over a three-to-five year period gas could back out daily consumption of over a million barrels of imported oil, much of it in industrial use in the Northeast. Thus, gas is emerging as a critical, strategic fuel for the 1990s. It also is emerging as an environmentally sensitive fuel for the 1990s as environmental concerns amount. The U.S. Department of Energy estimates the U.S. will need 100 gigawatts of new generating capacity by the year 2000. This is the equivalent of 45 nuclear plants over 10 years. However, there has not been an application for a new nuclear facility in over a decade. Since 1972 more than 100 planned nuclear plants have been cancelled. It is clear that nuclear power will not be able to meet the need for new generating capacity.

These factors, concerns about national security, the environment and the need for electric power generation, all point to an expanding natural gas market.

CRUDE OIL SUPPLY AND DEMAND

In spite of the energy situation as reported in the U.S. world production of crude oil and equivalent rose some 4% last year to its highest annual level since 1980 while

consumption increased 3% to its highest level since 1979, according to BP's annual statistical review. The most rapid growth in energy demand occurred in the industrializing countries of Southeast Asia where consumption leaped by 11%.

North America was the largest consumer of oil in 1988 at some 29% of total world demand, of which the U.S. consumed 26.5%. By comparison, Japan consumed about 7% of total world demand and the Communist world 22%.

By contrast, North America produced only 18% of the world's output as U.S. production declined nearly 2% from 1987 to about 9.7 million barrels a day.

Middle East countries accounted for about 24% of total world production of 62.2 million barrels a day. Asia and Australasia (non-Communist) only produced 5% of the world's output, however, the same region consumed about 15% of total world oil production.

According to the statistical review, total proved reserves of oil have increased from 464 billion barrels in 1968 to 917 billion barrels in 1988, with some 66% of the growth occurring in the Middle East and 21% in Latin America.

The Middle East held over 62% of the world's proven reserves of oil while the U.S. held close to 4%. The reserves life index for North America is about 10 years while for the Middle East it is in excess of 100. As the industry prepares to enter the 1990s, it is increasingly apparent that the role of OPEC will once again become strategically significant in relation to total world oil production.

OPEC STRATEGY

Let us now look briefly at the status within OPEC as it prepares for the September Price Monitoring Committee meeting and the expected Ministerial meeting in late November-December.

The June, 1989 OPEC agreement is a temporary but satisfactory compromise to the OPEC meeting debate over how to allocate the quotas. Key elements were:

- (a) A 19.5 mbd quota: an additional 1.0 mbd over and above the previous quota distributed on a *pro rata* basis.
- (b) A redefinition of the price objective as a price reference and keeping \$18 as this reference.
- (c) A Ministerial Monitoring Committee would meet in September to review marketing conditions and reopen the discussion of how to administer the quota allocation process.

Special cases were involved whereby certain countries could produce above their quotas as long as they stay within reasonable limits.

The key issue for the September meeting remains how to decisively allocate increases in the quota and how to deal with the special cases. The outcome of the quota debate will be an important indicator for the oil market for the short and longer term. The period between the September and November-December meetings could be a turning point for the oil market as it will focus on a few countries, particularly Iraq, Kuwait and Iran, which could demand significantly higher quotas than any *pro rata* increase will allow. Thus,

it is important for Saudi strategy to continue to hold onto the concept of *pro rata* increase because it is the country that would suffer the most if this method is abandoned.

Longer term, the question becomes at what level of production do OPEC countries feel comfortable and at what level will *stability* occur? OPEC will make every effort to establish the volume that could at least move price in the direction of the \$18 reference price, but OPEC's new job is to set the volume.

OPEC can approach these issues with a greater degree of confidence for it has recorded significant gains from its market share strategy. It has increased its output by upwards of 5 mbd: a 30% increase since 1985; and for the first time in four years, its earnings will be above \$100 billion, and perhaps not far from the pre-crash level of 1985.

The comments presented to this point do not paint an optimistic scenario for domestic exploration in North America. Near term decisions expected by OPEC are not likely to have a positive impact on companies' exploration budgets at home. In Canada, rationalization and consolidation of properties continues. Expenditure and staffing cut-backs continue to be prevalent. Where is the future for many of the more active companies?

Many companies are contemplating a greater emphasis on the international aspect of the oil and gas business. Generally, it is considered to be more economical to explore in overseas locations when considering reserves potential and overall finding costs. The existing price environment can, in most cases, support a long range worldwide exploration programme. The emphasis on larger potential plays, although higher risks, is expected to increase.

ACTIVITY IN NEW ZEALAND

One may now ask, "How and where does the industry in New Zealand fit into this global picture?" What are the challenges and opportunities for the local industry?

The New Zealand energy market is very small in international terms. Being an agriculturally based economy the industrial energy use is small. With a temperate climate and a sparse population the domestic use is also small.

Despite a petroleum history of over 100 years, it is only in the last decade that interest has increased in exploration activities. The MOE considers six of 12 sedimentary basins to have potential with only the Taranaki basin being extensively explored to date. Prospecting licences have, however, been awarded recently in the East Coast area and parts of the South Island.

MOE statistics indicate that a total of 56 exploratory wells were drilled in New Zealand in the period 1980-87 for an average of seven wells per year. This relates to a total of 31 prospecting licences held in 1987, or approximately one well for every four to five licence areas. The number of licences held in 1988 is listed at 49, thus an increase in drilling activity should result if work programmes have firm drilling commitments.

Offshore licences were first granted in 1965 and a total of 60 wells were drilled by the end of 1987, of which 42 were in the Taranaki Basin. The Maui field, discovered in 1969,

remains the only commercial offshore field to date. All of New Zealand's commercial hydrocarbon discoveries have been made in the Taranaki Basin. A total of seven onshore petroleum mining licences are effective in this region.

New Zealand reserve life indices are roughly estimated at 12 years for liquids (crude oil and condensate) and 22 years for natural gas. Reserve totals as projected for the Waihapa and Kupe South fields are not included. The estimated indices assume a daily production rate in the order of 30 000 barrels/day of liquids and a gas rate of 180 petajoules per year.

For liquid fuels there is, at the moment, virtually no economic replacement for oil. Current oil reserves in New Zealand are relatively small and cannot supply all of New Zealand's needs. Domestic crude and condensate production averages in the order of 35-40% of domestic consumption. Crude oil imports in 1987 averaged approximately 35-40 000 barrels per day with oil consumption about 55-60 000 barrels per day.

Unless new discoveries are made, the dependence on foreign oil supplies will continue to increase. The MOE report *ENERGY 88* forecasts an oil demand of 75 000 barrels per day by the year 2000, with the total indigenous supply at this time forecast at some 22 000 barrels per day, with the shortfall continuing to increase thereafter. Supply totals are made up of crude oil, LPGs, condensate and synfuels.

This same report forecasts a delivered energy demand in the year 2000 of 430 PJ/year of which the annual gas use is forecast to be 170 PJ. Coal use is forecast to average 100 PJ per year over the period 1990-2000. The study results indicate that no immediate action is necessary to find replacement energy sources for domestic coal or natural gas. Even the lower estimates of Maui gas reserves would not see the need for a replacement for the Maui field until early in the next century. Unfortunately, the same is not true for crude oil supplies. To be fully self-sufficient in the year 2000 in accordance with the *ENERGY 88* report, forecasts would require an additional annual production volume of 20 million barrels of liquids. With a continued minimum annual shortfall of this magnitude, the cost of importing crude oil and refined products will become significant, even at today's prices.

Previous oil shocks demonstrated the vulnerability of New Zealand to disruptions in supply of petroleum resulting from pricing effects. The discovery and development of additional petroleum resources has a major economic significance for New Zealand as it does for most other countries, in terms of savings in overseas funds for imports, employment creation and long term security of supply.

The solution to this concern can be stated quite simply. New commercial oil discoveries must be made. This will require substantial amounts of capital to be expended while a significantly larger exploratory drilling programme than in the past must be undertaken. Of course, no guarantee of success exists.

REQUIREMENTS TO SUPPORT EXPLORATION

In today's competitive global scene, how do you encourage companies to explore in New Zealand? What do companies look for before entering into a new environment? An attempt will be made to identify some of these areas in the

local context. The attractions necessary to pursue new exploration ventures will be reviewed individually in no specific order of priority.

Attractive geology and prospective acreage with hydrocarbon potential

By comparison with other countries, New Zealand is relatively immature and unexplored. Only the Taranaki Basin has been explored to any extent and considerable prospective acreage still remains in this area. More well control is required to enhance the knowledge of the large unexplored areas.

Unfortunately, New Zealand is seen to be primarily a gas prone province and particularly offshore. Until such time as a significant oil discovery is made offshore, this image will likely persist. With little, if any, near term market for natural gas, the prospects for sustaining a large scale, aggressive offshore drilling programme are not positive. Any further disincentives to commercial or fiscal terms would only add to the risk of exploration. Terms must be favourable to promote an increased level of drilling. Licence awards should encourage work programmes with firm drilling commitments and minimize seismic option bids where no wells are to be drilled in, perhaps, the initial three year term.

Rights and constraints of access to prospective acreage

Related to Resource Management Law Reform discussions, the granting of a prospecting licence should carry with it certain rights of access to areas of land, either onshore or offshore, which are vital to exploration activities. If central government is to allocate these areas, they must ensure mechanisms are available, with necessary precautions and safeguards being taken, to access and assess the acreage. Relinquishment terms should be reasonable yet stringent to the point where an active work programme is encouraged. Otherwise, critical areas should be excluded prior to the bidding process being implemented.

ENVIRONMENTAL

I expect most people are familiar with the publicity surrounding the application of TCPL Resources to drill an offshore exploratory well in the Sugar Loaf Islands Marine Park adjacent to New Plymouth. Allow me to make a few comments on this issue since much has already been said and hearings have taken place.

New Zealanders place a high value on the environment they live in. This is understandable and accepted. I notice from the Conference Programme that various excellent papers are scheduled later today in relation to environmental topics particularly related to activities in New Zealand. I look forward to hearing the presentations and I expect there may be some reference to the sensitive TOKA-1 well I referred to.

While the environmental concerns are genuine and widespread, there is also a growing realization that oil and gas exploration has the potential to further contribute significantly to New Zealand's economy and that, if properly managed, it can take place within acceptable environmental standards and not at the expense of other concerns.

Oil spillages during exploration and development of oil and gas resources are rare. Tankers, not offshore exploration, are generally the cause of most environmental problems offshore as seen by the recent *Exxon Valdez* accident. To assert that the potential for a spill, no matter how remote, is justification for total exclusion of exploration activity is simply wrong.

Considerable expenditures have been made with the understanding that access for drilling was available over the entire prospecting licence. The Joint Venture is merely pursuing the rights granted under the licence. Necessary and proper environmental impact statements and oil spill contingency plans have been filed, public hearings have been held and at present, it remains to the regulatory authorities to determine what future course of action will be approved. The industry has maintained a long term commitment to responsible environmental management.

Rights and constraints to development of a discovery

Any decision to proceed with a development project will be a function of the existing fiscal regime. Regardless of the potential size of a discovery, the economics of development must be positive and should result in a mutual benefit to both the government and licensee. Critical terms must be definite enough that the exploring group can proceed with confidence, knowing that success should lead to eventual reward. At present, the terms for development in New Zealand are quite acceptable. However, the outcome of the proposed changes to the petroleum tax legislation and the Resource Management Law Reform issues will likely have a strong bearing on future considerations. The ongoing uncertainty in these areas is cause for concern.

MARKET AVAILABILITY

The availability of a ready market for any discovered reserve is a key consideration in assessing exploration activity. At a time of financial constraints, no company desires tying up considerable exploration and appraisal funds knowing that any resultant cash flow could be delayed indefinitely. Offshore gas discoveries in New Zealand are currently faced with this concern. Domestic markets are not available for the size of reserve necessary to justify an offshore development. LPGs are in a similar position.

Gas fields are characterized by the fact they they are usually located at some distance from the potential customer, transportation costs are thus higher, longer lead time is required to develop a gas field, investment is generally higher and thus longer time is required for its delivery commitments.

The Kupe South discovery referred to at the outset is basically in this position. Adequate domestic markets do not exist for either the gas or the LPGs. Present reserves do not support the substantial investment for export facilities. Further drilling is expected to take place in early 1990, both to prove up additional reserves and to evaluate new prospects prior to licence expiry in February, 1991. Timing of development, however, remains in question.

Available local resources and infrastructure to support a work programme effectively

Capable resources and local infrastructure tend to have a habit of becoming available if the activity level in an area is

high enough. To date, this has not been the case in New Zealand. It is accepted that smaller programmes have been completed effectively, albeit, at premiums to similar programmes in other countries.

Some of the resultant local disadvantages are:

- (a) The geographic location of New Zealand results in higher costs for goods and services required in the industry as maintaining inventory for short programmes becomes expensive.
- (b) Resultant equipment mobilization and demobilization costs become exorbitant. A recent estimate to mob and demob a drilling vessel from the U.S. Gulf Coast approximated US \$5.0 million.
- (c) The low level of activity results in a very limited level of competition in the service industry.
- (d) Very long lead times are required to starting up a programme.
- (e) The need to import supply vessels and the resultant terms of local unions makes final vessel operating costs some of the highest in the world with the possible exception of Australia.

All of the above contribute to a more costly programme than most other international areas. As a result, the prospectivity must be higher and related fiscal terms must be favourable to offset the accepted operating disincentives.

Political stability

Local political stability has not been a major concern in the industry although the *degree* of stability at present may be questioned by certain groups. Any forecast for substantial growth in the industry will require this stability and the removal of various uncertainties. I again refer to the outcome of the proposed petroleum tax legislation changes and the final recommendations of the Resource Management Law Reform. What would be the effect and outcome of these proposals if the government changes at the next election? The recent absorption of the MOE into the Ministry of Commerce raises some concern in the industry. The industry supports a stronger and more visible role for the MOE. Past relations with the MOE Petroleum Unit have been excellent and if the industry is to grow and mature, a separate ministry with proper authority levels is mandatory.

With the current state of oil and gas exploration, the need for regulatory changes should be closely considered unless they are seen to definitely have a positive impact on industry activity.

Favourable fiscal regime

It has been said previously that if the commercial or fiscal terms in any one country are unrealistically onerous, obviously the industry is forced to concentrate elsewhere. The risks, after all, are high. Too rigid a fiscal regime, wherever it may be, is bound to discourage foreign contractors from undertaking exploration for the more risky, higher cost fields. Fiscal terms need to be flexible enough to accommodate the rapid changes in key aspects of an industry like ours.

What are some of the key areas currently under review within the local industry? Firstly let's look at the taxation system. I note that the area of petroleum taxation will be covered in a paper to be presented on Wednesday morning.

TAXATION LEGISLATION

Numerous submissions and reviews have been undertaken by both industry and government since the Consultative Document on Petroleum Mining Taxation was released in January, 1987.

Certain specific areas warrant comment at this time.

- (a) The reduction in the corporate tax rate was positive.
- (b) The concept of ring fencing was not imposed. Again, this was seen as a positive sign within the industry and is certainly legislation which should encourage local companies to participate in exploration.
- (c) The withdrawal of certain tax proposals following the Select Committee hearings gave the industry a further opportunity to review areas of concern with the various ministries.

Areas of concern that are still outstanding and could have a serious impact on industry activity are:

Deduction for exploratory well expenditures It would appear from latest proposals that this issue continues to have differences of opinion. Further consultation is being scheduled with the industry to review the latest proposal.

Farm-out arrangements Any application of capital gains tax legislation to work programme farm-outs should be re-considered. Farm-outs are undertaken to spread the risks and to share the costs of exploration and not for the purpose of disposal of assets. Any gains which may eventually be derived from successful operations are usually fully accounted for under the applicable tax system.

Seismic acquisition costs These costs should also be considered for immediate deductibility as there is no guarantee that any success or income will be generated from its acquisition.

Earlier this year the MOE Policy Division published a study on Resource Allocation and Rent Recovery. Many of the findings are of particular interest to the petroleum sector. Several of the key new issues addressed were Cash Bonus Bidding and rent recoveries with an emphasis on reviewing a possible Resource Rent Tax.

Cash Bonus Bidding Since much of the available acreage in New Zealand comprises inadequately explored frontier acreage, Cash Bonus Bidding is not likely to be the best approach in these areas. The system is primarily effective in very competitive situations characterized by extremely high prospectivity. It may disadvantage small investors of which there are many in New Zealand. Implementation of such a system at a time of low oil prices is not considered attractive.

The current system of Work Programme Bidding should be retained to encourage additional drilling.

Resource Rent Tax Where industry sees it as an excess profits tax, government (specifically Australia) believes it is the most efficient mechanism for deriving, for the community, an appropriate share of the large returns that can be associated with the development of particularly rich mineral deposits. Many other arguments exist on behalf of both sides relative to RRT, however, a proper analysis of the specific local industry conditions combined with

consultation with the industry should be undertaken prior to legislating any such change.

Resource Management Law Reform (RMLR) Following numerous public submissions filed earlier in the year, the Government issued its report outlining recommended proposals for RMLR. The results of this review will affect the lives of all New Zealanders. In addition, it will have a significant impact on all firms and corporations involved in the resource industries. It has been suggested that the impact on the petroleum industry will be minimal. Legislation relative to the petroleum sector should be addressed separately from the mining sector and should not be influenced in any way by the requirements for change in the fiscal regime as it relates to such areas of coal, gold and geothermal operations. It is understood that the Government is now to review a transition programme for effective implementation of the proposed new law. Considerable uncertainty and speculation continues to surround this massive country-wide undertaking. The Petroleum Exploration Association has submitted a very detailed report commenting on the proposals. It should be given serious consideration.

CONCLUSION

In making this presentation today, I have attempted to look at conditions within the local and global energy scene that could influence exploration and production activity in New Zealand.

Can the industry succeed in growing to a state of maturity?
Will the fiscal regime support new activity?

I believe very few changes are necessary to the existing regime as it relates to exploration. Attempts at new legislation, speculating on success, may be somewhat premature. The goal must be towards achieving an increased drilling presence, for until a significant offshore oil discovery is made, any foreseen disincentives will make it difficult to establish an aggressive exploration programme.

Scarce risk capital will go to those countries whose fiscal terms are flexible enough to maintain an incentive for higher risk exploration. I believe there is much the industry and government can do to help each other. Consultation is necessary. Private industry has the will and the resources. We can meet the challenge of growth and competitiveness and reach maturity together.