The Maui Gas Contract - Benefit or Burden? A Seller's Perspective

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Abstract

Over 80% of New Zealand's gas is sold under the 1973 Maui Gas Sale and Purchase agreement between the Crown as buyer and the Petroleum Mining Companies holding equity interests in the Maui field as sellers. Since the contract was signed fundamental changes have occurred in the envisaged end use of the gas produced, the structure of the New Zealand gas industry and State involvement in hydrocarbon exploration and production. Consequently the contractual terms and risk sharing mechanisms were designed for a very different environment from the present providing unanticipated benefits and burdens to both buyer and seller. The author argues that, whilst the Maui contract has undoubtedly played a critical role in enabling the development of New Zealand's gas resources, the future stability of the industry would be enhanced by its early renegotiation. In particular it is suggested that the time is ripe for the Crown to step aside from the contract and for direct contractual relationships to be established between the gas producers and the principal end users.

Introduction

This paper has been prepared for the 1998 New Zealand Petroleum Conference on behalf of Shell Petroleum Mining one of the sellers under the Maui Gas Contract and should not be taken as representing an agreed position of the Maui Joint Venture. In the litigative environment in which we work it is perhaps also prudent to add that the views expressed are without prejudice to positions that Shell Petroleum Mining may take in any current or future dispute. However with these two disclaimers it is hoped to offer a candid view of some of the benefits and burdens of the operation of the Maui gas sale and purchase contract from a seller's perspective.

The paper begins with a brief account of the background to the Maui Field development because, to understand some of the problems associated with the Maui Gas Contract, it is important first to understand the environment in which it was prepared and the changes that occurred between its conception and its adolescence.

Following this a brief summary of the key rights and obligations imposed by the contract will be given.

The bulk of the discussion, however, is concerned with the mechanisms adopted to assign risks under the contract and addresses the question as to whether the results of these mechanisms have been equitable.

The paper concludes with a review of potential future problems in the Maui Contract and a consideration of alternative direct contractual relationships between buyers and users of Maui gas.

Field Development Background

The Maui Field was discovered in 1969 and appraised by three wells. Independent expert advice estimated the proved and probable reserves at that time to be around 5500 PJ.

For three years negotiations continued for sale of gas by Shell BP and Todd to the Crown but no agreement could be reached on a price and risk profile acceptable to both the buyer and seller.

Finally in 1973 a deal was formulated whereby the Crown would take a 50% interest in the field itself and the new joint venture would be responsible for both the Upstream development and delivery of gas through a land pipeline with a delivered price at its destination of 37 cts/GJ. This figure is equivalent to about $1.90/GJ in 1998 dollars.

One of the key problems in all the deliberations was the usage of these volumes of gas. The reticulated market at the time was well served by gas from the Kapuni Field.

The New Zealand Government concluded that development of a petrochemical industry was not economically feasible and the only possible course of action would be development of gas powered electricity generation.

In return for the development of the gas field by the new joint venture the Government committed Electricorp to the construction of three power stations. As we now know things did not turn out like that. The economic downturn of the late-1970s intervened and the critical Auckland 1 and 2 power stations were cancelled. This had many dramatic effects on the deal that had been struck between the mining companies and the Crown which has significantly altered the balance of many of the risks envisaged.

Firstly the pipeline was cancelled from Huntly to Auckland together with the planned compression stations. Whilst this might at first appear as a windfall benefit for the oil companies this paper will discuss the planned and actual investment profiles later.

Much more significantly, the take up of gas was far less than anticipated resulting in the Crown paying for gas it couldn't use and the mining companies receiving far less condensate then envisaged and hence much less revenue than they had assumed in their original investment decision.

The second platform was deferred by over 10 years a further major factor in the balance of risks to which we will return later.

The delivery profiles in the pipeline were also radically changed where 87% of the gas was originally going to be delivered north of Huntly. Perhaps more importantly all the contractual details relating to deliveries, nominations, daily and seasonal swings etc which were designed with specific large generating plant in mind suddenly became applicable to new uses and customers of gas such as petrochemical companies who had no part in their original design.

Key Rights and Obligations

Like most contracts the Maui White Paper puts obligations on both the buyer and seller and specifies particular rights that seller reserves to itself.

The buyer under the Maui Contract really only has one simple obligation and that is either to take or to pay for specified annual quantities. Clearly the buyer envisaged and indeed promised to build power stations but this did not form part of the contractual arrangements. Consequently the seller has no recompense for lost condensate income in the case of low gas production nor any contractual means to ensure a particular physical offtake.

The seller's principle commitments are also relatively simple to summarise. The seller has to be able at all times to satisfy buyers "good faith" delivery nominations up to specified maximum daily amounts. The words good faith are very important here because it ensures that buyer cannot nominate quantities of gas he is not able to lift and hence sellers obligations to deliver a particular daily quantity are dependent on buyer's ability to consume it.

The reservations that seller is given under the Maui Contract are also very important. The seller is allowed to use gas for his own purposes he can extract any components from the gas for sale as liquids and he is free to dispose of those liquids and condensate as he pleases. Very importantly part of the agreement that the Crown struck with the oil companies was to permit condensate to be sold to the New Zealand refining company at world prices. Quite normal nowadays but seen as a valuable concession to seller at the time.

Finally the seller is allowed to sell gas in excess of his future obligations under the Maui Contract to third parties.

Risk Sharing Mechanisms

The issues discussed in this paper are:

- Gas Price Risk
- Cost Risks
- Reserve Risks
- Market Risks

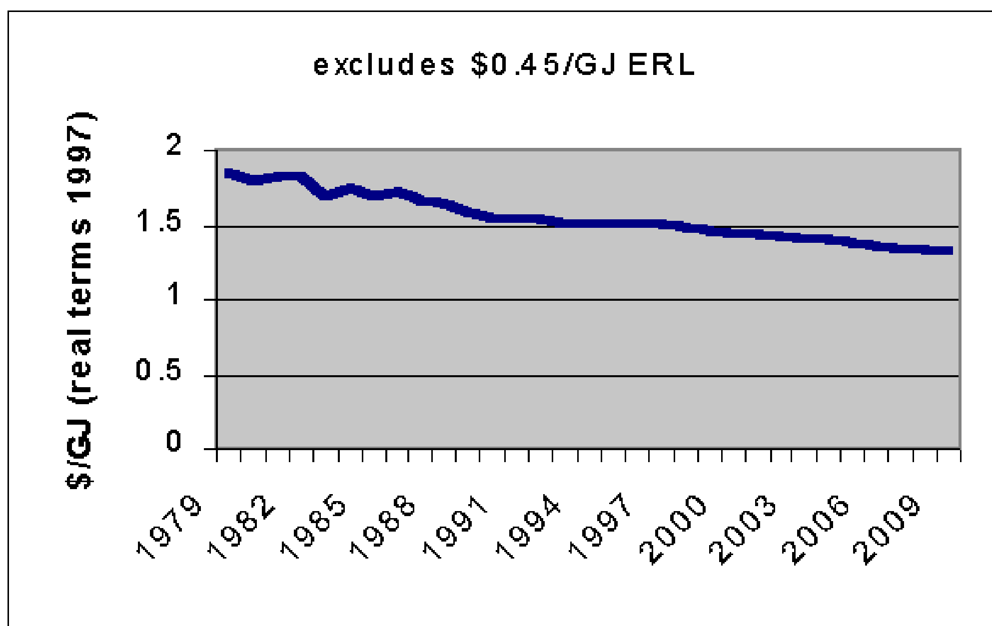
The ex-ante mechanisms adopted are all relatively simple but it is their effect from an ex post point that are worthy of review.

Gas Price Risk

The gas price was effectively set by what the market could bear based on the cost of electricity generation. The figure of 37 cents has been mentioned already and the fact that its value then (fixed in 1975 terms) is equivalent to around $1.90 today. There is no doubt the oil companies thought of this as very low by comparison with landed North Sea prices which would at the time have been around 50% higher. It is important to bear this in mind when looking at some of the other concessions that may appear to have been made in favour of the oil companies and to note that, on the gas price alone, the oil companies did not feel they were getting the return to which they were entitled.

The partial inflation increase is also a significant problem for the seller as the value of his gas is decreasing every year. The clauses dealing with this are quite lengthy and the price adjustment calculations look complex. It is suffice to say here that in effect the gas price inflates by half of inflation if inflation is less than 6% and at 3% less than inflation if inflation is more. As illustrated below this leads to a fall in the real value of the gas price year by year starting at $1.80 in 1978, passing through its current level of $1.50 in 1998 and declining further in the latest year of the contract.

The problem with this is that it gives the wrong pricing signals - the value of an increasingly scarce resource should be increasing with time and not decreasing. Whilst indeed the oil companies were prepared to enter in the development of Maui at the original price further development would not be attractive at the prices today. Indeed Mangahewa cannot be developed at these prices. Kupe cannot be landed at these prices and the scope that certainly exists for exploration in the Maui and Kapuni licenses cannot be fully exploited at these prices.



Gas price excluding ERL (real terms 1997).

Cost Risks

Given the low fixed price the mining companies were concerned about their ability to re-cover cost overruns and the risks of cost changes were subsequently settled by the process of the "Post Facto Review". Essentially one year after the completion of construction of the second platform a comparison would be made of the inflation adjusted actual costs and expenditures with any overexpenditure being repaid by the Crown to the mining companies and any underexpenditure repaid by the mining companies to the Crown.

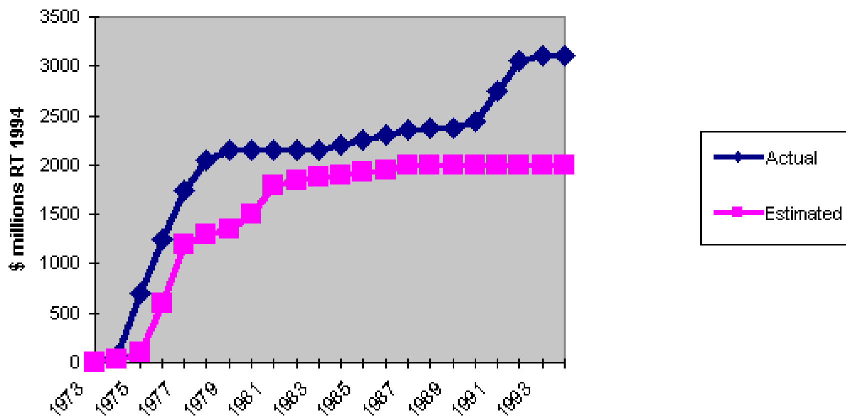
An unusual and uncommon clause by any measure but when looked at from 1973 not an unreasonable or a biased one. The purpose - one thing about the post-facto review that the Crown and the mining companies are in full agreement - was to account for non-inflationary changes in expenditure ie real terms increases and decreases not caused by general inflationary or deflationary price movements.

Certainly the mining companies were eager to see the inclusion of this clause because of the experience in the North Sea of cost overruns and the harshness of the New Zealand offshore environment.

The Crown on the other hand back in 1973 felt that the development costs had been grossly inflated to suit the oil companies price arguments and they wanted the chance to take back part of the windfall that those companies might make if costs were indeed less than imagined.

Up front however it is clear no one realised just how differently things would turn out from expectation and assumed that this would all be settled after the second platform had been completed in 1984 with a payment of perhaps a few million dollars between the parties.

This is not what happened in practice and the graph below compares the actual and planned investment profiles.



Actual and estimated investment profiles.

The project took 10 years longer to complete than originally envisaged with the second platform deferred to 1994. Overall in inflation adjusted dollars the mining companies spent more than $1,100 million in real terms than estimated. If the time value of money is taken into account the situation for the mining companies is even worse despite the second platform deferral - because already in 1978 they had spent more on the first platform and the pipeline to Huntly than had been budgeted for both platforms together, the pipeline to Auckland and pipeline compression.

This is not an achievement of which one should be particularly proud nevertheless the risks of serious cost overruns had been clearly indicated up front, responsibility for these risks had been negotiated and a deal had been struck as just one part of the larger bargain that enabled the development of the Maui Field.

Active efforts are currently being made by both sides to come to a settlement of this matter. From both sides point of view the certainty of a negotiated outcome would appear more attractive than the lottery of litigation.

Reserve Risks

The mechanism adopted in the contract for handling changes in reserves is essentially different for increases and decreases. A redetermination can be called for every two years and if reserves are lower than that required to meet sellers obligations for the rest of the duration of the contract annual quantities may be reduced. The mechanism for doing so and the resulting calculations are complex and open to different interpretations and it is perhaps fortunate that a reduction in economically recoverable reserves (ERR) is currently seen as an unlikely outcome.

For increases in reserves there is no similar upwards changes in buyers entitlement and they only effect the quantities of gas that Maui Development Limited (MDL) has to sell on its own account. There is however some impact on the arrangements between the Crown and the three gas purchasers regarding the calculation of their individual delivery entitlements.

These provisions, particularly the former are a little unusual. If seller does not have gas to deliver because of a reduction in his original reserve estimates he suffers no penalty other than a reduction in his own sales and faces no damages from buyer. On the other hand if reserves increase he reaps the benefits.

It is a little surprising for example that, if Degolyer and McNaughtons original estimate of proven reserves of 500 PJ had turned out to be all the gas that was available, the Crown could have built three power stations and ran out of gas for them within a few years.

Again this bargain has to be looked at in the overall context of the background to the field development negotiations. The mining companies insisted that if they were to take the downside reserve risks through a firm delivery guarantee they would not have developed the field for the price offered. The Government were not prepared to give a higher price and preferred to take the reserves risk. A deal was consequently concluded between two knowledgeable parties with their full understanding. We are consequently not embarrassed to acknowledge this mechanism as a benefit to seller.

Market Risks

Clearly the contract take or pay provisions have been a considerable burden that the buyer has to bear in the early part of the contract and a valuable benefit to the seller.

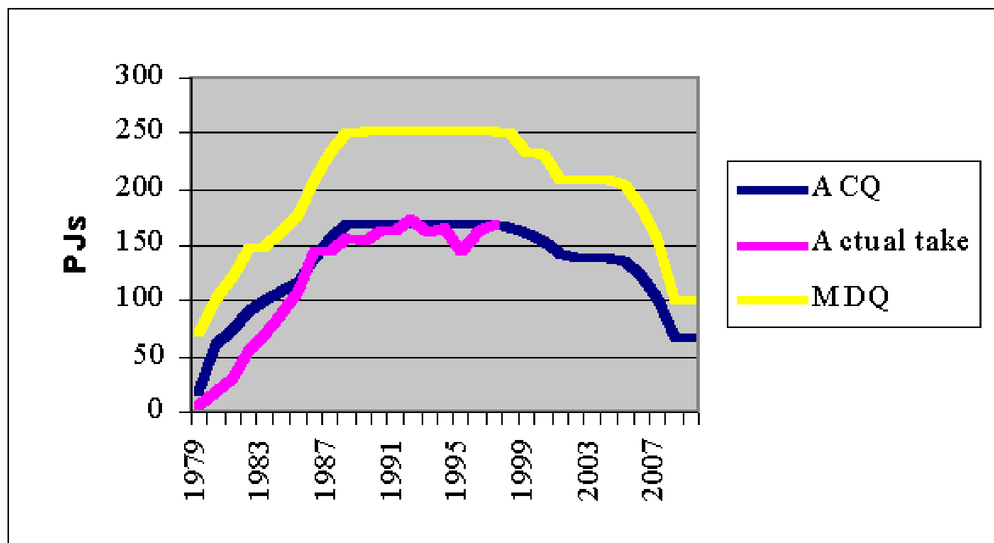
It must also be remembered though the seller has produced less liquids than he anticipated and that the buyer can take back his prepaid gas when his demand is in excess of Annual Contract Quality (ACQ).

The illustration below shows the slower build up of gas production than anticipated and illustrates the fact that the buyer has only taken more than ACQ in two individual years. It also highlights the significant flexibility the contract offers in providing a maximum daily delivery capacity some 50% over the equivalent annual average rate.

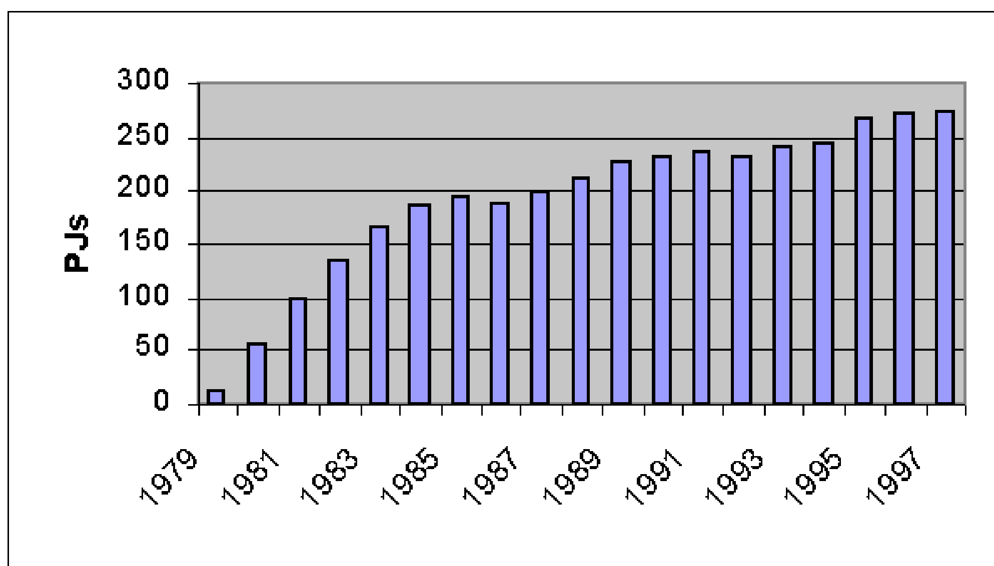
On this scale however the magnitude of the pre paid gas issue is not evident and the size of the problem is more apparent from the following representation showing the build up of the buyer's prepaid gas entitlement over time.

The current total as of the beginning of this contract year was 275 PJ which was mostly accumulated in the early years of the contract. The buyer has never been able to call for redelivery of significant quantities of this gas and is not likely to be in a position to do so until at least 2004.

The terms of the contract mean that if sufficient gas is still outstanding in 2006 then all gas delivered up to Maximum



Actual gas take vs contractual ACQ and MDQ.



Buyers pre-paid gas entitlement.

Daily Quantity (MDQ) in the last three years will be delivered in return for pre paid gas and the seller will be in an unenviable position of producing the field without any gas income.

This issue also greatly exacerbates the problem of incorrect pricing signals. Just in a period when the gas market should be giving messages to explorers and gas consumers that reserves are becoming increasingly scarce it could be doing exactly the opposite. It is an odd system indeed that would encourage irrationally consumption of cheap gas for three years to be faced with a price leap and increased scarcity immediately thereafter.

This paper therefore proposes that it would be beneficial for the optimum development of the New Zealand gas industry and for an economically efficient allocation of New Zealand's gas resources if the Maui Gas Contract is renegotiated well before the middle of the next decade. Given the complexity of these issues and the speed at which we manage to negotiate major issues in New Zealand it is also suggested that we should start pretty soon.

The Role of the Crown

In looking at scenarios involving the early renegotiation of the Maui Contract the question arises of the purpose of the Crown's involvement in the contract and whether such involvement is required or desirable in the future.

Possible roles for the Crown suggested from time to time are as follows:

- Allocation of the country's resources?
- Arbitration of disputes?
- Enforcer of prudent management?
- Provider of sovereign risk?

On the resource allocation question there is no doubt that in the 1970s the Crown were fully responsible for the allocation of Maui gas into electricity generation and later into petrochemicals. It is however also clear that since that time the Crown has greatly reduced its role in commercial decisions to the extent that its role as the buyer of Maui gas now appears inconsistent with modern thinking. We believe strongly that markets have to be the best method of allocating resources and will provide sensible economically efficient answers to questions about which fuel should be used for electricity generation and how long a petrochemical industry should remain in New Zealand.

Turning to the potential role of the Crown as an `honest broker' of disputes between the seller and the ultimate purchasers this has been hard to accomplish in practice. The Crown is contractually restricted from taking independent positions on many matters from the gas purchasers. As it can be sued by the mining companies as the buyer of gas and by the purchasers as a seller of gas it has to be extremely cautious about taking an independent role on anything. Indeed the Crown unfortunately is often in the position of a messenger with the messages that it passes dictated by one of its contractual partners but with exposure to legal action from the party to whom the message is given. With both the purchasers and the Maui sellers having the right to take any matters to the courts the Crown's role as a disputes arbiter would appear to be redundant.

A very topical question at the moment is whether the involvement of the Crown as buyer might perhaps enforce prudent management and guarantee proper contingency planning. We think not - the Ministry of Commerce takes an interest in gas contingency planning but this role is not connected to the Crown's position as buyer. The gas purchasers also have the ability to review and discuss security of supply issues with the Maui mining companies without the intervention of the Crown.

Finally does the comfort of being covered by sovereign risk itself justify the Crown's involvement to either the mining companies or the gas purchasers?

From Shell's side we would again say no. All the current gas purchasers would be satisfactory counter parties in contracts and it is also true, that as a seller, the greatest risks have passed as there is little likelihood of further massive increases in prepaid gas balances that would provide a serious chance of default.

From the purchasers point of view it would seem likely that, from a financial capacity point of view, they would also have no problems dealing directly with the mining companies. It is suspected that they might also acknowledge that the Crown's presence does not give them extra leverage in disputes which they are quite capable of prosecuting on their own account.

Were agreement on the above to be reached the question still arises whether there is really a practical way for the Crown to step aside from the Maui Contract before expiry of its term. Some are sceptical and no detailed work has been commissioned on this issue. First thoughts are however as follows.

Clearly the Crown has a number of specific liabilities and assets from its involvement in the current contract which need to be assessed and wrapped up prior to any Crown departure.

The post-facto review liability of the Crown has been discussed previously and constructive dialogue has already commenced to settle this issue out of court.

The Crown holds in its own right some 77 PJ of pre paid gas which was not allocated to the three gas purchasers. This therefore is an asset of the Crown and whilst its value is highly dependent on the timing in which it could be utilised a present worth could be negotiated.

A further asset of the Crown is the margin to which it is entitled on sales originally to Electricorp, now to Contact. Whilst there will be some uncertainty in exactly how this margin would be received over time its conversion to a simple present value is not likely to be a difficult task.

More complicated is the transfer of the Crown's rights and obligations under its purchase contract with the mining companies and its sales contracts with the purchasers. This paper does not attempt to list the issues and possible solutions but we are sure that there are many firms who would be very happy to lend their assistance in resolving these questions.

The prize which we are after is the replacement of our current arrangements, which certainly do not provide any of the Maui stakeholders with complete satisfaction, with direct contracts negotiated with the gas purchasers tailored to their specific requirements and needs and potentially offering extended delivery terms dependent on reserve additions.

We also believe that there are important but intangible advantages from the mining companies having direct and separate contractual relationships with each of the main end users so that we are able to depart from the current situation in which we are prevented from offering solutions to problems to one user without agreement from the others.

And what would we want as seller apart from the pleasure of happy customers - a higher price. This paper has indicated earlier that the current Maui White Paper producer price is too low to encourage further exploration and development either in the Maui licence or from elsewhere. It is sending the wrong signals to explorers in New Zealand and encouraging excessive rents to be taken in the gas wholesaling and transmission sectors without giving benefits to the final consumer.

We don't represent that these negotiations will be easy or rapidly completed but we do believe they are feasible and important.

Conclusions

On the benefit side the Maui Gas Sale and Purchase Contract enabled the development of a major indigenous resource.

The Crown's take or pay commitment was honoured against a background of very different economic scenarios than originally envisaged.

The Maui Gas Contract provides incentives to maximise the value of the field's product streams by ensuring the mining companies enjoy the full benefits of liquids production.

The Maui Contract benefits both end consumers and sellers by allowing sales of additional gas to third parties and the use of spare pipeline capacity to transport other gases.

On the disbenefit side the mining companies are faced with a low and declining producer gas price that does not encourage further development. They are also faced with a significant overhang of pre-paid gas which distorts market pricing signals and discourages rational economic behaviour.

Whilst the mining companies remain hopeful that a negotiated PFR settlement will be reached they currently continue to bear the burden of non receipt of agreed compensation for cost overruns.

Finally all involved in the Maui Contract suffer from the burden of the complex relationships between the sellers, the Crown and the eventual end users that does not foster a win win mentality and is preventing the maximisation of the total field value to all stakeholders.

Consequent to the above it is recommended that consideration is given to an early renegotiation of the Maui Contract involving the departure of the Crown and the establishment of direct contractual arrangements between the Maui mining companies and each of the current purchasers.

Author

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