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PUBLIC VERSION

COMMERCE COMMISSION

DRAFT DETERMINATION

Note: This is a draft determination issued for the purpose of advancing the Commission's decisions on these matters. The conclusions reached are preliminary and take into account only the information provided to the Commission to date.

Draft determination pursuant to the Commerce Act 1986 in the matter of an application for authorisation of a restrictive trade practice. The Application is made by the:

OMV NEW ZEALAND LIMITED; SHELL EXPLORATION NEW ZEALAND LIMITED; SHELL (PETROLEUM MINING) COMPANY LIMITED; TODD (PETROLEUM MINING COMPANY) LIMITED

The Commission:	M J Belgrave, Chair P R Rebstock D R Bates S W Stevens P J M Taylor
Summary of Application:	The Applicants have applied for authorisation to enter into arrangements to jointly market and sell gas produced from the Pohokura natural gas field.
Draft Determination:	The Commission determines, on the basis of the information provided to it to date that, subject to certain conditions, it would be likely to grant an authorisation pursuant to s 61(6) of the Commerce Act 1986 to allow the Applicants to enter into arrangements to jointly market and sell gas from the Pohokura natural gas field.
Date:	16 May 2003

CONFIDENTIAL MATERIAL IN THIS REPORT IS CONTAINED IN SQUARE BRACKETS.

TABLE OF CONTENTS

EXECUTIVE SUMMARY[1]

Introduction

1. By letter dated 20 December 2002, Preussag Energie Gmbh ("Preussag"), Shell Exploration New Zealand Limited and Shell (Petroleum Mining) Company Limited ("Shell"); and Todd (Petroleum Mining Company) Limited ("Todd"), applied to the Commerce Commission ("the Commission") under s 58(2) of the Commerce Act 1986 ("the Act") for authorisation to enter into arrangements to jointly market and sell gas produced from the Pohokura field ("the Arrangement").

2. On 14 May 2003, the Commission was notified that OMV New Zealand Limited ("OMV") has purchased Preussag's participating interest in the Pohokura Joint Venture ("the Pohokura JV"). Accordingly, the Application for authorisation made by the Pohokura Joint Venture parties ("the Pohokura JV parties") on 20 December 2002 was amended by substituting OMV for Preussag.

3. The Arrangement comprises two provisions in essence under which the Applicants propose to:

   - discuss and agree on all relevant terms and conditions, including price, quantity, rate, specification and liability for the joint sale of gas from the Pohokura field; and
   - negotiate and enter into contracts for the sale of the Pohokura field gas jointly (ie as one seller).

4. The Applicants have explicitly excluded the marketing and sale of all petroleum products, other than natural gas,[2] from the scope of their Application for authorisation.

Framework for Consideration

5. The Commission is responsible for deciding whether to authorise the Application under the relevant provisions of the Act.

6. In brief, the Commission must determine whether the Arrangement would result, would be likely to result, or is deemed to result in a lessening of competition in the market, and if so, whether the detriments flowing from this lessening of competition are outweighed by the public benefits that result or would be likely to result from the Arrangement. The Commission considers that a public benefit is

[1] This Executive Summary is provided for the assistance of readers. It does not purport to completely encompass all details of the Application, the Commission's investigation of the facts, the Commission's analysis of those facts and the draft determination. Readers are referred to the body of the reasons for the draft determination for a complete picture.

[2] For example, oil, condensate, liquefied petroleum gas, and naptha.

any gain, and a detriment is any loss, to the public of New Zealand, with an emphasis on gains and losses being measured in terms of economic efficiency. If the Commission is satisfied that the public benefits outweigh the detriment, it may authorise the Arrangement.

Commission Process

7. In preparing this draft determination, the Commission has fully considered and given weight to information and analysis from a wide range of sources. It has:

- reviewed the information and analysis in the Application, including the economic analysis submitted by the Applicants' economic experts;
- sought further information and clarification from the Applicants on a range of points;
- considered submissions from interested parties;
- interviewed the Applicants and other parties;
- sought advice from its own legal, economic, and industry experts; and
- conducted its own analysis and modelling.

8. Below is a summary of the Commission's key preliminary conclusions.

The Factual and Counterfactual

9. In order to assess the competition effects, as well as the detriments and benefits, the Commission compares the factual to the counterfactual, or what would likely happen in the absence of the Arrangement. The factual is what would happen if the Arrangement proceeds. A counterfactual will not necessarily be a continuation of the status quo, but rather encapsulates a pragmatic and commercial assessment of what is likely to happen in the absence of the factual.

10. The factual and counterfactual give rise to different states of competition in the relevant market. A comparison between them allows a judgment to be made as to whether competition in the factual is likely to be lessened relative to the counterfactual.

The Factual

11. The factual, involves the three Pohokura JV parties jointly developing and marketing the gas from the Pohokura field, with first gas scheduled for the beginning of February 2006, and full production capability for the second quarter of 2006.

The Counterfactual

12. The Applicants considered three counterfactuals as follows:

- 'no development' of the field if authorisation for joint marketing was not granted;

- 'Scenario 1' where the parties separately sell their proportion of gas after agreeing on parameters for the development of the field, but that the development of the field would be delayed by at least 3 years; and
- 'Scenario 2' where each party separately sells its share of gas to buyer(s), and then the parties agree on appropriate development to support the sales contracts in place. The Applicants claim that under Scenario 2 the development of the field would be delayed by more than 3 years, possibly indefinitely.

13. The Applicants argued that the 'no development' counterfactual was the most likely in the absence of authorisation being granted, citing reasons for why separate marketing is not feasible in the New Zealand context. Two years ago, in correspondence to the Commission, two of the Applicants advised that separate marketing of gas from the Pohokura field was feasible and probable. The Commission sought and obtained explanations with regard to why their views have changed, and now has some difficulty in reconciling the current view argued by the Applicants.

14. The Commission, on the basis of the information it has received to date has reached the preliminary conclusion that the likely counterfactual will have the following characteristics:

- the Pohokura JV parties will negotiate and agree on the development profile and gas output of the field;
- the parties will then separately sell their proportion of the gas in line with their equity ownership of the field;
- the parties will negotiate and agree on measures (including a gas balancing agreement) to address the problems associated with separate marketing; and
- production of the Pohokura field would be delayed by one year from the February 2006 commencement date, to February 2007 for first gas and the end of June 2007 for full production capability.

Market Definition and Competition Analysis

15. The Commission has concluded that the market relevant to its consideration of the Application is the national natural gas production (and first point of sale) market ("the gas market").

16. The Applicants have claimed the Arrangements have neither an anti-competitive purpose or anti-competitive effect, and that joint marketing would not have the effect of substantially lessening competition. Rather, the Applicants claim that joint marketing would have a neutral or positive effect on competition when compared with any of the three counterfactuals.

17. The Commission has reached the preliminary conclusion that the overall impact of the Arrangement would result, or would be likely to result, in a lessening of competition in the gas market.

18. In broad terms, it is considered that joint marketing would:

- restrict the number of competitors in the market;
- result in higher prices and enhance the potential for price discrimination;
- result in a more limited range of terms and conditions being offered to gas purchasers; and
- slow or inhibit the rate at which a more efficient and competitive market may evolve in the future.

19. On the other hand the Commission accepted that there would also be some features which would inhibit competition in the counterfactual, including the fact that field development and output parameters would be determined jointly by the Pohokura JV parties.

20. Overall, the Commission concludes that the Arrangment would lessen competition in the gas market.

Detriment

21. The Commission has compared the Arrangement with the counterfactual and concluded that detriments would arise from:

- a moderate, but significant reduction in allocative efficiency in the long-term;
- an important loss of dynamic efficiency beyond the short-term from the likely inhibition to the development of more dynamic and competitive markets; and
- possibly wealth transfers arising from higher prices paid by New Zealand consumers and the resulting increase in payments to overseas shareholders of the Pohokura JV.

22. The Commission's preliminary view is that the overall detriment to the public of New Zealand would be likely to be large.

Benefits

23. The benefits are any gain to the public of New Zealand that arise directly from the implementation of the Arrangement.

24. The Commission considers that benefits to the public would arise from:

- early development of the Pohokura field;
- lower field appraisal and design costs;
- lower development costs; and
- lower transaction costs.

25. The Commission considers that potentially the most substantial benefit from the Arrangement would arise from the earlier development of the Pohokura field. The Commission has undertaken what it considers is a conservative assessment of

the effects of the fields coming into production one year earlier than in the counterfactual. In this scenario the benefits to the public from early development would be in the order of $22.9 million to $57 million.

Net Effect

26. In the Commission's preliminary view, the overall benefit to the public would be substantial and would outweigh the detriments. However for the Commission to be satisfied about this net effect, it would require greater certainty than it has at present that the Arrangement would lead to an early introduction of gas production from the Pohokura field and associated benefits. It has accordingly imposed conditions, which if applied, would achieve this with greater certainty.

Conditions

27. In the consideration of the Application to date, various interested parties and the Commission have been concerned that if authorisation were granted for joint marketing of gas from the Pohokura field, it is crucial that the benefits of the earlier development of the field be cemented in. In addition, it is equally important that granting the authorisation does not act as an impediment to the further development of gas market arrangements as set out in the Gas Industry GPS

28. At this time, the Commission considers, that in order to authorise the proposal, it would impose conditions on the authorisation which will ensure that the benefits are realised, and that the detriments to future competition in the affected market are reduced. The following are possible conditions that the Commission is considering:

- limiting the time period of the authorisation to 5 years;
- a requirement for the Pohokura field to produce first gas by the beginning of February 2006, and full production capability by 30 June 2006;
- not allowing the authorisation to apply to successors of the Applicants; and
- ring-fenced marketing of the Pohokura field.

Draft Determination

29. The Commission acknowledges that the Arrangement has the potential to deliver the benefits outlined in this draft determination, however, the Commission shall not make a determination granting an authorisation unless it is satisfied that the Arrangement to which the Application relates, will in all the circumstances result, or be likely to result, in a benefit to the public which would outweigh the lessening of competition that would result, or would be likely to result or is deemed to result therefrom. At this stage the Commission is not satisfied that the benefits will in fact be delivered so that they would outweigh the lessening of competition that would result or be likely to result. In these circumstances the Commission would decline to grant an authorisation under s 61(6) of the Act.

30. However, with certain conditions on the proposal, the Commission's preliminary view is that it would be satisfied that the Arrangement to which the Application relates, will in all the circumstances result, or be likely to result, in a benefit to the public which would outweigh the lessening of competition that would result, or would be likely to result or is deemed to result therefrom. The Commission's preliminary view is that these conditions are likely to limit the potential detriments to future competition in the affected markets and ensure that the benefits from the timely development of the Pohokura field are achieved.

31. In that case, following consideration of submissions on this draft determination, the Commission, if its preliminary view is confirmed after consideration of submissions, would grant an authorisation under s 61(6) of the Act subject to certain conditions.

Next Steps

32. The Commission is now seeking submissions from interested parties in respect of the preliminary conclusions it has reached in the draft determination. The deadline for submissions to be received by the Commission is Monday 9 June 2003.

33. Pursuant to section 62(3) of the Act, the Commission gives notice to the Applicants and each other person described under section 62(2) to notify the Commission within 10 working days from 22 May 2003 whether they wish the Commission to hold a conference in relation to this draft determination. If such a request is received by the Commission then a conference will be held in relation to this draft determination from 1 July 2003 to 3 July 2003 (inclusive).

34. If the Commission does not receive such a request for a conference under section 62(3) of the Act, the Commission will, of its own motion, pursuant to section 62(6) of the Act, hold a conference in relation to this draft determination from 1 July 2003 to 3 July 2003 (inclusive).

35. The Commission intends to release its final determination on the Application on 7 August 2003.

INTRODUCTION

36. The Applicants are:

- OMV;
- Shell; and
- Todd.

37. The Applicants are the current parties to a Joint Venture Operating Agreement dated 15 July 1999 relating to Petroleum Exploration Permit ("PEP") number 38459 issued by the Minister of Energy on 1 December 1995 ("the JVOA"). PEP 38459 applies to an area of seabed immediately off the coast to the north east of New Plymouth. A geological structure, containing petroleum reserves, was discovered in that concession which has become known as the Pohokura natural gas field ("the Pohokura field"). The Applicants hold equity in the field:

- Shell 48%
- Todd 16.1%
- OMV 35.9%

38. By letter dated 20 December 2002, the Applicants (at that time Shell, Todd, and Preussag), applied to the Commission under s 58(2) of the Act for authorisation to enter into arrangements to jointly market and sell gas produced from the Pohokura field to which ss 27 and/or 30 of the Act might apply ("the Application").

39. In February this year, OMV Aktien-Gesellschaft ("the OMV group") announced its intention to acquire the international portfolio of Preussag, including four New Zealand permit interests, one of which is Preussag's stake in the Pohokura field. On 14 May 2003, the Commission was notified by the Applicants that Preussag's New Zealand interests were acquired by OMV, a wholly owned subsidiary of the OMV group. Accordingly, the Application for authorisation made by the Pohokura JV parties on 20 December 2002 was amended by substituting OMV for Preussag.

40. The Applicants have sought authorisation which will apply:

- for the life of the Pohokura field[3]; and
- to the respective successors and permitted assigns of any participating interest in PEP 38459 and the JVOA.

41. Although the Applicants do not consider that either s 27 or s 30 of the Act apply to the two relevant provisions, they recognize that opinions to the contrary are possible and wish to ensure that their acts of joint marketing, joint negotiation with purchasers, and entering jointly into contracts for the sale of natural gas from

[3] Which they expect to be until about 2020.

the field are immune from challenge by parties which consider themselves disadvantaged by such courses of action.

The Arrangement

42. The Arrangement comprises two provisions under which the Applicants propose to:

- discuss and agree on all relevant terms and conditions, including price, quantity, rate, specification and liability for the joint sale of gas from the Pohokura field; and
- negotiate and enter into contracts for the sale of Pohokura gas jointly (ie as one seller).

43. The Applicants wish to give effect to those two provisions.

44. The Applicants have not sought authorisation for the content of any contracts for the sale and purchase of natural gas from the field, which they may conclude in future.

45. The Applicants have explicitly excluded the marketing and sale of all petroleum products, other than natural gas,[4] from the scope of their Application for authorisation.

COMMISSION PROCEDURES

46. The Application was registered on 23 December 2002. In accordance with s 60(2)(c) of the Act, Notice of the Application was provided to 38 parties who were considered to have an interest in the Application. In addition the fact of the Application was advertised in national newspapers on 14 and 15 January 2003. Submissions were requested by 28 February 2003 to assist the Commission in its preparation of the draft determination. Twelve written submissions were received from:

- Natural Gas Corporation Ltd ("NGC");
- The New Zealand Refining Company Ltd ("the NZRC");
- Ballance Agri-Nutrients (Kapuni) Ltd ("Ballance");
- Genesis Power Ltd ("Genesis");
- Mighty River Power Ltd ("MRP");
- Pacific Tiger Energy Ltd ("Pacific Tiger") ;
- Nova Gas Ltd ("Nova");
- Carter Holt Harvey Ltd ("CHH");
- Indo Pacific Energy Ltd ("Indo-Pacific");
- Major Electricity Users Group ("MEUG");
- Contact Energy Ltd ("Contact"); and

[4] For example, oil, condensate, liquefied petroleum gas, and naptha.

- Fletcher Challenge Forests Ltd.

47. Additional information and opinions on the issues raised by the Application were obtained during discussions with:

- The Australian Competition and Consumer Commission ("the ACCC");
- OMV;
- CHH;
- Auckland Gas Ltd;
- Methanex New Zealand Limited ("Methanex");
- Greymouth Petroleum Limited ("Greymouth Petroleum");
- Swift Energy New Zealand Ltd ("Swift");
- Victorian Energy Networks Corporation ("VENCorp");
- TXU Australia Pty Ltd ("TXU");
- Origin Energy Ltd ("Origin");
- NGC;
- Contact;
- New Zealand Oil and Gas Ltd ("NZOG");
- Australian Worldwide Exploration Ltd ("AWE");
- Ministry of Economic Development ("the MED") Energy Markets Policy Group;
- The MED – Crown Minerals Group;
- Woodside Petroleum Ltd ("Woodside");
- Ballance;
- Fonterra Cooperative Group Ltd ("Fonterra");
- Keith Turner (as a private individual);
- Westech Energy Limited ("Westech");
- Bridge Petroleum Limited;
- Vector/United Networks Limited;
- Genesis; and
- The Association of International Petroleum Negotiators ("the AIPN").

48. During this investigation, the Commission has also consulted with Mr John Bay ("Mr Bay"), an independent energy consultant based in Auckland. Mr Bay has expertise in the areas of marketing strategy, contract negotiation and dispute resolution, particularly with respect to joint venture agreements, exploration agreements, and gas contracts. His experience in the energy industry spans 24 years. He has spent the past 13 years working in New Zealand, nine of which were with Fletcher Challenge as a Director and Strategic Planning Executive. Since 1999, through Contract Strategies Ltd, he has provided management consulting services to the Australasian energy industry focusing on:

- commercial strategy development;
- contract negotiation;
- joint venture and operations project management; and

- dispute resolution management.

49. In preparing this draft determination, the Commission has fully considered and given weight to information and analysis from a wide range of sources. It has:

- reviewed the information and analysis in the Application, including the economic analysis submitted by the Applicants' economic experts;
- sought further information and clarification from the Applicants on a range of points;
- considered submissions from interested parties;
- interviewed the Applicants and numerous other parties;
- sought advice from its own legal, economic and industry experts; and
- conducted its own analysis and modelling.

Submissions and Conference

50. The Commission is now seeking submissions from interested parties in respect of the preliminary conclusions it has reached in the draft determination. The deadline for submissions to be received by the Commission is Monday 9 June 2003.

51. Pursuant to section 62(3) of the Act, the Commission gives notice to the Applicants and each other person described under section 62(2) to notify the Commission within 10 working days from 22 May 2003 whether they wish the Commission to hold a conference in relation to this draft determination. If such a request is received by the Commission then a conference will be held in relation to this draft determination from 1 July 2003 to 3 July 2003 (inclusive).

52. If the Commission does not receive such a request for a conference under section 62(3) of the Act, the Commission will, of its own motion, pursuant to section 62(6) of the Act, hold a conference in relation to this draft determination from 1 July 2003 to 3 July 2003 (inclusive).

53. The Commission intends to release its final determination on the Application on 7 August 2003.

THE PARTIES

Shell

54. Shell is part of the Royal Dutch/Shell Group of Companies. It ultimately has two parent companies:

- Royal Dutch Petroleum Company, based in the Netherlands; and
- the 'Shell' Transport and Trading Company plc, based in the United Kingdom.

55. These two companies between them hold, directly or indirectly, all interests in the companies which comprise the Royal Dutch/Shell Group of Companies ("the Shell Group"). The Shell Group companies are involved in activities relating to oil and natural gas, chemicals, electricity generation, and renewable resources in more than 135 countries.

56. The primary activities of Shell in New Zealand include:

- the exploration for, and production of oil and gas, including significant shareholdings in the Maui, Kapuni and Pohokura natural gas fields;
- the operation of Shell brand petrol stations;
- the production and distribution of marine and aviation fuels, lubricants, petrochemicals and detergents; and
- various equity investments, the most relevant of which is in the NZRC.

57. Shell owns 50% of the shares in Shell Todd Oil Services Limited ("STOS") the operator of the Maui, Kapuni and Pohokura fields. The remaining 50% of the shares are owned by Todd.

58. Shell and Todd were parties to an agreement made in 1955 under which they agreed to carry out, as a joint venture, prospecting and mining for petroleum in an area including Taranaki, the surrounding areas and offshore from those areas, and production of any petroleum that may be discovered. The agreement included the establishment of STOS.

59. This agreement was replaced with the Area of Mutual Interest Agreement ("AMIA") on 1 March 2002. [

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60. The Commission in Decisions 408[5] and 411[6] took into account the 1955 Joint Venture Agreement when considering the relationship between Shell and Todd. On the basis of the information provided, the Commission does not consider that the new AMIA materially changes the Commission's conclusions on the relationship between Shell and Todd in these Decisions.

OMV

61. The OMV group is an Austrian-based energy company, historically with government roots, but now with diversified ownership. OMV's core business is

[5] Commerce Commission Decision 408, 12 October 2000, Shell Exploration Company B V and Fletcher Challenge Energy.

[6] Commerce Commission Decision 411, 17 November 2000. Shell Overseas Holdings Limited and Fletcher Challenge Energy. In this Decision, the Commission concluded that while Shell and Todd were not one head in the market, the 1955 JV did have an impact on the intensity of the competition between Shell and Todd. The Commission considered that Todd may place some competitive constraint on Shell, but in its analysis it had not relied on it to be a fully effective competitor post acquisition.

exploring for and producing oil and natural gas, with refineries in Austria and in Germany. OMV New Zealand Pty Ltd is currently based in Perth, Australia.

62. OMV's New Zealand interests include:

- a 10% ownership of the Maui field;
- a 69% interest in the Maari field (which does not contain natural gas); and
- a joint interest in a number of exploration blocks with exploration companies, including Shell and Todd.

Todd

63. Todd is part of the Todd Family's Group of Companies. Its parent, Todd Energy Ltd is a diversified energy business whose activities include:

- the exploration for, and production of oil and gas. It has significant shareholdings in the Maui, Kapuni, Pohokura, Mangahewa and McKee natural gas/oil/condensate fields and in several exploration joint ventures holding PEPs;
- natural gas retailing through it subsidiaries Nova and Fresh Start Limited ("Fresh Start");
- electricity generation;
- electricity retailing through its subsidiaries Bay of Plenty Electricity Ltd, King Country Energy Ltd and Fresh Start;
- coal mining; and
- LPG wholesaling.

64. As discussed above Todd has a strategic agreement with Shell and is a joint owner of STOS, the oil field operator.

Other Relevant Parties

Electricity Generators

65. Approximately 40% of gas produced in New Zealand is used to generate electricity, including cogeneration. The major electricity generators that consume gas include:

- Contact (Otahuhu B, Taranaki Combined Cycle ("TCC")); and
- Genesis (Huntly).

Petrochemical Firms

66. Around 42% of gas is used in petrochemical production. The two major producers are:

- Methanex (Methanol); and

- Ballance (Ammonia/Urea).

67. Methanex is New Zealand's largest single gas consumer, accounting for 38.9% of total gas consumption in the year ending September 2002[7].

68. On 15 May 2003, Mr Bruce Aitken, the Managing Director of Methanex, announced that Methanex was looking at mothballing its three methanol plants for several yeas, unless alternative supplies of gas could be found.

69. At this stage, the Commission has not been able to assess whether the possible closure of the plants would affect the analysis of this Application.

Question 1:

The Commission seeks comment on the likely impact on the analysis of the Application in the event that Methanex either continues production, mothballs, or closes its three plants.

Major Industrial Users

70. Major industrial users consume in the vicinity of 15% of gas production. Major users include:

- BHP New Zealand Steel Ltd;
- CHH;
- Degussa Peroxide;
- Fonterra;
- NZRC;
- Southdown Cogeneration (MRP); and
- Todd Energy/Kiwi Cogeneration.

Residential

71. Direct residential use accounts for less than 3% of gas consumption in New Zealand.

Exploration Companies

72. Exploration for hydrocarbons in New Zealand has in the past focused on the Taranaki Basin, however, there have been off-shore sub-commercial discoveries in the Canterbury and Great South basins. Dry gas was discovered on shore in the East Coast basin in 1998. There are in excess of 50 registered companies with current exploration permits in New Zealand (including Shell, Todd and OMV). Those companies are in the main small to medium sized. The majority of the permits are jointly held by two or more companies.

[7] The MED Energy Data File, January 2003.

Production/Reserves Ownership

73. The current gas producers/owners of reserves in New Zealand are[8]:

- Shell companies (Maui, Kapuni);
- Todd companies (McKee, Mangahewa, Maui, Kapuni);
- OMV (Maui);
- Greymouth Petroleum Acquisition Company Limited (Ngatoro, Kaimiro);
- Petroleum Resources Limited ("Petroleum Resources") (Ngatoro);
- Australia and New Zealand Petroleum Limited ("Australia and NZ Petroleum") (Ngatoro);
- Ngatoro Energy Limited ("Ngatoro Energy") (Ngatoro);
- Swift (Rimu, TAWN, Ngatoro);
- Genesis subsidiaries (Kupe);
- NZOG (Kupe); and
- The Crown (Kupe)[9].

74. STOS operates the McKee, Mangahewa, Maui, and Kapuni fields; NZOG operates the Ngatoro field; Greymouth Petroleum operates the Kaimiro field; and Swift operates the TAWN and Rimu fields.

Transmission

75. Companies involved in high pressure transmission services are:

- NGC; and
- Maui Development Limited ("MDL")[10].

Distribution

76. There are five gas distributors:

- NGC Infrastructure;
- Nova;
- Wanganui Gas;
- Vector/United Networks Limited; and
- Powerco.

Retail

77. There are six gas retailers:

- NGC (retailing only to large commercial and industrial users);

[8] Fields the companies have ownership in are in brackets.
[9] The Crown has announced its intention to sell its 11% share in Kupe to Genesis.
[10] MDL is owned by Shell, Todd and OMV.

- Nova;
- Wanganui Gas;
- Contact (wholesaler and retailer);
- Genesis; and
- Auckland Gas.

Australian Competition and Consumer Commission

78. The ACCC is an independent statutory authority that administers, in Australia, the Trade Practices Act 1974, the Prices Surveillance Act 1983, and has additional responsibilities under other legislation. The Trade Practices Act covers anti-competitive and unfair market practices, mergers or acquisitions of companies, product safety/liability, and third party access to facilities of national significance. Over the past 25 years the ACCC has been required to make determinations on applications by companies in the gas industry to allow joint marketing of gas. The Commission has consulted with the ACCC and considered previous ACCC determinations in the course of this investigation.

The Victorian Energy Networks Corporation

79. VENCorp is a State Government owned entity in Victoria, Australia, funded by energy industry participants. Its key roles are:

- independent system operator for the Victorian gas transmission network;
- manager and developer of the Victorian wholesale Gas Market; and
- system planner providing planning services for the gas and electricity industries.

80. The Commission has consulted with VENCorp on the subject of wholesale gas markets in the course of this investigation.

GOVERNMENT POLICY STATEMENTS

81. On 25 March 2003, the Commission received a government policy statement ("GPS") made under s 26 of the Act, entitled "Development of New Zealand's Gas Industry"[11], ("the Gas Industry GPS").

82. On 22 April 2003, the Commission received a further GPS entitled "Government Policy Statement on the Importance of the Pohokura Gas Field for Energy Security" ("the Pohokura GPS").

83. The Gas Industry GPS sets out the Government's policy for the development of New Zealand's gas industry, and its expectations for industry action. It says the expected end of the life of the Maui gas field signals the need for significant

[11] Statement to the Commerce Commission of Economic Policy of the Government: Government Policy Statement – Development of New Zealand's Gas Industry 25 March 2003.

changes in gas supply arrangements, and that with production from an increased number of smaller gas fields there is a requirement for more sophisticated pro-competitive market arrangements, including improved arrangements for gas balancing and reconciliation.

84. The Gas Industry GPS sets out a number of industry-led solutions that it wishes to see put in place and asks that the industry participants and consumers should report to the Minister of Energy each quarter on progress. The GPS states that the Government expects that efficient industry arrangements[12] will be in place by December 2004, and that if progress towards the measurable milestones is unsatisfactory, the Government will consider regulatory solutions.

85. The Pohokura GPS sets out the Government's views on the importance of the development of the Pohokura field to help remove uncertainty about New Zealand's medium-term energy security including facilitation of early decisions on new electricity generation investment. It states that gas from the Pohokura field needs to be successfully marketed and in production in a timeframe and manner that ensures that national energy security and economic growth interests are met. It adds that this is particularly important to ensure that new electricity generation projects can be built in a timely manner to meet growing electricity demand.

86. The Commission is required, in terms of s 26 of the Act, to have regard to relevant GPSs in reaching its decisions[13]. The Commission may not ignore a relevant statement. It must give it genuine attention and thought, and such weight as the Commission considers appropriate. During its consideration of this determination, the Commission has given careful consideration to, and has had regard to, the two statements transmitted to it by the Government.[14]

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[12] The Government invited the industry to establish a governance structure and work programme to develop arrangements with respect to production and wholesale markets, transmission and distribution networks, retail markets and gas safety.

[13] The term "have regard to" has been considered by the courts on numerous occasions. In *New Zealand Co-operative Dairy Company Ltd v Commerce Commission* [1992] 1 NZLR 601 the High Court held that the term "have regard to", in the context of government policy statements under section 26 of the Commerce Act 1986, requires that the Commission not ignore the policy statement but to give it genuine attention and thought, and such weight as the Commission considers appropriate. Having done that, the Commission is entitled to conclude it is not of sufficient significance either alone or together with other matters to outweigh other contrary considerations which it must take into account in accordance with the statute. In *Te Runanga O Raukaw Incorporated v The Treaty of Waitangi Fisheries Commission* ("ToWFC") (unreported), 14 October 1997, Court of Appeal, CA 178/97, the Court of Appeal held that in the context of section 8(a) of the Maori Fisheries Act 1989, the words "have regard to" meant simply that the ToWFC was required to consider the statutory criteria in making its decisions under that section. What, if any weight was given to a particular criterion in the particular case was for the ToWFC to decide. Similarly, in *Foodstuffs (South Island) Ltd v Christchurch City Council* [1999] NZRMA 481, the High Court held that the term "shall have regard to" in section 104 of the Resource Management Act 1991, requires decision makers to give genuine attention and thought to the matters set out in section 104, but they must not necessarily be accepted. The words "shall have regard to" were not to be elevated to "shall have effect to".

[14] The Gas Industry GPS and the Pohokura GPS can be found in Appendices 1 and 2.

Progress on the Gas Industry Developments

87. In response to the Gas Industry GPS the industry formed the Gas Governance Establishment Group ("the GGEG"), [ ], to facilitate the establishment of the work programme and structures referred to in the GPS.

88. On 28 February 2003, the GGEG wrote to the Minister of Energy and advised that there was an emerging consensus within the group for the way in which the industry would address the range of issues before it. A work programme had been adopted for five key work streams as follows: wholesale level gas issues; access to transportation; retail reconciliation and switching; gas flow management and contingency planning; and consumer protection. The letter concluded that the gas industry was committed to resolving the matters in an effective and timely manner.

Question 2:

The Commission seeks comment on the possible impact of the two GPSs and in particular what affect they may have on the issues being addressed in this draft determination.

INDUSTRY BACKGROUND

89. The New Zealand gas industry has largely been privatised over the past 20 years. Natural gas is a crucial source of energy, supplying approximately 29% of New Zealand's total primary energy use.

90. The industry structure is made up of several gas fields owned by several producing companies, several wholesalers, two pipeline transmission companies, and several distributors and/or retailers.

91. As discussed earlier in this draft determination, production of gas has been dominated by the Maui field, since first gas flowed from the field in 1979. The Maui producers do not sell directly to the wholesale market but to the Crown, at a price locked in under a long-term contract. The Crown on-sells the gas to downstream purchasers (NGC, Contact and Methanex) at prices that are low relative to competing supplies. The terms of the Maui Gas Contract are set out in the Maui White Paper that was published in 1973.

92. The following sections set out in more detail information on:

- the ownership of and production from gas fields;
- licensing regime and exploration;
- consumption of gas;
- transmission and distribution of gas;
- estimated gas reserves and projections for future discoveries;

- the wholesale gas market;
- details on the reasons for joint venture operations in the industry; and
- gas balancing**.**

Ownership of and Production from Natural Gas Fields in New Zealand

93. Currently, gas is entirely produced in the Taranaki region, where eleven fields produce oil and gas (including condensate and naptha). The ownership of natural gas fields for which petroleum mining licences have been issued together with the natural gas production of each is shown below in Table 1.

Table 1
Ownership of, and Production From, Natural Gas Fields for Year Ended September 2002*

Name of field	Ownership (%)	Gross Natural Gas Production (PJ)	Gross Gas Produced (%)
Maui	Shell subsidiaries: 83.75 Todd subsidiaries: 6.25 OMV 10.00	179.10	75
Kapuni	Shell subsidiaries 50.00 Todd subsidiaries 50.00	27.46	11.5
TAWN	Swift 100.00	13.13	5.5
Mangahewa	Todd 100.00	10.03	4.2
McKee	Todd 100.00	6.45	2.7
Ngatoro	Greymouth Petroleum 29.785 Swift 29.785 Petroleum Resources Ltd 20.43 Australian and New Zealand Petroleum Ltd 15.00 Ngatoro Energy 5.00	1.67	0.7
Kaimiro***	Greymouth Petroleum 100.00	.48	0.2
Kupe	Genesis subidiaries 70.00 NZOG 19.00 The Crown 11.00	No production	
Rimu	Swift 100.00	.48	0.2
Total		238.8	100

* MED Energy Data File, January 2003.
**A subsidiary of Indo-Pacific Energy NZ Ltd
*** Kaimiro figure includes Moturoa field for October 2001

The Pohokura Field

94. The Pohokura condensate and gas field lies in the offshore exploration block PEP 38459. It is approximately 16km long by 5km wide extending offshore in a NW direction, from close to the Methanex Motonui site near Waitara in North Taranaki.

95. The field was discovered in February 2000 by the joint venture comprising, at that time of Fletcher Challenge Energy, Preussag, Shell and Todd. The field was successfully appraised in May 2000 and a 3D seismic survey was conducted over the entire field late in 2000.

96. The field contains gas and associated liquids. The Pohokura JV parties intend to recover the liquids jointly, but sell those products separately. This is a common approach to the sale of such products around the world.

97. Initially the field was estimated to hold reserves, at a level of 1000 petajoules ("PJ"), making it by far the largest undeveloped gas resource in New Zealand. While the reserves in the field have not yet been determined precisely, based on current estimates provided by the Applicants, the Commission has made an assumption for the purposes of this draft determination that an approximate figure for recoverable gas reserves may be 750PJ. If the price of gas was $4/GJ, which the Commission believes is a conservative figure, the reserves value would be in the order of $3 billion. In addition, the Commission understands that the condensate and LPG in the field would have a value of around $[ ].

98. Development costs for the Pohokura field could be up to $[ ], depending on the number of platforms decided on and the size of the associated production station.

Previous Statements by the Applicants

99. The Commission notes that two years ago in the context of consideration of the application to the Commission by Shell for clearance to acquire FCE, both Shell and Todd advised the Commission that separate marketing of gas from the Pohokura field was possible and practical, and it was what was likely to happen. These views were set out in a number of documents provided to the Commission. A sample of some of those comments are set out below.

100. In particular the minutes of the Pohokura Offtake Committee of 4 September 2000 state:

> Todd expected to take, at least in part, its equity entitlement to Pohokura product (LPG and gas). It was agreed that the Committee would undertake work to develop and implement a gas offtake agreement to permit this.

101. On 4 October 2000 and 6 November 2000, Shell's lawyers advised the Commission:

> These provisions imply that, in contrast to gas from most fields that have been developed in New Zealand, "equity selling" is intended to be a feature of the marketing arrangements in respect of Pohokura gas. Equity selling arrangements have not previously been put in place for major fields such as Maui or Kapuni for historical reasons relating to the particular field …

and

> If the joint venture partners of Pohokura agree to equity selling, an associated gas balancing agreement (typically making an annual adjustment to the gas taken as against the relevant equity shares in the field) will be required. Such arrangements ensure that each joint venture party is able to recover its share of recoverable reserves in the event that one party "oversells" its entitlement…

and

> Further, while the "take in kind and separately dispose" arrangement contemplated by clause 10 of the Pohokura Joint Venture may be unusual in the New Zealand context, this is not the case elsewhere. In Shell's international experience, just about every possible kind of arrangement may be employed to bring into production a new field, depending largely on the composition and structure of the particular joint venture, the volumes involved, the liquidity of the local markets (gas and liquids) and the applicable laws…

and

> Preussag may have no present plans to take equity gas, but this in fact is what the JV envisages. In practice, Todd will no doubt seek to take equity gas and Shell has every intention of doing so …Todd has already signalled its intention to take equity gas…

102. On 6 September 2002, the Applicants signed an Agreement to Amend the PEP 38459 JVOA. [

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103. In respect of the current Application, the Commission has questioned the Applicants as to their apparent change in view about the feasibility of separate marketing of gas from the Pohokura field.

104. In response, Todd has claimed that its comments on [

] It also claimed that its previous statements reflect the fact that at the time the statements were made, no work had been done or understanding developed about how separate marketing might be achieved.

105. In its response, Shell said among other things that the previous comments were made at a time when discussions among Pohokura JV parties regarding the details of field development were comparatively embryonic; in an environment where [

] and reflected a disposition to market gas separately – the prospect of being able to arrange separate Shell-only gas deals was at the time, and remains, commercially sensitive.

106. Shell said that its current views on the viability of separate marketing are based on the following factors: the benefit of an additional two years considering the feasibility of separate sales; a more developed sense of the commercial environment within the Pohokura JV and the complexities involved in implementing such arrangements; and by reference to recent Australian research in which the prospects of separate selling are considered.

The Maui Field

107. The background of the Maui field is discussed in Decision 408[15]. Of particular interest to this investigation is the fact that Maui is now anticipated to run down sooner than originally expected.

108. Gas from the Maui field is currently sold, under Crown negotiated contracts, to NGC, Contact, and Methanex.

The Maui Re-determination

109. On 1 October 1989, the Crown estimated the Economically Recoverable Reserves ("the ERR") of Maui at 3,003 PJs. There were no official changes or a re-determination of the ERR from 1989 to 2001. In 2001 MDL re-estimated the ERR and provided notice to call for a re-determination on 30 November 2001. The subsequent re-determination was undertaken by independent experts Netherland Sewell and Associates International. ("Netherland Sewell"). On 7 February 2003, Netherland Sewell announced that as at 1 January 2003 the Maui reserves had been re-determined as having 352 PJ remaining. The total revised ERR of 2,582 PJs is 421PJs less than that previously determined in 1989.

110. It is likely that Maui will contain additional gas that is not ERR defined gas, although likely estimates of the volume of that gas and whether it would be economic to recover is unknown.

111. The Minister of Energy, Hon Pete Hodgson said on 12 February 2003 about the Maui re-determination:

> As off takes from Maui decreased, gas production would shift to multiple smaller fields, with the largest of these, Pohokura, expected to begin production in early 2006. However, smaller fields such as Kapuni, TAWN …, McKee, Mangahewa, Rimu and Kupe were also likely to play important roles.

[15] Commission Decision 408 Shell Exploration Company B and Fletcher Challenge Energy, paragraphs 97-102.

> Preliminary Ministry of Economic Development analysis showed that for the next few years some existing thermal stations might switch to coal or oil as a fuel source because Maui would be running down earlier than originally anticipated.

112. That is, that amount of Maui gas was economically recoverable at the Maui Contract price. There is the potential for further re-determinations at two yearly intervals if the Maui contracting parties cannot agree on the reserves at the time, the next re-determination being available to the parties in 2004.

113. The Commission also notes that recently there have been a number of announcements about efforts to secure additional electricity generation, and some of these comments have been made following the announcement of the lower than anticipated Maui reserves. These include:

- a report that Contact intends to re-commission the oil firing equipment at its New Plymouth Power Station to allow it to generate electricity using oil rather than natural gas. It has also been reported that Contact plans to build a new power station in Auckland (dual-fired) or Hawkes Bay (distillate fired). Chief Executive, Mr Steve Barrett was quoted as saying that the new plant would commissioned by the 2004 winter[16];
- a report that Genesis is seeking additional coal as the fuel source for its Huntly Power Station, and that its plans for a new gas-operated turbine for the Huntly plant is waiting for it to secure a gas contract before saying when it will be brought into operation[17];
- in April 2001, an announcement by Meridian that it was investigating the Lower Waitaki River for joint irrigation and hydro generation development - Project Aqua. Preliminary investigation indicate there is potential for generation of up to 3200 GWh per year from six power stations on the river.

The Kapuni Field

114. The Kapuni field, discovered in 1959 by a Shell-BP-Todd consortium, is located onshore in Taranaki, 85 kilometres from New Plymouth. It is the largest onshore field, and second largest gas/condensate field in New Zealand. The field is now owned by Shell and Todd.

115. The background to the Kapuni field is discussed in detail in Decision 408[18]. Kapuni has around 383PJ[19] of reserves remaining and comprised approximately 11.5 % of New Zealand's gross gas production in the year ended September 2002[20].

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[16] Contact Press Release, 1 May 2003.
[17] The Independent 9 April 2003.
[18] Commission Decision 408 Shell Exploration Company B and Fletcher Challenge Energy, paragraphs 103-106.
[19] MED Crown Minerals website. As at 30 June 2002. The figure is quoted at 50% levels (proven plus probable).
[20] MED Energy Data File, January 2003.

116. Kapuni gas is 50% contractually committed to NGC. The other 50% goes to Shell and Todd who jointly sell the gas principally to Nova, Kiwi Cogeneration and Taranaki By-Products.

The TAWN Fields

117. The TAWN fields comprise the Tariki, Ahuroa, Waihapa and Ngaere fields. They are onshore fields located in reasonable proximity of each other in eastern Taranaki and were discovered by Petrocorp between 1985 and 1993. The fields produce both gas and condensate.

118. In January 2002, Swift purchased Shell subsidiary Southern Petroleum (Ohanga) Limited, which had a 96.7% interest in the fields. Swift, the operator of the field recently bought the remaining 3.24% stake in TAWN from Bligh Oil and Minerals New Zealand Ltd.

119. Tariki and Ahuroa have around 68 PJ[21] of reserves remaining, while Waihapa and Ngaere are now largely depleted. Collectively they comprised approximately 5.5% o of New Zealand's gross gas production in the year ended September 2002[22].

120. All gas from the TAWN fields is currently sold to Contact.

The Mangahewa Field

121. The onshore Mangahewa field, located around 20 kilometres east of New Plymouth, was discovered in 1997, and is 100% owned by Todd. The field comprised 4.2% of New Zealand's gross gas production in the year ended September 2002[23]. Remaining reserves are approximately 103 PJs.[24]

122. Gas from the Mangahewa field is currently sold to Methanex.

The McKee Field

123. The McKee field is New Zealand's second largest onshore field, located inland from Stratford. It was discovered in 1979 by Petrocorp and is now owned by Todd.

124. The field comprised 2.7% of New Zealand's gross gas production in the year ended September 2002[25]. Remaining reserves are approximately 41PJs.[26]

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[21] MED Crown Minerals website. As at 30 June 2002. The figure is quoted at 50% levels (proven plus probable).
[22] MED Energy Data File, January 2003.
[23] idem.
[24] MED Crown Minerals website. As at 30 June 2002. The figure is quoted at 50% levels (proven plus probable).
[25] MED Energy Data File, January 2003.

125. All gas from the McKee field is currently sold to Methanex.

The Kaimiro Field

126. The Kaimiro field, discovered in 1981, is located in north Taranaki and is owned by Greymouth Petroleum. The field comprised only 0.2% of New Zealand's gross gas production in the year ended September 2002[27] Remaining reserves are are negligible.

127. Kaimiro gas is currently sold to Contact.

The Rimu Field

128. The Rimu field was discovered by Swift in 1999 near Hawera on the southern Taranaki coast and is 100% owned by Swift. Production from the field is small, comprising 0.2% of New Zealand's gross gas production in the year ended September 2002.[28] Remaining reserves are approximately 41 PJs. [29]

129. Gas from the Rimu field is currently sold to Genesis.

Licensing Regime and Exploration

130. The Crown Minerals Act 1991 governs the allocation and management of rights to explore for and extract petroleum products.[30] The Act provides that all petroleum existing in its natural untapped state within the territory of New Zealand and extending 200 miles offshore is the property of the Government.

131. Crown Minerals (a division of the MED) issues permits to prospect, explore or mine petroleum under the Act. Firms may themselves apply for an exploration permit or may acquire an interest in an existing permit.

132. Three types of permit may be obtained:

- Petroleum Prospecting Permits;
- Petroleum Exploration Permits; and
- Petroleum Mining Permits

133. Petroleum Prospecting Permits are for general investigative studies over large areas. More than one permit may be issued over the same area. Permits are generally granted for one year.

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[26] MED Crown Minerals website. As at 30 June 2002. The figure is quoted at 50% levels (proven plus probable).
[27] MED Energy Data File, January 2003.
[28] idem.
[29] MED Crown Minerals website. As at 30 June 2002. The figure is quoted at 50% levels (proven plus probable).
[30] Pre 1991, the regime used licences rather than permits. These were Petroleum Prospecting Licences (PPL) and Petroleum Mining Licences (PML).

134. Petroleum Exploration Permits ("PEPs") are the main permit mode for exploration. They are granted for undertaking work to identify petroleum deposits and evaluate the feasibility of mining any discoveries made. Exploration includes geological, geochemical and geophysical surveying, exploration and appraisal drilling and testing of petroleum discoveries. These permits give exclusive rights, and are usually issued for a five year period with a right of renewal for a further five years.

135. Petroleum Mining Permits are granted for the development of a petroleum field to allow the extraction and production of petroleum. A permit holder has the right to any petroleum discovered, subject to the conditions contained in the permit. These would include royalty conditions and the requirement to undertake a defined programme of work.

136. The current level of exploration is described by Crown Minerals as high, with 14 wells drilled in 2002, and several discoveries made in the last three years (including the Pohokura, Rimu, Kauri, Surrey and Kahili fields).[31] Currently in New Zealand there are 69 exploration permits and 11 mining permits operating. This year there will be bidding rounds held over the Deepwater Taranaki Basin, Onshore and Offshore Canterbury Basin and Onshore and Offshore North Taranaki basin.

Consumption of Natural Gas in New Zealand

137. The total net production and consumption of natural gas in New Zealand for the year ended September 2002 was about 238 PJ.

Table 2
Natural Gas Consumption by Sector for Year Ended September 2002*

Sector	Proportion (%)
Electricity Generation	40.5
Methanol production	38.9
Industrial and commercial	15
Ammonia Urea production	2.8
Residential	2.7
Transport	0.1
Total	100

* MED Energy Data File, January 2003.

138. The Methanol and Ammonia/Urea producers used around 42% of New Zealand's natural gas during the year ended September 2002. Crude methanol is produced from natural gas and then distilled into high grade methanol.

[31] Crown Minerals Website: www.med.govt.nz/crown_minerals/petroleum/overview.html

139. Around 40% of New Zealand's gas was used for electricity generation. Contact (Otahuhu B and Taranaki Combined Cycle) and Genesis (Huntly) are the main electricity generators in New Zealand that use gas.

140. The remaining 18% of New Zealand's gas use was reticulated throughout the North Island through a high-pressure pipeline system to major users, and to gas utilities for distribution to other industrial users and to the commercial and residential sectors.

141. With the increased economic growth in New Zealand during the last decade, the demand for electricity has increased. However, with the lower than expected gas reserves in the Maui field and the absence of an immediate replacement for Maui, New Zealand has a situation where at the prevailing prices, there is excess demand for gas.

142. In addition, new sources of gas are likely to be sold in long-term contracts to electricity generators or petrochemical manufacturers, with little uncommitted gas being offered to the market. This scenario is even more likely in the current environment with Maui supply reducing faster than it can be replaced by gas from new supply sources.

Transmission and Distribution of Gas

143. There is an extensive gas reticulation system in the North Island comprising 2600km of high-pressure gas transmission pipelines, and low-pressure distribution systems in most cities. NGC operates the gas transmission network and owns approximately two-thirds of New Zealand's high pressure gas pipelines. MDL owns the remaining third, that being the Maui pipeline which currently only transmits gas to be sold under the Maui contract.

Reserves of Natural Gas

144. Developed and undeveloped reserves are shown in Table 3. The Government requires disclosure of reserve estimates only on a biannual basis for producing wells. The values in Table 3, although outdated to an extent, are the best available to the Commission.

Table 3
Remaining Reserves of Natural Gas* at 1 June 2002 (Both Developed and Undeveloped)**

Field	Reserves (PJ)
Pohokura	750
Maui	567***
Kapuni	383
Kupe	307
Mangahewa	103
TAWN	68
Rimu	41****
McKee	41
Ngatoro	4
Kaimiro	negligible
Total	2249

* The figures are based on reserves quoted in billion cubic feet ("bcf") on the MED Crown Minerals website. To calculate a figure in PJ, each figure was converted to million cubic metres and then multiplied by the average annual gross calorific values for gas from each field (from the MED Energy Data File, January 2003). The MED reserves figures were quoted at 50% (proven plus probable) probability of recovery levels.
** The Commission notes that new fields (such as Surrey and Kahili) are also being explored and developed. This table does not include developments since 1 January 2002.
*** Includes the ERR (352PJ) plus a Commission estimate of reserves recoverable outside of the contract price (215PJ).
**** Conversion from bcf to PJ provided to the Commission by the MED at 1PJ = 1.0546 bcf

Future Gas Discoveries

145. The number and size of future gas finds is impossible to determine with any precision. The MED is soon to publish an updated version of its report entitled New Zealand Energy Outlook to 2020. In its report it will be using the following assumptions:

- for years 2008-2013 an average of 35 PJ of new gas per annum will be brought into production; and
- for years 2014 onwards an average of 60 PJ of new gas per annum will be brought into production.

146. The Commission notes that these figures are the MED's best estimates based on its current information.

147. The Commission also notes that even when additional sources of gas are discovered, there is usually a considerable time delay before the new gas is brought into production. As an example, the Pohokura field was discovered in 2000 but first production is not expected until February 2006.

Sales of Gas

148. New Zealand's wholesale natural gas market is currently in the nature of a term contract market. Natural gas is sold by producers under term contracts of varying length. There is currently no active spot market where natural gas producers can meet demand on a short-term basis at market determined price.

149. However, the Commission notes the following from the Gas Industry GPS:

> The Government expects the industry, including consumer representatives, to develop arrangements with respect to:
>
> Production and Wholesale Markets
>
> - The development of protocols, standards and conventions applying to wholesale gas trading, including quality stands, balancing and reconciliation.
> - The development of a secondary market for the trading of excess and shortfall quantities of gas.
> - The development of capacity trading arrangements.

150. The Gas Industry GPS states that the Government expects that efficient industry governance arrangements will be in place by December 2004 and if progress towards measurable milestones is unsatisfactory, it will consider regulatory solutions. During a recent speech[32] the Minister of Energy said:

> The GPS clearly sets out the arrangements the Government expects to be put in place.
>
> I want to say at the outset, though I hope not threateningly, that the Government expects much faster progress on the gas GPS than we have had on the electricity industry GPS.

Joint Ventures and Petroleum Exploration and Production

151. Risk is inherent in the process of exploration for petroleum and natural gas. The Commission has been informed that the average geological success rate of frontier basin exploration wells world wide is between 1 in 10 and 1 in 15. Offshore wells in New Zealand cost about NZ$30 million and onshore wells up to about half that amount.

152. Even though companies involved in petroleum exploration and production are often very large, cooperative arrangements are necessary to mitigate the high risk sunk costs which are associated with these activities.

153. The risk associated with producing oil and gas does not end with a commercial discovery after exploration. Other risks are:

- as has been shown by the Maui re-determination, there is a reserves risk. That is the owners of the field invest in production equipment (about NZ$[ ] more in the case of the Pohokura field) expecting a certain return on that

[32] Speech by Hon Pete Hodgson on 31 March 2003 to Utilicon Conference, Auckland.

investment from certain sales of petroleum products which may not necessarily occur due to miscalculations on the field reserves;

- similarly the petroleum reservoir may not perform as anticipated leading to lower than anticipated production rates and the inability to extract all the existing reserves due to unexpected geological conditions. This appears to be the situation currently pertaining to the Rimu field; and
- the market risk whereby producers may determine a field to be an economic discovery based on certain prices of oil and particularly gas. Such prices are subject to the risk of later discoveries of new fields which are able to introduce more gas into markets, perhaps at lower prices. Alternatively one or some large consumers may depart from the market. Examples of this kind of risk in the New Zealand context are the potential for a large Maui sized natural gas field off the Wairarapa Coastline currently being explored by Westech[33] and the potential for Methanex to cease operations in New Zealand.

154. Because of their length and complex nature, there is a high cost of negotiating (and re-negotiating if a commercial discovery is made and production considerations arise), and potentially arbitrating or litigating joint venture agreements. Nevertheless, joint ventures are the vehicles which the oil and gas exploration and production industry worldwide has adopted to efficiently manage the risks described.

155. Major exploration and production of oil and natural gas in New Zealand has been, and is, carried out by joint ventures. The original Maui and Kapuni discoveries were made, and production commenced by joint ventures between Shell, British Petroleum and Todd.

156. That some of New Zealand's smaller mature gas fields are now in sole ownership, as a result of equity transfers due to strategic and competition law reasons,[34] is indicative of the declining risk of ownership of those fields once the discovery has been made, production equipment engineered and installed, and long-term gas sale contracts obtained.

Gas Balancing

157. In a petroleum field joint venture, where gas is separately sold, gas imbalances occur when a joint venture party does not receive its share of gas in proportion to its interest in the field. 'Over-lift' occurs when a party sells more than its proportionate share of gas production. 'Under-lift' occurs when a party sells less than its proportionate share. Gas imbalances between joint owners of petroleum fields are common, and to manage these imbalances, Gas Balancing Agreements ("GBA's) are used. The purpose of a GBA is to ensure that where parties either over-lift or under-lift, a mechanism is in place to address that imbalance.

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[33] Although no drilling has yet taken place.

[34] For example, Fletcher Challenge Energy's decision to sell all its interests to Shell and the subsequent divestment of some of its oil and gas field assets by Shell as part of its application to the Commission for clearance for the transaction to proceed.

158. Where gas is jointly sold, there is no need for a GBA between the producers because the parties share the revenue from the joint gas sales in proportion to their equity share of gas in the field.

159. The issues which must be resolved in a GBA include:

- ensuring that the amount of gas that each party draws off is proportionate to its equity share in the field at a particular time (eg over the period of a month);
- ensuring that each party, over the life of the field draws gas in proportion to its equity share in the field;
- deciding for how long imbalances will be permitted;
- deciding how an under-lifting party will make up its proper share. These details include whether an under-lifting party is permitted to make up during peak consumption seasons, and the maximum reduction of off-take required of an over-lifting party while another party's uplift is occurring;
- deciding how and if the parties can balance in-kind – ie can the over-lifting party repay the under-lifting party with gas from another field, or through the transfer of entitlement to remaining reserves; and
- the potential for cash compensation if an imbalance cannot be rectified in-kind.

160. GBAs can be complex and susceptible to disputes. However, based on standard industry practise, efficient arrangements are dependent to a large extent on an effective spot market and a gas market with depth, or agreements between the parties as to how any disputes will be overcome. The Commission notes that various members of the AIPN advise that in order to overcome some of these difficulties, standard form gas balancing agreements have been created by petroleum industry associations (in particular, Canada and the United States). The AIPN also have their own model form agreements which are considered industry standards and upon which most current negotiations are based.

THE MED REVIEW OF THE NEW ZEALAND GAS SECTOR

161. In October 2001, ACIL Consulting and Farrier Swier prepared a report commissioned by the MED into various aspects of the gas industry. That report addressed various issues, including:

- the economic efficiency of the gas supply chain;
- inter-fuel competition;
- efficiency, and environmental externalities;
- regulation, asset valuation and multi-utilities; and
- take-or-pay contracts, their possible renegotiation, and hydro spill.

162. The ACIL report was released and submissions sought on its findings. Partly as a result of further consultation, and the report itself, the MED has announced the

Government's intentions to create a more efficient gas industry. These intentions were set out in the Gas Industry GPS.

THE AUSTRALIAN EXPERIENCE

163. In the Application, the Applicants have made a number of references to the Australian situation, and argue that some comparisons can be drawn between what has occurred in Australia and New Zealand. The Commission also notes that in recent years there have been various developments in the Australian gas market. It is therefore useful to background the Australian experience relevant to the Application. This background includes discussion of:

- previous applications put to the ACCC by joint venturers for authorisation to jointly market and sell gas;
- the Council of Australian Governments ("CoAG") Energy Market Review;
- gas marketing at the Yolla and Geographe / Thylacine fields;
- VENCorp and the Vicotorian gas market; and
- the current views of the ACCC.

ACCC's Determination of the North West Shelf Project – 29 July 1998

164. As background, the North West Shelf Project ("NWS") participants made an application for authorisation to discuss and agree together the common terms and conditions, including price, at which gas produced together by the joint venture would be offered to customers, and to discuss and agree the terms for marketing and selling of such gas.

165. The ACCC made a number of comments in its decision that are useful in understanding why it came to the decision that it did. These include:

- the ACCC stated that separate marketing, where possible, is the preferred method of gas supply contracting. By having a number of separate marketers, it would expect a more competitive market and the resultant benefits of lower prices and greater supply options being made available to final consumers;
- while it was impossible to be prescriptive about exactly what market features need to develop before separate marketing would become viable in West Australia, the greater number of the following list of market developments that are introduced, the greater the likelihood that separate marketing would be viable:
  - A significant increase in the number of customers;
  - The entry of new competitive suppliers;
  - Additional transportation options;
  - Storage;
  - The entry of brokers/aggregators;
  - The creation of gas-related financial markets; and
  - The development of significant short-term and spot markets;

- the ACCC made it clear that the current infeasibility of separate marketing in West Australia should not be taken to infer that separate marketing is not viable in other gas markets in Australia; and
- the ACCC placed a seven year limit on the authorisation and stated that at the end of that period, it expected the market to have developed and changed in ways it could not fully predict or anticipate.

ACCC's Determination of the Mereenie Producers – 7 April 1999

166. The Mereenie producers lodged an application for authorisation relating to the joint marketing and sale of gas produced under the Mereenie gas sales agreement.

167. The ACCC again made a number of comments in its decision that are useful in understanding its reasons for granting authorisation:

- it repeated its views from the NWS authorisation in stating that separate marketing is to be preferred to joint marketing from a competition perspective and that the key issue was therefore whether separate marketing was feasible;
- the ACCC rejected the assertion from the applicants that gas jointly produced by joint venturers would invariably be sold on common terms to purchasers, including price. It stated that the experience in other countries is evidence that separate marketing is not incompatible with joint production, and suggests that the feasibility of separate marketing is more directly related to the operation of the market overall rather than the production arrangements; and
- as in the NWS decision, the ACCC placed a limit on its authorisation. The term would be until the earlier of 1 July 2009, or completion of delivery of 67.5PJ of gas.

Council of Australian Governments – Energy Market Review

168. In 2002, the Council of Australia Governments ("CoAG") as part of its Energy Policy Framework, agreed to an independent review of future energy market directions and priorities, and the issue of separate marketing was considered in a report by KPMG commissioned by the Energy Market Review, and in the final report of the review, *Towards a Truly National and Efficient Energy Market.*

169. Some of the key points reached in the KPMG report include:

- large high capital greenfield new project type developments would be significantly hampered if forced to separately market production and therefore it is not usually likely to be feasible. It noted that separate marketing for some other types of greenfield developments could be both practical and achievable;
- joint marketing by joint ventures is unlikely to assist competition between fields and basins where there is substantial cross ownership;
- it could be generally observed that separate marketing of gas is likely to be feasible where the risk to the producer/developer of finding buyers at a competitive price is small;

- not all the features of a mature market need to be present for separate marketing to be feasible. If they were, separate marketing itself would probably only be of academic interest, as a high degree of competition would already be achieved;
- the process of seeking to define relative market maturity simply by reference to lists of attributes can be akin to self-fulfilling prophercy. For example, the existence, of say, secondary markets, intermediary trading, spot markets and financial hedges are outcomes of a mature market, rather than prerequisites for separate marketing;
- the importance of timing for a large new project gas development cannot be overstated. Separate marketing for a large new project tends to erode the capacity of individual venturers to reach common and timely accord on matters as key as the project development plan itself. The time taken for each venturer to secure markets also puts at risk the project development;
- for large new greenfield project gas developments to take place, the existence of significant demand is required;
- an assessment of the feasibility of separate marketing for future greenfield developments needs to be reviewed on a case by case basis. No one rule or view on the desirability or otherwise of separate marketing will fit all cases. This is perhaps highlighted by what appears to have been the development route being taken by the Geographe / Thylacine joint venturers;
- a generalised approach by industry in respect of some of the adverse impacts of separate marketing has not aided discussion. The way forward can be far better assessed by applying comments to specific joint venture situations. In a number of the cases it will be found that impediments can be overcome. After all, major oil and gas companies operating in Australia engage in separate marketing of gas elsewhere in the world. In those particular circumstances, there is little apparent disturbance to investment patterns;
- in Australia, detailed lifting, allocation and balancing agreements exist for separate marketing of oil, condensate and LPGs. The product markets may be different, but the systems would not appear to be so complex or costly as to be insurmountable obstacles to separate marketing; and
- the non-availability of gas storage is not an impediment that would prevent the progressive introduction of separate marketing. The flexibility provided by gas storage can and is provided by other producers within the market, transmission line pack and demand side management through contract interruptability. The services that can be delivered by gas storage can of course be met by anyone prepared to provide such service. This may develop as a commercial opportunity for existing or new entrant companies.

170. The CoAG final report repeats some of the statements made in the KPMG report as well as including other statements of interest:

- historically, governments (Australian state governments) have supported joint marketing of gas production in order to facilitate the development of the resources. These approvals were given in the context of a sector where

traditionally monopoly producers dealt with monopoly buyers and vertically integrated businesses were the norm. Under these conditions the potential loss of competition through joint venture marketing was minimal;

- moving towards separate marketing should be considered as part of the overall package to improve the competitive nature of the natural gas market. Separate marketing itself should be regarded as one of the ingredients that in the appropriate circumstances helps to create competition and thereby a more mature market;
- effective allocation and balancing arrangements may not be possible in some circumstances, particularly where the risk to producers of finding buyers at a competitive price is high because there are few buyers and/or the volumes individual producers would have to place into the market are disproportionally large;
- joint ventures face some challenges in dealing with production balancing issues and that these need to be addressed in the unique circumstances of each case in determining the applicability of individual competitive marketing. There are circumstances where separate marketing is not practical. Nevertheless, the points below suggest that there are circumstances where separate marketing is likely to be practical:
  - The significant differences that can exist between 'greenfields' developments and additional/incremental contracts from existing reserves and facilities.
  - The recent public announcements by Woodside that suggest it will separately market gas from a new joint venture development in the Otway Basin.
  - The stated preference by ExxonMobil to separately market gas but that it considers that technical complexities preclude it in the Gippsland Basin.
  - The fact that companies, some of which operate in Australia, manage to satisfactorily allocate and balance production for separate marketing in other countries, albeit in different circumstances; and
- each East Coast producing area had many producers, but they market jointly. While it may have been appropriate to exempt such marketing from the Trade Practices Act to encourage the original field development, this may no longer be the case.

171. The executive summary of the CoAG final report made the following points in its recommendations encouraging greater competition through separate marketing: review recommended, inter alia:

- mandatory notification by joint venturers to the ACCC of all future joint marketing arrangements;
- the ACCC conduct case-by-case assessment of the feasibility of separate marketing and any authorisation must contain a review date;
- the Trade Practices Act be amended to preclude jurisdictions from exempting the application of section 45 to joint marketing of natural gas; and

- existing state exemptions and Commonwealth authorisations continue to apply to the existing contracts but all new contracts, or renewals, be subject to the nationally consistent regime as currently applied through the Trade Practices Act section 45 test of substantially lessening competition and the section 90 authorisation public benefit test.

Geographe / Thylacine

172. Geographe (VIC/P43) and Thylacine (T/30P) are two gas fields that were discovered in the off-shore Otway Basin in south west Victoria in May and June 2001. The joint venturers in the two fields have agreed commercial arrangements aimed at a joint development of the fields which would allow pooling of Geographe and Thylacine reserves, and for the joint development and sharing of infrastructure.

Table 4
Ownership of the Geographe and Thylacine fields Both Pre and Post Agreement

Companies	Pre-agreement (%)		Post-agreement (%)
	VIC/P43	T/30P	VIC/P43 and T/30P
Woodside	55	50	51.55
Origin	30	30	29.75
Benaris International	0	20	12.7
CalEnergy Gas	15	0	6
Totals	100	100	100

173. Of interest in this situation is that the joint venture parties in the two fields have negotiated and agreed to not only jointly develop two fields, but to also separately market the gas. On 14 August 2002, Woodside and TXU signed heads of agreement for the sale of Woodside's share of gas from the Geographe and Thylacine fields[35]. A further media release[36] states that the agreement allowed the venturers to move towards the selection of a development concept in Q2 2003 and a final investment decision by the venturers is expected in the first half of 2004. The intention is to commence gas deliveries in 2006.

174. Woodside told the Commission that its decision to separately market gas was based on two things:

- that there was a conflict with one of the joint venture parties (Origin) wanting to sell gas to its downstream retail business; and
- all parties to the joint venture had agreed upon a start up date, and therefore it was relatively easy to agree on the size of the development.

[35] Media release 14 May 2002 – www.otway.woodside.com.au
[36] Media release 5 February 2003 – www.otway.woodside.com.au

175. Woodside said there was a combination of circumstances that made separate marketing the most logical outcome including:

- a specific marketing opportunity had arisen because at the time gas customers had little opportunity to buy long-term gas from the incumbents, who were either unwilling or unable to offer long-term contracts;
- some of the Woodside's customers were prepared to take some of the additional risk of seeking gas from a field that was not yet completely developed;
- each of the parties were in agreement that they wanted to get the development underway, and no party was playing commercial games and playing off their commercial position; and
- the most important issues were the high degree of commercial integrity between the parties, and a willingness to get the project up and running.

176. The Commission notes that Woodside has said that Geographe / Thylacine was not a blueprint or a model for marketing that could be used everywhere, and that specific circumstances in that case have made it possible for separate marketing. The Commission also notes that the gas balancing agreement and final investment decision have yet to be completed, although it does seem that the parties in this particular situation have been able to make considerable progress in their agreements to date.

Yolla

177. The Yolla gas field was discovered in 1985 and is located approximately 140 km offshore from Victoria. The Yolla field is a joint venture partnership between Origin as operator (37.5%), AWE (37.5%), CalEnergy (20%), and Wandoo Petroleum (5%)[37]. The field is estimated to contain 256 PJ of sales gas, 1 million tonnes of LPG, and 14 million barrels of condensate. The offshore platform is currently being built and is expected to be commissioned between June-September 2004 and will be fully operational by the end of September that year.

178. AWE's website[38] states that a critical milestone in the development of the BassGas Project (Yolla) was reached in July 2001, when gas sales agreements were signed between AWE and Origin Retail, and separately between CalEnergy and Origin Retail. Under those agreements, Origin Retail will buy 30% from AWE's share and CalEnergy's 20% share of 260PJ of gas reserves. In April 2002, the joint venture approved the development of the Project.

179. AWE told the Commission that AWE and CalEnergy decided to market their gas separately because Origin was both the field operator and a potential purchaser of the gas. AWE also said:

[37] www.originenergy.com.au
[38] www.awexp.com.au

- as a joint venturer AWE figured out the best way to develop the field in terms of production and Capex profile, and what sort of load factors were required for the equipment;
- once this was decided the joint venture parties went out and separately marketed their share of the gas, knowing their annual allocation from the field and at what load factors;
- AWE is selling its share of the gas to Origin, the outcome of a competitive tender between five major retail purchasers;
- AWE did not think that all the joint venture parties would end up selling their gas to Origin, and Origin was by no means sure of getting the gas;
- the gas balancing agreements together with a totally new operating agreement took between 6-9 months to put together. The agreement limits the imbalances so parties knew what the constraints were before they went out and began negotiating in the market; and
- the Yolla model and Geographe / Thylacine are the first time in Australia that separate marketing has been carried out. Joint marketing is easier but separate marketing can occur – depending on how cooperative the joint venture parties are.

VENCorp

180. The Victorian gas market, operated by VENCorp, remains predominantly a 'contract' market where the producers supply virtually all the gas to 'retailers' or 'shippers' who take title to the gas at the point of production. The retailers/shippers therefore pay the producers a fixed contract price, but are themselves able to offer the gas into the spot market and either buy or sell gas at the variable spot price. The spot market is effectively used to clear and automatically balance retailer/shippers imbalances – eg, if a retailer injects more gas (from all sources) than it withdraws over the course of a gas day, then it is paid the spot price for the difference between total injections and total withdrawals.

181. There is nothing that would prevent a producer from offering gas directly into the spot market, it just has not happened to date in Victoria because of the contract position.

182. When the spot market commenced in Victoria the market consisted of one producer, one pipeline operator and three retailers.

183. VENCorp explained that the overall reform of open access to pipelines, the access code, and the spot market together, created the more competitive environment that now exists.

ACCC

184. The ACCC said that the last time it had to consider an authorisation application for joint marketing of gas was in 1998. In the past, the crucial issue when

considering authorisation applications for joint marketing of gas has been the issue of whether separate marketing is feasible. If separate marketing was not feasible then the ACCC considered that allowing joint marketing to proceed was a better outcome than no development, and therefore no new gas supply. The ACCC has said that it has always taken the stance that separate marketing *will* be more competitive than joint marketing, and its focus has been getting the applicants to show why development would not occur in the absence of joint marketing. The ACCC's view is that the benefits of separate marketing will always outweigh the joint marketing, and therefore to grant authorisation it needs to be convinced that the project would not proceed without authorisation.

185. In the case of the NWS authorisation the ACCC ruled that the benefits resulted from the project proceeding, compared to the situation where no development would have taken place.

186. The ACCC said that while it did provide some input into the CoAG review, the review's recommendations are not those of the ACCC. The Commonwealth Government has now set up a task force to formulate the Commonwealth's response to the CoAG review and that process is continuing.

187. The ACCC commented that until very recently, the gas supply in Australia was very much dominated by one supplier in each market, and in the past when it has considered authorisation applications, essentially the market consisted of one field, one pipeline, and one purchaser.

Question 3:

The Commission seeks comment on the developments in Australia and other jurisdictions and asks, in the New Zealand context, how much relevance these developments have for this Application.

APPLICATION OF THE COMMERCE ACT

The Arrangement

188. Section 27 of the Act provides:

> 27. Contracts, arrangements, or understandings substantially lessening competition prohibited.
>
> (1) No person shall enter into a contract or arrangement, or arrive at an understanding, containing a provision that has the purpose, or has or is likely to have the effect, of substantially lessening competition in a market.
>
> (2) No person shall give effect to a provision of a contract, arrangement, or understanding that has the purpose, or has or is likely to have the effect, of substantially lessening competition in a market.

(3) Subsection (2) of this s applies in respect of a contract or arrangement entered into, or an understanding arrived at, whether before or after the commencement of this Act.

(4) No provision of a contract, whether made before or after the commencement of this Act, that has the purpose, or has or is likely to have the effect, of substantially lessening competition in a market is enforceable.

189. Section 30 of the Act provides:

30. Certain provisions of contracts, etc, with respect to prices deemed to substantially lessen competition:

(1) Without limiting the generality of section 27 of this Act, a provision of a contract, arrangement, or understanding shall be deemed for the purposes of that section to have the purpose, or to have or to be likely to have the effect, of substantially lessening competition in a market if the provision has the purpose, or has or is likely to have the effect of fixing, controlling, or maintaining, or providing for the fixing, controlling, or maintaining, of the price for goods or services, or any discount, allowance, rebate, or credit in relation to goods or services, that are—

(a) Supplied or acquired by the parties to the contract, arrangement, or understanding, or by any of them, or by any bodies corporate that are interconnected with any of them, in competition with each other; or

(b) Resupplied by persons to whom the goods are supplied by the parties to the contract, arrangement, or understanding, or by any of them, or by any bodies corporate that are interconnected with any of them in competition with each other.

(2) The reference in subsection (1) (a) of this section to the supply or acquisition of goods or services by persons in competition with each other includes a reference to the supply or acquisition of goods or services by persons who, but for a provision of any contract, arrangement, or understanding would be, or would be likely to be, in competition with each other in relation to the supply or acquisition of the goods or services.

190. Under s 58 of the Act, a person may apply for an authorisation for contracts, arrangements or understandings that breach ss 27, 28, 29, 37 or 38. Section 58 provides:

58. Commission may grant authorisation for restrictive trade practices—

(1) A person who wishes to enter into a contract or arrangement, or arrive at an understanding, to which that person considers section 27 of this Act would apply, or might apply, may apply to the Commission for an authorisation to do so and the Commission may grant an authorisation for that person to enter into the contract or arrangement, or arrive at the understanding.

(2) A person who wishes to give effect to a provision of a contract or arrangement or understanding to which that person considers section 27 of this Act would apply, or might apply, may apply to the Commission for

an authorisation to do so, and the Commission may grant an authorisation for that person to give effect to the provision of the contract or arrangement or understanding.

(5) A person who wishes to enter into a contract or arrangement, or arrive at an understanding to which that person considers section 29 of this Act would apply, or might apply, may apply to the Commission for an authorisation for that person to enter into the contract or arrangement or arrive at the understanding.

(6) A person who wishes to give effect to an exclusionary provision of a contract or arrangement or understanding to which that person considers section 29 of this Act would apply, or might apply, may apply to the Commission to do so, and the Commission may grant an authorisation for that person to give effect to the exclusionary provision of the contract or arrangement or understanding.

191. Section 61 details the factors that the Commission must satisfy itself of before granting an authorisation, the relevant provisions of which are set out below:

61. Determination of applications for authorisation of restrictive trade practices—

(1) The Commission shall, in respect of an application for an authorisation under section 58 of this Act, make a determination in writing—

(a) Granting such authorisation as it considers appropriate:

(b) Declining the application.

(2) Any authorisation granted pursuant to section 58 of this Act may be granted subject to such conditions not inconsistent with this Act and for such period as the Commission thinks fit.

(3) The Commission shall take into account any submissions in relation to the application made to it by the applicant or by any other person.

(4) The Commission shall state in writing its reasons for a determination made by it.

(5) Before making a determination in respect of an application for an authorisation, the Commission shall comply with the requirements of section 62 of this Act.

(6) The Commission shall not make a determination granting an authorisation pursuant to an application under section 58(1) to (4) of this Act unless it is satisfied that—

(a) The entering into of the contract or arrangement or the arriving at the understanding; or

(b) The giving effect to the provision of the contract, arrangement or understanding; or

(c) The giving or the requiring of the giving of the covenant; or

(d) The carrying out or enforcing of the terms of the covenant—

> as the case may be, to which the application relates, will in all the circumstances result, or be likely to result, in a benefit to the public which would outweigh the lessening in competition that would result, or would be likely to result or is deemed to result therefrom.
>
> (6A) For the purposes of subsection (6) of this section, a lessening in competition includes a lessening in competition that is not substantial.
>
> (7) The Commission shall not make a determination granting an authorisation pursuant to an application under section 58(5) or (6) of this Act unless it is satisfied that—
>
> (a) The entering into of the contract or arrangement or the arriving at the understanding; or
>
> (b) The giving effect to the exclusionary provision of the contract, or arrangement or understanding—
>
> as the case may be, to which the application relates, will in all the circumstances result, or be likely to result, in such a benefit to the public that—
>
> (c) The contract or arrangement or understanding should be permitted to be entered into or arrived at; or
>
> (d) The exclusionary provision should be permitted to be given effect to.

192. The Commission's approach is to first satisfy itself that the relevant contract, undertaking, arrangement or provision would or would be likely to result, or is deemed to result in a lessening of competition.

193. Section 61(6A) provides that the lessening of competition includes a lessening that is not substantial. Once the Commission is satisfied that the relevant contract, understanding, arrangement or provision would result, or would be likely to result, in a lessening of competition or is deemed to result in a lessening of competition it will go on to assess the benefits and detriments that would, or would be likely to, result from the relevant arrangement or provision. Conversely, if the Commission is not satisfied that there would be a lessening, a likely lessening, or deemed lessening the Commission considers that authorisation is neither required by the Act, nor is within the jurisdiction of the Commission and will decline to grant authorisation.

194. The Commission's approach is summarised in Gault on Commercial Law[39]. The Commission asks the following six questions:

> (i) What is the relevant market (or markets) in which the effect of the practice upon competition is to be evaluated?
>
> (ii) Is the practice for which approval is applied for, one to which the applicant considers s 27 (or other appropriate section) of the Act would apply, or might apply? At this point the Commission may still wish to determine whether any of

[39] Paragraph 61.06.

the exemptions in ss 43, 44 or 45 apply. Also, is it a practice to which s 36 applies — in which case authorisation cannot be granted.

(iii) To what extent does the contract or arrangement in question result in a 'lessening of competition' in the market or markets affected by the practice?

(iv) What are the effects caused by the lessening of competition referred to above?

(v) Does the contract or arrangement result or will it be likely to result in a benefit to the public? (The applicants have an evidential onus to show benefit or benefits to the public).

(vi) Does the net public benefit which is found to exist from the practice outweigh any net competitive detriment from the lessening of competition in the relevant market?

195. In summary, the Commission first considers the relevant markets. It then considers whether any of the provisions of an arrangement are likely to result in a lessening of competition in any of those relevant markets. If some of the provisions lessen competition, or contain exclusionary provisions, the Commission then considers the benefits and detriments that are likely to result from parties entering into the arrangement or giving effect to the provisions.

196. In considering the current Application the Commission has considered whether there any provisions in the Arrangement that are deemed to result in a lessening of competition. The Commission has then proceeded to identify the market to consider whether the Arrangement and its provisions lessen competition and the extent of such a lessening.

DEEMED LESSENING OF COMPETITION

197. Section 30 of the Act prohibits provisions of contracts, arrangements, or understandings that have the purpose, effect, or the likely effect of fixing, controlling, or maintaining prices. Such a contract, arrangement, or understanding is deemed to substantially lessen competition in terms of s 27 of the Act.

198. In determining whether there is a deemed lessening of competition, the Commission has considered the application of s 31 of the Act which exempts from the s 30 deeming rule certain price fixing provisions in contracts, arrangements, or understandings between parties to a joint venture (as defined in subs (1)(a)). While s 31(2) exempts types of joint venture pricing provisions from the s 30 deeming rule, such provisions remain subject to the s 27 general competition test.

199. In relation to the Application, there are three agreements between the Pohokura JV parties that are most relevant. They are:

- the JVOA;
- Technical Services Agreement dated 21 October 2002 ("the TSA"); and

- Agreement to Amend the JVOA dated 6 September 2002 ("the Amendment Agreement").

200. The Pohokura JV parties note in their submission that:

- by virtue of the deeming operation of s 30, the JVOA and the Amendment Agreement entered into by the Pohokura JV parties collectively, will amount to price fixing in prohibition of the Act;[40] and
- by virtue of s 31, s 30 does not apply in this case.[41]

201. The issue for the Commission to consider is whether the JVOA and the Amendment Agreement falls within the terms of s 31 of the Act, so that s 30 of the Act does not apply.

202. In order to answer this, first the Commission must consider whether the Pohokura JV parties are found to be a joint venture. Section 31(1) defines a joint venture as:

> S.31 Joint venture pricing exempt from application of section 30—
>
> (1) For the purposes of this section—
>
> (a) Joint venture means an activity in trade—
>
> (i) Carried on by 2 or more persons, whether or not in partnership; or
>
> (ii) Carried on by a body corporate for the purpose of enabling 2 or more persons to carry on that activity jointly by means of their joint control, or by means of their ownership of shares in the capital, of that body corporate or an interconnected body corporate:
>
> (b) A reference to a contract or arrangement entered into, or an understanding arrived at for the purposes of a joint venture shall, in relation to a joint venture by way of an activity carried on by a body corporate in terms of paragraph (a) (ii) of this subsection, be read as including a reference to the memorandum and articles of association, rules, or other document that constitute or constitutes, or is or are to constitute, that body corporate.

203. The concept of joint venture was considered by McGechan J in *Commerce Commission v Fletcher Challenge*[42]. He observed that:

> Unfortunately, there is much less certainty as to the legal definition and boundaries (if such indeed yet exist) for a "joint venture".

204. McGechan J then referred to the decision of the majority of the High Court of Australia in *United Dominions v Brian Pty Ltd*[43]. The majority observed:

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[40] The Application, paragraph 56.
[41] ibid, paragraph 57.
[42] *Commerce Commission v Fletcher Challenge,* [1989] 2 NZLR 554.

> The term 'joint venture' is not a technical one with a settled common law meaning. As a matter of ordinary language, it connotes an association of persons for the purposes of a particular trading, commercial, mining or other financial undertaking or endeavour with a view to mutual profit, with each participant usually (but not necessarily), contributing money, property or skill.

205. The Commission considers that given the above approach taken by the courts, the JVOA and the Amended Agreement is likely to be found to be a joint venture under s 31(1). However, not all joint ventures under s 31(1) are exempt from s 30. The exemption applies only to the activities specified in s 31(2). Here the Applicants have submitted that s 31(2)(a) applies. Section 31(2)(a) provides:

> (2) Nothing in section 30 of this Act applies to a provision of a contract or arrangement entered into, or an understanding arrived at for the purposes of a joint venture, to the extent that the provision relates to—
>
> (a) The joint supply by the parties to the joint venture, or the supply by the parties to the joint venture in proportion to their respective interests in the joint venture, of goods jointly produced by those parties in pursuance of the joint venture;

206. Gault on Commercial Law interprets s 31(2)(a) exception as permitting the parties to a joint venture to fix the price at which jointly produced goods are to be marketed or, alternatively to fix the price at which each joint venturer may separately market its share of the joint product. In the latter case, the joint venturers may take advantage of the exception only if each takes and markets a share of the product proportionate to its interests in the joint venture.

207. The Commission is of the view that the s 31(2)(a) exception would apply to the proposal to jointly market under the terms of the JVOA and the Amended Agreement. The JVOA and the Amended Agreement [

] Consequently, the proposal to jointly market under the JVOA and the Amended Agreement is likely to be exempt from s 30.

208. Thus there is not a deemed lessening of competition. The Commission must consider whether in fact the Arrangement would result, or would be likely to result, in a lessening of competition.

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[43] *United Dominions Corporation Ltd v Brian Pty Ltd (*1985) 60 ALR 741.

Question 4:

The Commission seeks comment on its current view that the joint venture exception applies to the proposal.

MARKET DEFINITION

Introduction

209. The purpose of defining a market is to provide a framework within which the competition implications of an authorisation can be analysed. The relevant markets are those in which competition may be affected by the arrangement being considered, and in which the application of Part V of the Act can be examined.

210. Section 3(1A) of the Act provides that:

> ... the term 'market' is a reference to a market in New Zealand for goods or services as well as other goods or services that, as a matter of fact and commercial common sense, are substitutable for them.

211. Relevant principles relating to market definition are set out in *Telecom v Commerce Commission (1991)*[44] ("the AMPS A case") and in the Commission's Practice Note 4. A brief outline of the principles follows.

212. Markets are typically defined in relation to three dimensions: namely, product type, geographical extent, and functional level. A market encompasses products that are close substitutes in the eyes of buyers, and excludes all other products. The boundaries of the product and geographical markets are identified by considering the extent to which buyers are able to substitute other products, or across geographical regions, when they are given the incentive to do so by a change in the relative prices of the products concerned. A market is the smallest area of product and geographic space in which all such substitution possibilities are encompassed. It is in this space that a hypothetical, profit-maximising, monopoly supplier of the defined product could exert market power, because buyers, facing a rise in price, would have no close substitutes to which to turn.

213. A properly defined market includes products which are regarded by buyers or sellers as being not too different (the product dimension), and not too far away (the geographic dimension), and are therefore products over which the hypothetical monopolist would need to exercise control in order for it to be able to exert market power. A market defined in these terms is one within which a hypothetical monopolist would be in a position to impose, at the least, a 'small yet significant and non-transitory increase in price' ("*ssnip*"), assuming that other terms of sale remain unchanged.

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[44] *Telecom Corporation of New Zealand Ltd v Commerce Commission* (1991) 4 TCLR 473

214. Markets are also defined by functional level (the functional dimension). Typically, production, distribution, and sale occur through a series of stages, with markets intervening between suppliers at one vertical stage and buyers at the next. Hence the functional market level affected by the Application has to be determined as part of the market definition. For example, that between manufacturers and wholesalers might be called the manufacturing market while that between wholesalers and retailers is usually known as the wholesaling market.

Identifying Relevant Markets

215. To identify the markets relevant to the Application, it is necessary to consider the business activities undertaken by the Applicants for authorisation.

216. Thus the relevant market can vary depending on the matter at issue. As stated in the AMPs A case:

> The boundaries {of the market} should be drawn by reference to the conduct at issue, the terms of the relevant section or section, and the policy of the statute. Some judgment is required, bearing in mind that "market" is an instrumental concept designed to clarify the sources and potential effects of market power that may be possessed by an enterprise.

217. The activities of the Applicants in New Zealand relevant to this Application are the exploration for, and production of natural gas; and the first sale of that gas.

218. The Applicants have specifically excluded their activities concerning exploration for, production and sale of, other petroleum products from the scope of the Application. Therefore the potential for competition issues to arise in relation to oil, condensate and LPG are not considered in this draft determination.

Product Market

219. In the past, when the Commission has considered business acquisitions in the energy sector it has received submissions from some parties suggesting that natural gas, electricity and other energy forms are substitutable and that each falls within an 'energy' product market. This has not been the approach adopted by the Commission to date. The Commission stated in Decision 270:[45]

> None of the evidence presented to the Commission points to a clear cut answer to the market definition problem. However, all of the evidence is consistent with the conclusion that natural gas and other fuels, especially electricity and to a lesser extent coal, are indeed substitutes for each other, both technically and commercially – but they are at best imperfect substitutes, and cannot be regarded as being in the same market.[46]

[45] Decision 270, Natural Gas Corporation of New Zealand Limited and Enerco New Zealand Limited, 22 November 1993.
[46] ibid, paragraph 129.

220. This approach is consistent with decisions of the courts. In the High Court judgment in *Power New Zealand v Mercury*[47], subsequently upheld in February 1997 by the Court of Appeal, the Court said:

> It is common ground that gas is not in close competition with electricity. We see no reason to question this approach.[48]

221. In the Kapuni litigation[49] the High Court heard a substantial amount of economic evidence on market definition. It said:

> We accept that {light fuel oil, coal and electricity} are substitutable {for natural gas} in certain favourable circumstances, but always at the edges and seldom in response to a SSNIP.[50]

222. In subsequent decisions[51] the Commission in each case considered it appropriate to adopt discrete product markets for electricity and natural gas. The Commission recognised that while inter-fuel competition provided some constraint on each energy form, it did not consider the constraint sufficiently strong to include electricity and natural gas in the same market.

223. For the purposes of this Application, the Applicants accept that the product market at issue is natural gas. Further, the Commission is not aware of any new information which would persuade it that its past practice of placing natural gas in a discrete product market is now inappropriate.

Functional Market

224. In Decision 408[52] the Commission accepted the appropriateness of separate functional markets for the:

- production (and first sale) of natural gas; and
- wholesaling of natural gas.

225. The Commission adopts the functional separation described, in respect of this Application for reasons similar to those stated in Decision 408, and these are repeated below:

> 44. The applicant has stated in an introductory paragraph of the application:
>
> "Until 2009, when the Maui Contract expires, gas production and gas wholesaling effectively form a single functional market in which none of the producers has significant

[47] *Power New Zealand Ltd v Mercury Energy Ltd* (1996) 1 NZLR 686.
[48] ibid, p.704.
[49] *Shell (Petroleum Mining) Company Limited and Another v Kapuni Gas Contracts Limited and Another* (1997) 7 TCLR 463.
[50] ibid, p.527.
[51] Including Decision 330, NGC/Powerco, Decision 333 Contact/Enerco, Decision 340 TransAlta/Contact, Decision 345 UnitedNetworks/TransAlta, Decision 380 UnitedNetworks/Orion, Decision 408 Shell/Fletcher Challenge Energy.
[52] Commerce Commission Decision 408 *Shell Exploration Company B and Fletcher Challenge Energy.*

market power, owing to the fact that the substantial majority of current gas production and proven + probable gas reserves ("2P reserves") are committed through long term contracts to wholesalers or major industrial users."

45. This argument is expanded on in the NECG Report attached to the application. NECG, for the applicant, has argued that "at an abstract analytical level" wholesale would not appear to be a discrete functional market because wholesalers could not integrate into production were producers to increase price. However, it has argued that, in practice, if the wholesalers have contractual entitlements to gas, they take on some of the characteristics of producers. These contracts "endow wholesalers with a set of assets which they can substitute from the wholesale layer to the production layer in response to changes in production prices".

46. NECG notes that electricity generators and petrochemical companies buy from both wholesalers and producers. For example Genesis has contracts with both FCE (a producer) and with Contact (a wholesaler). Methanex has purchased gas both direct from Maui and from NGC for supply from Kapuni. In addition, Kiwi Co-operative Dairy Company has a relatively small contract with the Kapuni producers, not with a wholesaler.

47. The Commission has given careful consideration to the arguments for having one functional market for the production and wholesaling of gas to 2009. It has taken into account the arguments of all the parties, and legal precedent including the following extract from the AMPS A case:

"If we ask what functional divisions are appropriate in any market definition exercise the answer, plainly enough, must be whatever will best expose the play of market forces, actual and potential, upon buyers and sellers. Wherever successive stages of production and distribution can be coordinated by market transactions, there is no difficulty: there will be a series of markets linking actual and potential buyers and sellers at each stage. And again, where pronounced efficiencies of vertical integration dictate that successive stages of production and distribution must be coordinated by internal managerial process, there can be no market."

48. For the following reasons the Commission has not accepted that one market for production and wholesaling is appropriate in this instance:

- As stated in the AMPS A case cited above, "market" is an instrumental concept designed to clarify the sources and potential effects of market power that may be possessed by an enterprise. Substitution on supply and demand sides is very important to the way the market is defined, but ultimately the Commission defines the relevant market in a way which assists the analysis of the competitive impact of the acquisition under consideration.
- There is no evidence that transactions between production and wholesaling require the close co-ordination that can only be achieved by vertical integration, or that vertical integration brings about a level of efficiency which could not be matched by non-vertically integrated firms.
- A useful guide for the assessment of market power can be market shares. However market shares can be either impossible to measure, or those shares may be largely meaningless when firms undertaking quite different functions are placed within the same market. Thus the assessment of market shares is not facilitated by placing production and wholesaling within the same market.
- The production and wholesaling functions have vastly different characteristics. Production is very capital intensive requiring drilling equipment, mining licences and access to commercially viable gas fields. Wholesaling does not require substantial specific assets. New entrants to the two functional levels face quite different

conditions. A combined production/wholesale market does not facilitate an assessment of the likelihood of new entry.

- The adoption of discrete production and wholesaling markets does not prevent the Commission from giving full weight to all factors which might constrain the merged company from exercising market power. In other words it does not change the conclusion on the application. When considering whether the merged entity would be in a dominant position, the Commission is required by the Act to have regard not just to market shares and the constraint from the conduct of competitors or potential competitors in the market, but also the extent to which the merged entity would be constrained by the conduct of suppliers or acquirers of goods or services in the market. Thus the ability of wholesalers and large consumers to divert gas for which they have contractual rights from its current uses to supply other large gas users is a very relevant matter for consideration in the competition analysis. The fact that the Commission has chosen not to place them in the same functional market in this instance does not reduce its ability to give appropriate weight to this factor.

49. For the purpose of analysing the current proposal, the production market encompasses transactions between the producers of gas and their customers. The wholesale market encompasses transactions between those who acquire gas from producers and sell it to large final users (such as electricity generators) or retailers. While technically the Crown, through the Maui contracts, can be considered a purchaser in the production market and a seller in the wholesale market, its "back-to-back" contracts mean that it does not normally have a significant ability to influence either functional market. For Maui gas, the producer is the Maui Mining Companies' joint venture while the acquirers in the production market are NGC, Contact and Methanex.

226. The Commission notes that for the purposes of this Application the Applicants accept that production (and first sale) of natural gas and wholesaling of natural gas occur at separate functional levels.

227. For the purpose of analysing the Application, the Commission considers the production market encompasses transactions between the producers of gas and their first point of sale customers. Such customers are potentially:

- resellers, such as NGC or Genesis;
- the Applicants themselves or their subsidiaries who purchase natural gas for the purpose of supplying retail arms or to fulfill their own contractual natural gas supply obligations;
- electricity generators such as Contact or Genesis;
- petrochemical manufacturers such as Ballance and Methanex; and
- large industrial consumers.

228. On the other hand, the wholesale market encompasses transactions between parties such as those described above who sell natural gas to large final users such as electricity generators, large industrials or retailers.

229. Given the facts of the Application the Commission considers that the functional market of principal relevance is that for gas production.

Time Dimension

230. In Decisions 408 and 411 the Commission concluded that it was appropriate to include a time dimension in the gas market definition. It adopted a discrete market for gas production up to 2009 and another market for gas production beyond 2009.

231. In reaching this position, the Commission took into account the pre-dominant nature of the Maui gas field and the expectation at that time (that is, in 2000) that Maui would continue to account for a substantial proportion of total gas produced until 2009, when it would be significantly depleted. The Commission concluded that the characteristics of the gas market would change markedly at that time and that an assessment of the competitive nature of gas market into the future would be assisted by considering separately the period up to 2009 and the period after 2009 separately.

232. The Applicants have stated that such an approach is no longer appropriate. They have suggested that there is no longer an indicative point of a sharp change in the competitive situation and that the depletion of Maui is now well anticipated.

233. The Commission notes that the Maui re-determination, discussed in paragraphs 109 to 113, has put the remaining ERR of Maui at a level considerably lower than previously thought. Based on the new figure, ERR will end around two years earlier than the original 2009 estimate.

234. Following discussions with interested parties, the Commission has come to the conclusion that gas users are already taking into account the likely post-Maui situation.

235. The Commission therefore accepts that a clearly defined change in market circumstances will now be unlikely to occur in 2009. Further it accepts that changes in the market are likely to be more gradual than it had anticipated in 2000.

236. The Commission notes that some changes will occur in the future and that these changes can have quite dramatic effects. This is inevitable given the 'lumpy' nature of changes on both the supply and demand side. For example, the discovery and development of a substantial new field, or the arrival or departure of a major gas user (for instance a petrochemical plant or an electricity generator) would each have an important impact on the market.

237. In considering the current Application the Commission has decided that it is no longer appropriate to adopt different markets for different time periods, as it has done in its previous Decisions. The reason for this is that it is no longer possible or appropriate to identify specific break points in time, where circumstances change to such an extent that a different market exists. Having said that, the Commission will continue to take a forward-looking approach to the overall market and take into consideration any key changes that may occur. In addition,

the Commission will look at changes in market circumstances across the lifetime of the field.

Conclusion on Relevant Market

238. The Commission concludes that the market relevant to its consideration of the Application is the national natural gas production (and first point of sale) market ("the gas market").

Question 5:

The Commission seeks comment on its definition of the market as the national natural gas market.

THE FACTUAL

239. For the competition analysis, The Commission compares the factual (the Arrangement) with the counterfactual.

240. The Applicants have set out the Arrangement in the Application and in summary, the factual consists of:

- the Pohokura JV parties discussing and agreeing on all relevant terms and conditions, including price, quantity, rate, specification and liability for the joint sale of gas from Pohokura; and
- to negotiate and enter into contracts for the sale of Pohokura gas jointly (ie as one seller).

THE COUNTERFACTUAL

Introduction

241. The Commission when undertaking assessments of applications under s 58 of the Act compares the likely competitive effects of the arrangements in question, and the public benefits and detriments likely to result from the arrangements with those that arise in the 'counterfactual'. The Commission makes a 'with' and 'without' comparison rather than a 'before' and 'after' comparison.

242. The counterfactual is not an arrangement which might be preferred by the Commission or by particular parties with an interest in the industry. Rather the counterfactual is a pragmatic and commercial assessment of what is likely to occur in the absence of the arrangement. In making this assessment the Commission assumes, for the purposes of analysis, that if the counterfactual scenario might lessen competition, the counterfactual scenario is likely to receive authorisation. For the purposes of this analysis, the Commission assumes that the

counterfactual is likely to be authorised for the reasons set out in its Decision 280.[53]

243. Also the counterfactual need not necessarily be a lower cost or more efficient alternative to the arrangement which is the subject of the Application. The relative efficiencies of the arrangement and the counterfactual are taken into account in the weighing of public benefit and detriments. However a theoretical alternative which would impact adversely on the viability of the business or project at risk can be usually ruled out as a possible counterfactual because it would not be likely to be put into effect in the absence of the arrangement.

The Applicants' View of the Counterfactual

244. The Applicants have suggested that separate marketing of gas is not feasible in the short-term or for the expected life of the Pohokura field. Accordingly they consider that in the absence of the Arrangement, it is possible that the field would not be developed. Consequently, they consider the appropriate counterfactual for competition analysis is 'no development'.

245. The Applicants note that if the Commission does not accept no development as the counterfactual, there are two forms of marketing, involving different forms of coordination "that could be viable at some point in time". However, they have stated that these two options are theoretical and are unlikely to eventuate, but are canvassed for the sake of completeness.

246. The Applicants' proposed counterfactuals, in their order of preference, are therefore:

- 'No development';
- 'Scenario 1', where the parties separately sell their proportion of gas after agreeing on parameters for the development of the field. This includes an optimal depletion path which may be described in terms of maximum daily, average daily and annual quantities. Within these constraints each Pohokura JV party is able to separately sell its proportionate share of gas to buyer(s) on the basis of independently negotiated terms and conditions, including price; and
- 'Scenario 2', where each party separately sells its share of gas to buyer(s) on the basis of independently negotiated terms and conditions, including price, quantity, rate, specification and liability. The Pohokura JV parties will then agree on appropriate development to support the sales contracts in place.

247. CRA states that it is "quite plausible that a requirement on the Pohokura JV to separately market in the sense of Scenario 2 would lead to no development"[54] because of the likelihood that the parties would not be able to reach an agreement

[53] Commerce Commission Decision 280 – Electricity Market Company Limited, 13 September 1996, paragraphs 94-100.
[54] Page 48 of CRA report dated 20 December 2002.

on a single development plan that would fit with their individual negotiated sales contracts. However if it were possible to have Scenario 2 separate marketing, it would in comparison with joint marketing entail significant:

- extra production costs;
- extra transaction costs;
- delay in the development of the field;
- destruction in the value of the field; and
- reduction in exploration incentives.

248. CRA claims that these factors would be worse in Scenario 2 than Scenario 1. However, it considers that Scenario 1 would lead to a delay in the development of the field of at least 3 years.

249. The Applicants have put forward a number of arguments that they consider support their case including:

- that authorisation is sought for joint marketing as there is no other feasible means of marketing gas sourced from the Pohokura field[55];
- that this Application is seeking authorisation for what is a standard industry approach to the marketing and sale of gas. That there has been co-ordinated marketing of gas in all jointly owned New Zealand and Australian gas fields[56]; and
- that the ACCC has authorised the joint marketing of gas in Australia in all cases in which applications have been made to it. The ACCC has found that separate marketing of gas is "infeasible", and that accordingly production would not commence in the absence of joint marketing.

250. The Applicants and their advisers have provided a number of arguments in support of their view that separate marketing puts field development at risk, and have drawn a comparison between the ACCC's previous decisions and the current New Zealand situation.

251. They have suggested that the immaturity of the New Zealand gas market means that the practical problems the Pohokura JV parties would face in separately marketing gas would be difficult if not impossible to overcome, and some of the key reasons for this view are the same reasons the ACCC found[57]. The Applicants said:

- The ACCC in the Northwest Shelf Project Determination identified the market features necessary to support separate marketing:
  - a large number of competitive suppliers;
  - a large number of customers;
  - a range of storage facilities close to demand;

[55] Paragraph 15 of the Application.
[56] Paragraph 17 of the Application.
[57] Paragraph 21 of the Application.

- gas brokers and aggregators;
- gas related financial markets; and
- significant short term and spot markets.

and[58]:

> In the absence of the market developments identified above, the Pohokura JV parties are unable to overcome the essential problems faced when gas is separately marketed. The essential problems arise from:
>
> - the need to co-ordinate development and operation;
> - the need to co-ordinate substantial investment in the field;
> - the significant uncertainty in costs, revenues, deliverability and recoverable reserves over the life of the field (for example, the size of a field's economically recoverable reserves and hence high degree of risk);
> - the inevitable divergence between entitlement and off-take for each producer; and
> - the incentive to over extract leading to sub-optimal depletion. This difficulty arises from the "common property" characteristic[59] of gas and oil reservoirs.
>
> ….
>
> In attempting to separately sell gas produced jointly, pursuant to contracts negotiated individually, the Pohokura JV parties would face a number of insurmountable problems. Contracts negotiated without co-ordination will consequently contain different extraction rates, quantity, term, etc. The practical problems faced by the Pohokura JV parties include determining how they would:
>
> - apportion the costs of appraisal, development and operation;
> - apportion facilities access;
> - appropriately allocate risk, in particular reserves risk;
> - apportion uplift rights;
> - apportion field deliverability;
> - apportion all products recovered; and
> - appropriately adjust over-lift and under-lift.

The Commission's View of the Counterfactual

252. As noted above, the Applicants have suggested three possible (or at least theoretically possible) counterfactuals – no development, Scenario 1 and Scenario 2. These are starkly contrasting positions, and the Commission has not ruled out the possibility that there may be variations on these positions. CRA has suggested two possibilities which it has characterised as the extremes on the marketing continuum; first that the Pohokura JV parties could merge to create a single firm; and second, that the parties could undertake separate development of the field (including independent wells). At this time, however, the focus of the

[58] Paragraphs 24 and 26 of the Application.
[59] The 'common pool' property is where no one party has the right or the ability to exclude another firm from using its portion of the resource. This has been shown to lead to opportunism, sub optimal depletion and over extraction.

Commission's analysis has been on the counterfactuals described in detail by the Applicants.

253. The Commission will make a pragmatic and commercial assessment of what is likely to occur in the absence of the Arrangement. Specifically, the feasibility of separate marketing is considered in order to determine whether the 'no development' counterfactual is likely. The Commission then goes on to consider the likelihood of the two separate marketing counterfactuals being adopted in the absence of the Arrangement. Finally, the Commission will consider the likely extent and nature of any delay that might result from separate marketing, compared to the Arrangement.

No Development

254. Other than the Applicants, very few interested parties spoken to considered it likely that the field would not be developed should the gas from the field be required to be marketed separately in Scenario 1, although many suggested that Scenario 2 could delay field development or put it at risk.

255. As discussed above, the Applicants have stated that there is no feasible means of marketing gas from the Pohokura field other than joint marketing[60]. The Commission accepts that a requirement to separately market is likely to give rise to practical difficulties and that there may be important cost implications from such a requirement. Most interested parties accept that there will need to be more complex balancing arrangements between the Pohokura JV parties, but that these arrangements are not uncommon around the world and even in the New Zealand situation they should be attainable. These are discussed further below. However, for the Commission to accept that the field would not be developed at all on the basis that joint marketing was not possible, it would need to be satisfied that development under separate marketing would not be economically viable. The Applicants have not provided convincing evidence in this respect to date.

256. The Commission in reaching a view as to whether or not separate marketing is feasible, has considered a number of factors and these are set out below.

<u>Economic Incentive</u>

257. As discussed in paragraph 97, the reserves of gas and condensate in the Pohokura field have been estimated to be $[ ] in value.

258. The CAPEX required to develop the field to produce 70 PJ per annum is in the order of [ ]. The Commission understands that OPEX may be in the order of $[ ] per annum. If this estimate is correct, the development of the field would cease to be viable only if the OPEX sums were substantially more than envisaged.

[60] For instance paragraph 15 of Application.

Difficulties Faced with Separate Marketing

259. The Commission accepts that there are a range of factors which could affect the feasibility of separate marketing. The presence or absence of these conditions will have varying impacts on field efficiency or even the viability of field development.

260. Separate marketing by joint venture parties has not occurred in the New Zealand gas market to date. Neither until recently had it been a characteristic of the Australian market. However as set out above, the Australian situation has changed to some extent since the ACCC was last required to consider whether separate marketing was feasible.

261. The Applicants have argued that the market features listed by the ACCC, those present in overseas gas markets where separate marketing is the norm, are not sufficiently present in the New Zealand market. The Commission has considered these and other features below, but notes that it does not necessarily consider that this list is definitive of the features required before separate marketing can occur. The Commission accepts that the lack of these features in a market may create difficulties, although these are unlikely to be fatal to all attempts to separately market gas.

Large number of customers and competitive suppliers

262. The Commission is of the view that it is not possible to say whether you need a certain number of customers or suppliers before separate marketing becomes viable. Clearly in the United States, as the Applicants point out, the number of both customers and suppliers make separate marketing reasonably simple. In New Zealand there are a limited number of customers (maybe ten that would be potential purchasers of various quantities of gas from the Pohokura field) and while Shell and Todd are the major suppliers of gas, there are a number of other companies who are either currently supplying gas or are potential suppliers of gas because of their involvement in exploration.

Range of transportation options

263. The Applicants argue that even if there were a significant number of producers and consumers in the gas market, the development of a more mature trading market would depend on the ability to transport gas between those players. NGC operates the gas transmission network in New Zealand, including the Maui pipeline between the production station in Taranaki and Huntly. While currently the Maui pipeline is used only to transport gas under the Maui gas contracts, the Applicants agree it is likely that the Maui pipeline will shortly be available to transport non Maui gas all the way to Huntly, the site of New Zealand's largest single electricity generator[61]. The Commission notes that considerable progress appears to have been made in relation to opening up access to the Maui pipeline

[61] Paragraph 5.2 p.26 of the CRA Report.

and that announcements outlining such access are forthcoming from the GGEG in response to the Gas Industry GPS (as discussed in paragraph 88).

Gas storage

264. New Zealand does not currently have any commercial gas storage facilities, although as the Applicants agree, gas can technically be stored in depleted reservoirs, or injected back into the field once the associated liquids have been extracted and sold. The gas would be available to be withdrawn at a later date. The Commission accepts that in the short-term it is unlikely that commercial gas storage facilities will be developed and that in order to overcome the absence of commercial storage, more complex GBAs may be necessary.

Brokers

265. The Applicants state that there are no firms in New Zealand performing a formal gas broking or aggregating role, although they note Contact and NGC have purchased gas from a number of fields and used the gas for their own consumption or for resale to retailers and end users.

266. [

]

267. On 22 April 2003, NGC issued a media release announcing that it had entered into a gas purchase option with Indo-Pacific for gas from currently undeveloped discoveries in Taranaki. NGC's Chief Executive Mr Phil James was quoted as saying:

> NGC has previously announced it is looking at ways of developing its wholesale gas position in the post-Maui supply era. This era is likely to be characterised by supply from multiple smaller fields, with a strategic proportion of gas being brought to the market by smaller explorers developing previously uneconomic fields in Taranaki.

268. The Commission agrees that post-Maui it is likely that additional gas supply will come from smaller fields, and while the volumes of gas might be relatively small this should provide an incentive for the development or growth of brokers or aggregators.

Short-term and spot markets

269. The Applicants have argued that there is no gas spot market in New Zealand, and nor is there likely to be a mature one in the foreseeable future. The Commission is uncertain at this stage whether a short-term or spot market is likely to be developed in New Zealand, but it does note that the Gas Industry GPS includes an expectation that the gas industry establish "a work programme that enables the

development of efficient gas market arrangements in a timely and effective manner." As stated earlier in this draft determination the Minister of Energy expects that efficient industry arrangements will be in place by December 2004, and if progress towards this is unsatisfactory, the Government will consider regulatory solutions.

Field development

270. In most instances, for the development of a gas field to be bankable it requires a significant cornerstone supply contract. In some cases individual joint venture parties may not have access to a sufficient proportion of the field's output to be able to enter into such an agreement. Also individual joint venture parties may be unable to satisfy a large customer's requirements in terms of volume and security of supply. However, those problems may not be as large in circumstances where the demand for gas outstrips supply and where the risk to the producer/developer or finding buyers at a competitive price is small.

271. Other practical difficulties which can be encountered with separate marketing include:

- the potential for reserve risk to be allocated disproportionately;
- the potential for significant swings in production as parties' supply contracts commence/expire and the consequent effect on condensate production; and
- difficulty in negotiating a delivery profile which would suit each party's marketing agenda.

Off-take arrangements

272. As discussed in paragraphs 157 to 160, with separate marketing, there is scope for parties to get out of balance through over-lifting or under-lifting their respective entitlements to gas. This requires a GBA where overs and unders are addressed.

273. These matters can be complex and susceptible to disputes. Efficient arrangements are dependent to an important extent on an effective spot market and a gas market with depth, or agreements between the parties as to how these disputes will be overcome.

274. CRA in their report note the following:

- gas storage is conceptually a solution to gas imbalances, however it is not "practical or commercially justifiable in New Zealand";
- balancing with cash payments is another potential solution, however in the absence of a spot market for gas, the Pohokura JV parties would have to agree on an internal transfer price, which would amount to price setting for the field; and

- another option is in-kind balancing, where the over-lifting party repays the under-lifting party with equivalent gas from another field, or through transferring entitlement to remaining reserves.

275. CRA state that with regard to balancing with gas from another field, it would not be practical where the over-lifting party does not have its own alternative source of gas. Regarding the transferring entitlement to remaining reserves, "uncertainty and asymmetric information (and judgements) among the parties about relevant variables is likely to make negotiations long and contentious…"

276. Delay to field development from the need to negotiation GBAs in separate marketing is discussed further in paragraphs 330 to 334.

Sub-optimal field development

277. The Applicants have argued that with separate marketing (and in particular with reference to Scenario 2), decisions on field development would be materially affected by uncertainty about the total economically recoverable reserves from a field. This uncertainty about future quantities of gas from the field (and prices for that gas) creates an incentive on each Pohokura JV party to:

- extract gas earlier than might otherwise be the case; and
- avoid being the 'under-lifter' from the field.

278. The uncertainty may set up a race between the Pohokura JV parties to extract first. The Applicants argue that this would lead to more development expenditure than is optimal, and could lead to over-extraction and fewer resources being ultimately captured.

279. In the gas industry more than one company can have access to an oil and gas resource pool and where gas is not sold jointly, the individual parties have an incentive to realise their gas as soon as possible, and thus leading to an inefficient use of the resource.

280. This phenomenon is generally referred to as the 'common pool' problem and is the subject of a widely cited paper written by Garrett Hardin entitled "The Tragedy of the Commons".

281. CRA concluded:

> The well-known "common pool" problem implies that unrestrained competition in oil and gas production is inefficient both from the point of view of the individual firms and the economy as a whole. The fact that competitive drilling is a dominant strategy means that firms will have considerable difficulty achieving the efficient outcome without some sort of explicit cooperative agreement to align their interests. There is scope for inter-firm agreements to be privately profitable (and efficient) even if there are no market power effects in final consumer markets.

282. The Commission accepts that the 'common pool' problem does exist and potentially could put development at risk, particularly in a Scenario 2 situation.

283. A number of submissions have commented on the emphasis that should be placed on the list of characteristics identified by the ACCC and warn that a risk of identifying market features which are typically present in markets where separate marketing occurs is that those features may come to be regarded as pre-requisites for separate marketing. Submissions also point out that not all of the features of a mature market need to be present for separate marketing to be feasible and that if this was the case, "separate marketing itself would probably only be of academic interest, as a high degree of competition would already be achieved."

Previous Statements

284. As has been stated earlier in this draft determination, while the Applicants have argued there is no other feasible means of marketing gas sourced from the Pohokura field other than by joint marketing, the Commission notes that two years ago Shell and Todd advised the Commission that separate marketing of gas from the Pohokura field was possible, practical and likely to happen.

285. While the Commission has sought and obtained explanations from Shell and Todd with regard to why their views have changed, the Commission has some difficulty in reconciling the current view argued by the Applicants.

The Australian Situation

286. Although the Commission is mindful that the Australian experiences and the decisions of the ACCC (discussed in paragraphs 163 to 187) are not binding and may have only some relevance to the New Zealand situation, it does find the Australian experiences useful, particularly because the Applicants have referred to the Australian situations in some detail and made assumptions on the New Zealand situation by reference to what has occurred in Australia.

287. The Commission has carefully considered those ACCC decisions, as well as taking into account a number of recent developments and reviews that have taken place in Australia.[62]

288. Following a request from the Commission to comment on the CoAG report, and the other recent developments in the Australian gas markets, the Applicants have made the following points:

- the CoAG report has no legislative effect and its present status is simply that of recommendations not yet considered by the Coalition of Australian Governments;

[62] See paragraphs 163 to 187 above.

- the report's main conclusion is that as the markets continue to evolve, the precedent value of previous decisions will need to be evaluated on the facts of each new application;
- they note that "separate marketing where appropriate can significantly increase competition in the upstream sector, and particularly in the South East markets". In the current New Zealand context, those appropriate conditions (such as a number of diverse buyers, a deep liquid spot market, and where gas sales are incremental) – do not exist; and
- the report acknowledges that there are circumstances where separate marketing is not practical.

289. With regard to the Victorian gas market operated by VENCorp, the Applicants have said:

- the wholesale gas market was created through regulation;
- the wholesale gas market:
  - developed to enable within-day gas scheduling and balancing of the pipeline system to be market driven; and
  - developed to support the particular features of the Victorian system; and
- the March 2001 review of the Victorian market suggested the issue of upstream competition was not solvable by changes to the spot market or pipeline access arrangements.

290. In relation to the Yolla field, the Applicants claim that the Yolla situation is not an example of separate marketing, and that all contracts are identical, and with all the equity owners selling gas to Origin for its downstream business. In relation to the Geographe / Thylacine example, the Applicants note that the final development decision has yet to be made and therefore the joint venture parties have not engaged the issues arising from separate marketing. They also state that different market conditions apply in Victoria.

291. After discussions with the ACCC and after considering its NWS and Mereenie decisions, the Commission considers that there are significant differences between those decisions and the current Application before it. In both ACCC decisions, authorisation was granted because the ACCC reached the conclusion that it was not feasible to separately market, and therefore production would not have commenced without authorisation.[63] The Commission is of the view that it is not certain that the ACCC would have granted authorisation if it had not accepted the 'no development' counterfactual in those cases.

292. Of considerable interest to the Commission is the fact that since the ACCC last considered an authorisation application in 1999, some separate marketing is expected to eventuate in the Australian market. While the Commission agrees that the Geographe / Thylacine situation should not be taken as a 'blue print' to show that separate marketing will always occur, it does indicate that the option of

[63] As noted by the current Applicants at paragraph 18 of the Application.

separate marketing should no longer be excluded as a possibility. It does seem from this case that the Geographe / Thyalcine joint venture parties have been able to negotiate the issues that the Applicants have claimed make separate marketing infeasible. Woodside commented that the most important issues were the high degree of commercial integrity (confidence) the parties had in each other, and a willingness to get the project under way. The Commission considers that the Geographe / Thylacine situation provides a good example of what can be achieved in certain circumstances. On this occasion with cooperation between joint venture parties, an incentive to develop and market the gas, and in a situation where a marketing opportunity arose, the joint venture parties have been able to reach agreements on the development and separate marketing of gas.

293. The Yolla joint venture provides another example where separate marketing appears to be possible, albeit that the end result is that all parties have ended up selling their gas to Origin. However, according to AWE the sale of its share of the gas was made to Origin only after a competitive tender between five prospective purchasers, of which Origin was one of these.

294. While the Commission agrees with the Applicants that the CoAG report has no legislative effect and provides only recommendations, the Commission considers that it is reasonable to infer that in the future it is less likely that joint marketing authorisations will be granted in Australia. This is discussed in more detail in paragraph 171.

295. The Commission notes that in relation to the Victorian gas wholesale market, it remains the case that most gas is still sold by contracts and that initially there were very few trades through the wholesale market, although this should increase over time as additional sources of gas come to the market. The Commission agrees that the Victorian market is not a typical spot market, but notes that separate marketing is still possible even in the absence of a fully operational spot market.

296. The Commission accepts that separate marketing would be easier to achieve in circumstances where a market is mature and a number of the characteristics identified by the ACCC are present, but would possibly be less efficient than joint marketing. However the Commission is not convinced that these difficulties can not be resolved. GBAs are used extensively throughout the world to specifically address balancing issues.

297. The Commission notes that the original JVOA specifically provides for separate marketing. The Commission considers that the provisions in the agreement are likely to have been studied in detail before being agreed by the Pohokura JV parties, each of which has had considerable experience in gas exploration and field development. While the existence of the separate marketing provision does not necessarily indicate that separate marketing is the most efficient approach, it does give weight to the view that it is at least feasible.

Conclusion on 'No Development'

298. The Commission has considered a wide range of factors that impact on whether or not separate marketing is feasible and practical in relation to the Pohokura field. In doing so it has considered the arguments made by the Applicants, interested parties, the developments in Australia, and the current New Zealand circumstances.

299. The Commission believes that there is a strong economic incentive for the parties to develop the Pohokura field even if they are required to market the gas separately. Unlike some circumstances where joint venture parties face high risks of not being able to market gas from a new project, the Commission notes that in the current New Zealand situation that risk appears to be very small. In addition, it seems that the potential profits from the sale of gas and liquids are such that the development of the field would take place despite any extra costs involved in separately marketing the gas.

300. The Commission does not fully accept the Applicants' assertion that the Application is seeking authorisation for what is a standard industry approach to the marketing and sale of gas in New Zealand and Australia. Joint marketing may have been the standard approach in the past, but examples of separate marketing are now beginning to occur.

301. The Commission concludes that separate marketing is feasible and that in the event that authorisation were not granted, the Pohokura field would be developed and the gas marketed separately. Accordingly the 'no development' counterfactual is not accepted by the Commission.

Question 6:

The Commission seeks comment on its conclusion that separate marketing is feasible and that the Pohokura field would be developed even if authorisation were not granted.

Separate Marketing

302. Having reached the view that separate marketing is feasible and that 'no development' is not the likely counterfactual, the Commission has now considered what the likely counterfactual would be.

303. Under the Scenario 1 counterfactual, the Pohokura JV parties collectively determine the extraction rate of the field, and are then separately responsible for sale of their equity share of the amount extracted.

304. The Scenario 2 counterfactual refers to the situation where each Pohokura JV party separately sells its share of gas to buyers based on independently negotiated

terms and conditions, including price, quantity, rate, specification and liability, and then returns to the others with its own depletion path and other terms as agreed with its buyer(s). The Pohokura JV parties then attempt to agree on the appropriate development plan of the field to support the sales contracts in place.

305. The Applicants further qualify Scenarios 1 and 2 by stating that Scenario 1 involves co-ordination on all contract terms, except for direct agreement on price, and Scenario 2 does not involve co-ordination on any contract terms. The Applicants have also attempted to estimate the likely delay in the development of Pohokura in the event they are required to market separately.

306. The Applicants claim that compared to joint marketing, the transaction costs of:

- Scenario 1 would be significant enough to delay development of the Pohokura field by at least 3 years; and
- Scenario 2 would be significant enough to delay development of the Pohokura field by more than 3 years, or possibly indefinitely.

307. The Applicants seem to acknowledge that a Scenario 2 situation would be more difficult to achieve, and therefore more unlikely than a Scenario 1 situation.

308. In section 5 of its report, CRA state:

> It is important to note that scenario 1 effectively involves the joint venture parties making decisions on development parameters (including quantities and rates) *prior* to sales contracts being entered into. This approach could mitigate the over-extraction incentives to an extent. However a disadvantage of it is that those parameters would be established using a smaller set of demand-side information than could be obtained under, for example, joint marketing…
>
> …Scenario 1 would also require the joint venture parties to agree on a balancing arrangement. While not having to deal with the scale or scope of complexity as a scenario 2 balancing arrangement (because of the mitigated over-extraction incentives), the transaction costs of negotiation could nevertheless be expected to be significant…
>
> …While over-extraction incentives would be less of an issue under scenario 1, the Ministry of Economic Development might still be concerned about the potential for this form of marketing to delay field development and to reduce exploration incentives…
>
> …In summary, compared to joint marketing, scenario 1 would result in:
>
> - No extra intra-joint venture competition;
> - Loss of field value;
> - Reduction in exploration incentives;
> - Reduction in competition in the gas production market;
> - Significantly increased transaction costs;
> - Significantly increased production costs; and
> - Significantly delayed development and production.

> Furthermore, scenario 1 would entail a risk of the Ministry of Economic Development refusing to grant a mining permit.

And

> …In summary, compared to joint marketing, scenario 2 would result in:
>
> - Intra-joint venture competition;
> - Over-extraction incentives and loss of field value;
> - Reduction in exploration incentives;
> - Reduction in competition in the gas production market;
> - Significantly increased transaction costs;
> - Significantly increased production costs; and
> - Significantly delayed development and production
>
> Furthermore, scenario 2 would entail a risk of the Ministry of Economic Development refusing to grant a mining permit.

309. The Applicants expanded on their views in the Application in a letter to the Commission dated 21 March 2003. They argued that anything that blocks the ability of the Pohokura JV parties to fully co-operate on work critical to appraisal and development will delay the development of the field, and the commencement of production of gas. Also, anything that introduces additional work is likely to have the same effect.

310. An important element of the difficulties the Applicants associate with separate marketing arises from what they say is the consequential additional misalignment of interests between the Pohokura JV parties.

311. The Applicants also claim that the 'common pool' problems are particularly relevant to this case.

312. The Commission is of the view that the 'common pool' problem would not arise to a great extent under a Scenario 1 situation. The reason for this is that the Applicants will have previously agreed to the development plan as the output of the field is determined jointly, and that no party has the automatic right to access its share of the gas at a faster rate than the other parties. On the other hand, under a Scenario 2 situation, it would be more difficult for the parties to be aligned on an agreed development plan, after they have been out to the market and individually sold their share of the field's reserves.

313. The Applicants appear to accept that the 'common pool' problem would be less of an issue in Scenario 1 than it would in Scenario 2. However they argue that while the Scenario 1 governance structure would be more likely to better align the incentives of the parties than Scenario 2, the governance arrangement for Scenario 1 is likely to have 'gaps' that could be exploited opportunistically.

314. Commission staff have discussed the implications of Scenario 1 with the MED. It is the Commission's understanding that the MED would not refuse to grant a

mining permit merely on the grounds that the Pohokura JV parties were required to undertake Scenario 1 separate marketing.

315. With some exceptions, the interested parties generally accept that separate marketing would result in the Pohokura JV parties incurring additional costs, and that Scenario 2 had the potential to lead to significant inefficiencies and loss of value of the field for the reasons described in the CRA report when discussing the 'common pool' problem. In his report for Ballance, Tim Hazledine, Professor of Economics at the University of Auckland, stated:

> We could represent scenario 1 as 'supply first' and scenario 2 as 'demand first'. The second scenario is considered by far the worst of the two by CRA, and it is hard not to agree with this, given the opportunities for 'hold-ups' and other opportunistic behaviour when a party would come to the joint venture production decision meeting bearing a contractual obligation to supply gas to its customers but without any gas to supply, especially when the parties may not particularly like or trust each other.
>
> In any case, I will treat scenario 2 as a 'straw man' …

316. On the other hand, Methanex said it did not think that Scenario 2 should be dismissed, and it believed that there are various methods used around the world to overcome the problems.

317. The Commission considers at this stage that Scenario 2 would raise substantial practical problems and have significant cost implications arising from the difficulties in reaching agreement on a development plan. Under Scenario 2, the Commission agrees that the Pohokura field could be put at risk of not being developed for a period of time consistent with the Applicants' claim, at least under the current market circumstances.

318. The Commission notes that joint development of a gas field, but separate selling (a Scenario 1 situation) is reasonably common in other countries, however there appears to be very few, if any, examples of Scenario 2 situations in existence.

Conclusion on Separate Marketing

319. The Commission is of the view that the in the counterfactual Applicants will:

- negotiate and agree on the development profile and gas output of the field; and then
- separately sell their proportion of the gas in-line with their equity ownership of the field; and
- negotiate and agree on measures (including a GBA) to address the problems associated with separate marketing.

Possible Delays Under Separate Marketing

Applicants' View on Delay under Separate Marketing

320. The Applicants have considered the possible implications of separate marketing in the event that the Commission does not grant authorisation. They argue that in a Scenario 1 situation, even if they took an optimistic view, the development of the field would be delayed by three years and the welfare losses from separate marketing would be very large.

321. A number of the comments and submissions from interested parties have queried how and why the Applicants reached the figure of a three year delay, particularly because the Application does not expand on this.

322. On 21 March 2003, the Applicants advised the Commission that some of the information they had provided as part of the Application was now out of date. In particular they said that as a result of the preliminary well results from the Pohokura South Sidetrack well (obtained in January 2003), the expected first gas production is now scheduled for February 2006, not late 2004. The reason given for this delay is that [

]

323. The Commission has endeavoured to measure whether or not under separate marketing there would be a time delay in the production of gas from Pohokura, and if so for how long.

324. At a presentation to the Utilicon New Zealand Conference[64], the then Vice President of Preussag Energie New Zealand, Mr. David Salisbury ("Mr Salisbury"), provided an overview of the work that is required to develop any offshore gas-condensate field and an update on the Pohokura field.

325. Table 5 lists the steps that Mr Salisbury listed as being required to produce gas from a field, from the point of first appraisal to gas flow. Such steps are required irrespective of whether gas is marketed separately or jointly.

Table 5
Steps to Produce Gas – From Presentation by Mr Salisbury to Utilicon New Zealand Conference, March/April 2003

Steps	Mr Salisbury's Comments
Undertake subsurface evaluation	With so much uncertainty and such large sums of money at stake the potential for substantial losses is large if the subsurface is not adequately understood. The work required includes: • reducing reserves uncertainty;

[64] Auckland 2 April 2003.

	• reservoir performance and management – the performance of the reservoir over time under different development scenarios must be understood – it is important to understand if the field will be pressure depleted or might be affected by aquifers; • application of technology – what technologies might enhance the project; and • hydrocarbon composition – the composition of the hydrocarbons must be analysed, eg the Pohokura field has a relatively condensate rich composition.
Determine the optimal development concept	The optimal development concept includes: • field location and the integration of production facilities; • options for use of existing third party facilities; • reservoir structure and the optimum location of wells and platforms; • expected production profile of the field; • options for the production profile of the field. For instance, the Pohokura JV has considered a number of options for recovery of LPG, condensate etc; • depending upon the CO2 content of the field, the processing options and specification for the gas stream; • opportunities for staged development to defer CAPEX and/or accelerate revenue; • CAPEX and OPEX; • total field economics; and • regulatory and operational constraints
Define the marketing opportunities	Before any investment proceeds it is necessary to address product sales: • what is the market for each product? • how will the products be sold by the Pohokura JV parties? In the Pohokura situation, authorisation from the Commerce Commission has been sought; and • each joint venture participant will need to enter into sales arrangements sufficient to meet its obligations to its joint venture partners and its internal requirements for approval of investment in the development of the field.
Obtain all necessary regulatory approvals	Regulatory approvals are required such as: • Resource consents under the Resource Management Act; other consents; Petroleum Mining Permits under the Crown Minerals Act; and Commerce Act.
Obtain the agreement of	• The essence of a joint venture relationship is that

the joint venture participants to a development	each participant co-operates and participates in the joint activities of exploration, development and production but each participant retains rights to control its investment and has the right to its equity share of all products produced. • Subjective assessments of key factors will be required and each joint venture participant will have its own commercial objectives and investment criteria that it must satisfy. Reaching agreement amongst the joint venture participants is a challenging exercise.
Construct and commission all wells, facilities and pipelines	• Having reached agreement to proceed with the development of the field, work of constructing and commissioning the facilities and pipelines and drilling all wells must be undertaken. It is estimated that in the case of Pohokura this could take up to two and a half years to be completed dependant upon the size and complexity of the development decided upon.

326. Mr. Salisbury also outlined the work that was currently being undertaken in relation to Pohokura. These included:

- extensive acquisition and interpretation of a 3D seismic survey over the Pohokura field;
- development of static and dynamic modelling on the Pohokura field;
- drilling of the Pohokura North and Pohokura South sidetrack wells;
- detailed facilities design work; and
- application for 35 resource consents.

327. Mr. Salisbury added that from analysis undertaken to date, a downward trend in reserves is evident compared against estimates of field reserves in late 2000.

328. On 28 February 2003, the Applicants provided the Commission with a revised project schedule for Pohokura, as agreed by the Operating Committee. It detailed the following key dates:

- [ ]
- [ ];
- [ ]
- [ ]

329. The Commission sought additional information from the Applicants, and in particular requested a list of the additional steps that the Pohokura JV parties would have to take if required to separately market, as opposed to jointly marketing the gas. Table 6 sets out those steps that the Applicants have provided,

although the Applicants did not set out their estimate of the additional time that each of these steps could add to the project.

Table 6
Applicants' List of Additional Steps to Produce Gas if Separately Marketed

Additional Step	Applicants Comments
1. Appeal of joint marketing decision	• Raises the possibility of an appeal to the High Court and any subsequent appeals.
2. Separate marketing, subsurface, development work	• Each party would be required to undertake preliminary non-binding arrangements to support development decisions. • Separate subsurface work necessary to conclude Pohokura JV allocation arrangements. • Separate development work. • Agree degree of co-ordination required for development (Scenario 1 or 2) and define process for resolving issues and pursuing development.
3. New operator arrangements	• Re-define the role and funding of the field operator and may require negotiation of key development parameters and allocation arrangements.
4. Development concept agreement	• Preliminary definition is required of such matters as product mix, product specification, plant size, plant availability, plant maintenance periods, well design, platform design, export facilities and so forth. • Issues that would need consideration include payment for additional plant to manufacture higher specification product; ownership of the additional plant; rights of use of additional plant; rights of use of spare capacity in additional plant.
5. Product allocation agreement	• If offtake is not exactly co-ordinated so that all Pohokura JV parties take an equity share of all products at all times, arrangements are required to allocate products, including gas, propane, butane, condensate and possibly others.
6. Facilities allocation agreement	• If offtake is not exactly co-ordinated so that all Pohokura JV parties take equity share of all products at all times, arrangements are required to allocate facilities.

7. Gas balancing agreement, uplift allocation arrangements	• Arrangements are required to balance gas reserves and deliverability. The Applicants then provide a long list of issues that they consider would need to be addressed. This includes but is not limited to method of balancing; reserve re-allocation; deliverability re-allocation; balancing periods during the life of the field; definition of and rights to under-lift and over-lift; price determination for balancing methods; protection of capacity and penalties for taking other's capacity.
8. CAPEX allocation arrangements, OPEX allocation arrangements	• Arrangements are required to allocate capital costs and associated costs and to agree plant design and operating policies including methods of allocating and negotiating capital and operating costs; allocation of end of life expenditure and abandonment costs.
9. Other arrangements	• In relation to some or all of the above, the Pohokura JV parties will have to consider and address dispute resolution mechanisms and prudential assurance issues.
10. Commerce Act application for authorisation of co-ordinated development and Pohokura JV allocation and balancing arrangements	• The Pohokura JV parties will need to analyse the proposed arrangements and consider the Commerce Act implications arising from the necessarily very high degree of co-ordination to resolve the above issues of co-ordinated development and JV allocation and balancing arrangements.
11. Decide on design parameters	• Having resolved the above issues, the parties will need to decide on design parameters.
12. Finalise gas marketing arrangements	• The gas marketing arrangements can only be finalised once the development plan is finalised and all arrangements are in place to support separate marketing. It is only at that stage that the Pohokura JV parties will have full knowledge of the marketing parameters and it is likely that this will require a further round of negotiations with potential gas buyers.
13. Design and develop field	• The Pohokura JV parties will need to re-assemble the development team, redesign the development and then carry out the development.

GBAs

330. As explained earlier in this draft determination (paragraphs 157 to 160) in order for the Pohokura JV parties to separately market gas, they will need to develop

and agree a GBA that will protect their gas interests. The Commission understands that the complexity of a GBA can range from reasonably simple agreements that are based on generic formats, to complex agreements designed for particular circumstances.

331. The Commission asked its adviser to conduct an informal survey with the members of the AIPN[65].

332. The Commission's adviser contacted the AIPN members as follows:

> Dear AIPN Member
>
> I am currently involved in a project that is evaluating the advantages / disadvantages of joint or separate selling of gas. Fundamental to this of course is the issue of the need for a Gas Balancing Agreement (GBA) if the decision is made for the parties to be able to take their gas in kind.
>
> The development is an offshore development produced to shore from a platform. It is most likely that the development parameters will be agreed between the parties up front with the parties then able to sell their "allocated" share of production. The market is in short supply so there should be no issues with the parties being able to sell their gas however, there is neither any storage available nor a spot market of any kind.
>
> Some questions have come up as to how difficult is it to negotiate and operate a GBA? I would appreciate it if any of the AIPN members could help with the following:
>
> (1) Based on your experience, what is the average amount of time it takes to negotiate a GBA?
>
> (2) Is the GBA negotiated in parallel with the individual Sale and Purchase Agreements or must the GBA be concluded first?
>
> (3) How difficult is it to manage the GBA over the life of the field? (N.B. all "storage" will be contained in the reservoir by under-lifting.)
>
> (4) Is there any rule of thumb for estimating the increased amount of OPEX for managing the balancing?
>
> (5) What percentage of GBAs end up in litigation?
>
> (6) Any other significant points that I should be aware of?
>
> Lastly, are there model form gas balancing agreements or any sample balancing agreements that you could either send me or direct me to?
>
> Thank you in advance for any help you can provide.

333. The Commission acknowledges that the survey was not conducted in a scientific manner and that the recipients of the message were unlikely to have had a full

[65] The AIPN has 1200 members from over 50 countries and it is understood that the majority of members are energy lawyers reflecting the nature of its business. Membership is open to individuals primarily engaged in or actively supporting the negotiations of commercial transactions related to the international mineral and energy industries.

understanding of the specific characteristics of the New Zealand market. While the Commission does not intend to attribute too much weight to the views expressed in the responses to the Commission's enquiry, it does find the views of some relevance.

334. The Commission's adviser received in excess of 50 responses and the Commission has attempted to summarise the general views that were put forward. In Table 7, the Commission has set out a summary of the views in relation to each question and has then included some extracts of individual comments that were provided. It notes that most of the extracts from individual comments, referred to in Table 7, are from AIPN members who work for major international exploration companies.

Table 7
Summary of Responses from the Association of International Petroleum Negotiators on the Subject of Gas Balancing Agreements

Question	Summary of Responses	Extracts from Individual Comments
Based on your experience, what is the average amount of time it takes to negotiate a GBA?	6-12 months seems likely	• Time depends on experience of parties – with little experience 6-12 months. • A long time – cited two that took a year • It could take 6-12 months. Starting with a model agreement would help to accelerate the process. • Depends on how particular the parties are and how many there are. Doesn't think GBAs should be controversial. If you have reasonable parties, then perhaps a couple of weeks .
Is the GBA negotiated in parallel with the individual Sale and Purchase Agreements* or must the GBA be concluded first?	Most seem to think it is a good idea to negotiate the GBA before the SPA	• Would not progress the marketing too far ahead until the GBA is completed and you know delivery commitments. • Believes it should be done in parallel. • Would negotiate it first, so the parties don't have fully entrenched positions. • Thinks the GBA should be negotiated first, so all parties are aware of any constraints that have been agreed before entering into a separate sales agreement.
How difficult is it to manage the GBA over the life of the field? (N.B. all 'storage' will be contained in the	Views are diverse – approx 80% did not think they are difficult to manage	• In Australia it is rarely if ever done. • Not a big issue if record-keeping is set up right and managed regularly. • Recommends making a determination of the remaining recoverable reserves at various stages to ensure that the under-

reservoir by under-lifting.)		lifted party will be able to produce its volumes. • Challenges in managing a GBA will depend upon the terms of the GBA. If all parties are confident of being able to deliver their entitlements each month, then all could agree to forgo creating a complete GBA.
Is there any rule of thumb for estimating the increased amount of OPEX for managing the balancing?	Increase in OPEX for managing balancing appears to be negligible	• Its part time work for people in several departments. • Not aware of a rule of thumb, but it is an important consideration in balancing the respective equities. • Thinks the incremental OPEX is negligible with some issues to be addressed upfront.
What percentage of GBAs end up in litigation?	Many seem to think not a lot end up in litigation, but one mentions there is a lot in the US. One believes this is no more than any other oil and gas E&P agreement	• Isn't aware of any. If there are sensible dispute resolution procedures in the agreement, the parties should be able to avoid serious litigation. • There has been a lot in the US over GBAs particularly around key provisions such as restrictions on people's ability to take make-up gas during winter months. • Does not know how many go to litigation but suspects that it is about the same as any other oil and gas E&P agreement.
Any other significant points that I should be aware of?		• There could be problematic discussions regarding the life of the field – if sellers have different economics and delivery patterns, someone might wish to withdraw from the project sooner than another.

* Also known as Gas Sales Agreements ("GSA"s)

Discussion of Delay under Separate Marketing

335. The Commission has already acknowledged that attempting to measure any delay of production of gas from Pohokura that is directly attributable to a requirement to separately market gas, is a difficult task. As noted earlier, the Applicants themselves have not prepared an analysis of the likely time delay.

336. However, after taking into account the limited information that has been provided to the Commission to date on the likely time delays, the Commission has

attempted to identify the additional steps that would be required if there was a requirement to separately market the gas from Pohokura, and then an estimation of any time delay.

Appeal of Commission's Decision

337. The Applicants have argued that there could be an appeal from one or more of the participants at the conference, if the Commission grants authorisation to allow joint marketing. The Commission notes that this remains a possibility as does an appeal from the Applicants in the event that the Commission declines to grant authorisation. Any such appeal would likely run in parallel to other field development preparation.

Sub-surface Analysis / New Operator Agreement

338. The Applicants have claimed that each of the parties would conduct their own sub-surface analysis if required to market separately.

339. The Commission acknowledges that with such a major project, sub-surface analysis is crucial. However, there is some risk present to each party under both joint and separate marketing. The Commission believes that even under joint marketing individual parties will want to have their own analysis or interpretation, albeit from the information collected by the field operator.

340. In the Pohokura case, STOS is the field operator and therefore there appears to be a valid argument that both Shell and Todd should be reasonably comfortable with STOS's analysis under either joint or separate marketing.

341. To date, all three Pohokura JV parties have already spent considerable time and money on sub-surface analysis, and the Commission is of the view that it is unlikely that any of the parties would want or require to duplicate what has already been carried out by STOS. While some additional interpretation of the existing data may occur, it is unlikely to amount to much of a delay.

Development Plans and Decisions – Design Concepts, Development Agreements

342. The Commission understands that in most cases the development planning is undertaken in parallel to the commercial negotiations. The plan is then refined as the scope of the sales contracts become clearer. Desired volumes are usually known quite early, so some confidence can be gained with the ultimate design.

343. As Mr. Salisbury set out in his presentation to the Utilicon New Zealand conference, the optimal development concept for all projects requires discussions and agreement on a number of matters, whether or not gas is marketed jointly, eg options for recovery of LPG and condensate, and the processing options and specifications for the gas stream.

344. The Pohokura JV parties have already carried out extensive work on design concepts (based on the information provided by STOS), and it can be assumed that much of this work will be utilised regardless of the method of gas marketing. The Commission understands that in order to maximise revenues the parties will want to recover the most liquids from the field as quickly as possible, up to the technical limit of the field to produce, without damaging the reservoir. The liquids are driven by the gas volumes to be produced, so it seems reasonable to assume that the development plans and decisions will take these into account, irrespective of the method of gas marketing.

Gas Balancing Agreements / Product Allocation Agreement / Facilities Allocation Agreement / Uplift Allocation Arrangements

345. The Commission accepts that the product balancing agreements are likely to be the most contentious issue facing the Pohokura JV parties if required to separately market gas from Pohokura.

346. It is understood that there are at least three model form contracts to use as templates to start negotiations and that these have been prepared to aid those parties that are separately marketing gas. The Commission acknowledges that GBAs are normally present and in operation in mature market areas (such as the US), however it can be expected that these templates would at least reduce negotiation time. It also understands that some of the parties to the Application have vast experience in this industry and are in a position to utilise their experiences from other parts of the world where such agreements are common place.

347. The Commission has been told that it is best practice for GBAs to be negotiated before the gas sales contracts are agreed in order to reduce 'gaming' based on sales contracts. However, the Commission expects that preliminary discussions between individual sellers and potential buyers would take place (and have taken place) during the negotiations of the GBA. At the very least, in a market where there are a limited number of potential purchasers of gas, each of the Pohokura JV parties should be able to reasonably easily obtain a clear understanding of the sale options based on their likely allocation of gas.

348. The Commission agrees that the GBAs are likely to be complex in order to ensure that no one party is disadvantaged in any way, and that there is a clear understanding of the constraints on each party and the methods of reconciliation, in the event of a party getting out of balance with its entitlement.

349. However, the Commission has already set out its views that based on the current reserves projections for gas and liquids contained in the Pohokura field, there exists a very strong economic incentive to develop the field as quickly as possible. The Commission believes that the incentive of realising early revenue from the sales of Pohokura products is a strong incentive to successfully conclude the negotiations.

CAPEX and OPEX Allocation Agreements

350. Allocation agreements (liquids, CAPEX and OPEX) are more important when gas is being separately marketed. The areas requiring allocation, concern whether the entitlements/obligations are to be tied to the volume of gas produced by each of the separate parties or to remain based on the parties' joint venture working interest.

351. Companies do not want to spend the largest proportion of construction capital until all the key commercial contracts are in place, as funding arrangements will require guaranteed income stream. There is a risk in spending too much capital before satisfactory gas contracts are concluded. With the capital sunk, the purchasers could then demand a lower price or threaten to strand development, hence the normal practice is to conclude commercial arrangements before construction beings.

352. However, with a shortage of gas in New Zealand those risks may be largely mitigated away and a large portion of the construction might occur in parallel to the commercial arrangements, eg on items that would be needed in any development (onshore base, offshore platforms, pipeline to shore, consents, earthworks etc).

353. The Commission is of the view that some agreement on the appropriate levels of CAPEX and OPEX would be required in all situations. Each company will have its own views on the appropriate size of the plant required, and while agreement might be easier to achieve if gas is jointly marketed, it is difficult to see that this factor would substantially delay the development of Pohokura.

Other Arrangements

354. The Applicants have stated that in relation to the above points, the Pohokura JV parties will have to consider and address other issues that may arise. The Commission expects that finding solutions to these issues would be part of the considerations as set out below, and not a separate issue to be dealt with.

Gas Sales Agreements ("GSAs")

355. The Commission accepts that it is likely that GSAs will need to follow the agreement on GBAs. However, as stated above it would be expected that the Pohokura JV parties would 'test' the market and begin preliminary negotiations with potential purchasers of their gas prior to the completion of the GBAs. In any event, the Commission notes that in the current environment where there is a shortage of gas supply, it seems highly unlikely that any of the Pohokura JV parties would not be able to sell their proportion of the gas at an economically attractive price.

The Commission's View on Likely Delay under Separate Marketing

356. The Commission has sought to estimate the likely delays in the production of gas from Pohokura in the event that gas is separately marketed. The Commission notes that its estimations are based on any delays to the Applicants' estimates of production date - first gas scheduled for the beginning of February 2006 with full production capability scheduled for the second quarter of 2006[66] ("the February 2006 commencement date").

357. Table 8 describes the Commission's current views on the effect that separate marketing would have on the February 2006 commencement date. It sets out the additional steps that will need to take place in the event of separate marketing, and then attempts to estimate the extra time, if any, that it would take to carry out those steps. In doing so, the Commission notes that within the Applicants' current timeframe to first gas, it is possible that some of the additional steps would be carried out in parallel with existing tasks and that the net effect could be that some steps would not actually contribute to any delay.

358. If the Commission's view is that a particular step or part of it, would occur concurrently with other tasks then no additional time would be attributed to that task where it overlaps with the other tasks. For other steps, the Commission has estimated that these tasks would add additional time, but because the amount of extra time is too difficult to accurately measure, it has estimated a range based on a best and worst case scenario.

Table 8
Commission's Views on the Effect of Separate Marketing on Production Date

Tasks	Comment	Estimate of Additional Time Best Case / Worst Case
Commerce Commission Decision	• The possibility of an appeal remains irrespective of the Commission's decision.	No additional delay under both scenarios.
Sub-surface Analysis / New Operator Agreement	• Parties may require some additional interpretation of the existing data collected by STOS. • Unlikely to result in the requirement for a new operator agreement.	No additional delay under the best scenario – up to 3 months under the worst scenario.
Development plans and decisions – design concepts, development	• Required irrespective of marketing method. • Much of the existing work will continue to be utilised.	No additional delay under the best scenario – up to 3 months under the worst scenario.

[66] Sourced from the Applicants letter to the Commission dated 21 March 2003.

agreements.		
Gas Balancing Agreements / Product Allocation Agreement / Facilities Allocation Agreement / Uplift Allocation Arrangements	• Use of existing templates will help. • Strong economic incentive to reach agreements. • Under the best case scenario it is possible that the construction phase could commence prior to the finalisation of these agreements.	Up to 3 months under the best scenario – up to 12 months under the worst scenario.
CAPEX and OPEX Allocation Agreements	• Some agreement on the appropriate levels of CAPEX and OPEX will be required in any case.	No additional delay under the best scenario – up to 3 months under the worst scenario.
Other Arrangements	• Would be taken into account by other agreements.	No additional delay under the best scenario – up to 3 months under the worst scenario.
Gas Sales Agreements	• Preliminary negotiations would take place while developing the GBAs. • GSAs would normally follow the GBAs but under the best case scenario it is possible that some progress could be made concurrently with the GBAs.	Up to 3 months under the best scenario – up to 12 months under the worst scenario.
Total Extra Time		**6 months under best scenario – 36 months under worst scenario.**

359. The Commission considers that an extra 36 months beyond the February 2006 commencement date to satisfactorily reach agreement on the tasks listed in Table 8 is highly unlikely and it is more probable that it might take more than 6 months. Because it is very difficult to accurately predict what the delay might be, the Commission has taken a conservative approach and estimated that the delay is more likely to be somewhere closer to the best case scenario rather than closer to 36 months. As a consequence, the Commission considers that the range is likely to be within the 6 months and two year period, but for the purposes of this draft determination it will base its analysis on a delay of one year.

Conclusion on Likely Delay Under Separate Marketing

360. On the basis of the information it has received to date, the Commission has reached the preliminary conclusion that under separate marketing the development and production of the Pohokura field would be delayed by one year

from the February 2006 commencement date, to February 2007 for first gas, and the end of June 2007 for full production capability.

Conclusion on the Counterfactual

361. On the basis of the information it has received to date, the Commission has reached the preliminary conclusion that the likely counterfactual will have the following characteristics:

- the Pohokura JV parties will negotiate and agree on the development profile and gas output of the field;
- the parties will then separately sell their proportion of the gas in-line with their equity ownership of the field;
- the parties will negotiate and agree on measures (including a GBA) to address the problems associated with separate marketing; and
- production of the Pohokura field would be delayed by one year from the February 2006 commencement date, to February 2007 for first gas, and the end of June 2007 for full production capability.

Question 7:

The Commission seeks comment on the characteristics of its counterfactual.

Question 8:

The Commission seeks comment on the likely length of delay under the counterfactual.

COMPETITION EFFECTS

362. The Commission has considered below competition in the relevant market and any lessening of competition between the factual with the Arrangement, and the counterfactual with separate marketing.

Existing Competition

Current Ownership

363. Ownership of gas production fields is currently highly concentrated with Shell's equity share of current gas production amounting to around 62% of total production, Todd 20% and OMV 6%. Collectively the Pohokura JV parties account for around 88% of current production.

Table 9
Reserves of Natural Gas* at 1 June 2002 From Current Production Fields

Producer	Field Interests	Remaining Reserves (PJ)	Total Reserves (%)
Shell	Maui, Kapuni	666**	55
Todd	Maui, Kapuni. McKee, Mangahewa	371**	31
OMV	Maui	57	5
Swift	TAWN, Rimu	110***	9
Greymouth Petroleum	Ngatoro, Kaimiro	1.2	Negligible
Petroleum Resources	Ngatoro	0.8	Negligible
Australia and NZ Petroleum	Ngatoro	0.6	Negligible
Ngatoro Energy	Ngatoro	0.2	Negligible
Total		1207	100

*The figures are based on reserves quoted in billion cubic feet ("bcf") on the MED Crown Minerals website. To calculate a figure in PJ, each figure was converted to million cubic metres and then multiplied by the average annual gross calorific values for each field (from the MED Energy Data File, January 2003). The reserves figures were quoted at 50% (proven plus probable) probability of recovery levels.
** The figures for Maui include the ERR (352 PJ) plus an Commission estimate of reserves recoverable outside of the contract price (215 PJ).
***Conversion from bcf to PJ for Rimu provided to the Commission by the MED at 1PJ = 1.0546 bcf

Gas committed to meeting contracts

364. A feature of the gas market in New Zealand is that it is a 'contracts' market rather than a 'commodities' market. That is, transactions are given effect by buyers and producers entering into contracts for extended periods for large tranches of gas. As the numbers on both the supply and demand side are small, transactions occur only infrequently.

Current Demand

365. As referred to earlier in this draft determination, the major users of gas in New Zealand are the electricity generation sector, petrochemical sector (engaged in methanol and ammonia urea production) and the 'reticulated' customers (comprising industrial, commercial and household sectors). Electricity generation including co-generation accounts for around 40%, petrochemicals (principally methanol) accounts for around 42% and most of the remaining 19% goes to reticulated customers.

New Entry

366. A key to new entry into the gas market is the discovery of a viable gas field. Thus a principal factor impacting on new entry is exploration conditions.

367. Entry into the petroleum exploration market is subject to a number of regulatory approvals. The licensing regime was discussed previously in paragraphs 130 to 135.

368. In Decision 408 the Commission concluded that the need to obtain permits did not appear to be a major barrier to new entry.[67]

369. As discussed previously, the current level of exploration in New Zealand is considered high by Crown Minerals, with 14 wells drilled in 2002 and several discoveries in the last three years. In New Zealand currently there are 69 exploration permits and 11 mining permits operating.

370. Crown Minerals is of the view that New Zealand is increasingly regarded internationally as a favourable place for investment in oil and gas exploration and development:

> New Zealand has moved up to 14th most attractive country in the world for petroleum exploration investment, according to a 2002 international survey by IHS Energy Group.
>
> The IHS Petroleum Economics and Policy Solutions (PEPS) Ranking and Rating Index places New Zealand 14th out of 103 countries for the September quarter of 2002 — up from 19th a year earlier. New Zealand's standing has improved steadily over the previous three years from 36th place in 1999.
>
> The latest IHS total ranking placed New Zealand third in the world for lowest political risk, and 19th in fiscal rank — which reflects how government taxes and royalties affect investment returns. The largest gain in 2002 was in exploration and production ranking where New Zealand moved up to 33rd from 40th place in 2001.[68]

Future Gas Discoveries

371. The likelihood of future gas discoveries are discussed in paragraph 145 of this document. As noted there, MED has informed the Commission that in its proposed update of its New Zealand Energy Outlook to 2020, it will use the following assumptions:

- for years 2008-2013 an average of 35 PJ of new gas per annum will be brought into production; and
- for years 2014 onwards an average of 60 PJ of new gas per annum will be brought into production.

Impact of the Arrangement on Competition

372. The most obvious impact of the Arrangment is that gas from the Pohokura field would be marketed by one entity rather than three. The Commission accepts as a general proposition that competition is enhanced by more competitors entering the market. Conversely any market power is generally increased by a reduction in the

[67] Decision 408, paragraph 259.
[68] idem.

number of competitors. However to test this proposition in particular cases requires an assessment of the proposal against the counterfactual in the circumstances of the case.

373. Most major gas users have expressed concern to the Commission that, in the highly concentrated gas market, the joint marketing of Pohokura gas would have the effect of foreclosing an important level of potential competition in the market. They have suggested that this would be particularly harmful because the Pohokura field is likely to be the predominant source of gas for much of the next decade as Maui and other fields are rapidly being depleted. In addition most of the gas from other major fields is committed to particular projects under long-term contracts. Thus in the near future only the Pohokura field would appear to be able to provide sufficiently reliable gas supplies to meet the gas supply requirements of a new combined cycle gas turbine electricity generator on the scale of TCC or Otahuhu B (say around 20 PJ per annum), or to supply a significant participant in the petrochemical sector[69].

374. The matters of principal relevance to this assessment of the competitive impact are considered separately below.

Constraints from Current Competitors

375. Gas is currently in short supply in New Zealand. At present prices (which in the main have been set in long-term contracts signed before concerns about the early depletion of the Maui field were raised) demand greatly exceeds supply. Major new electricity generation projects (eg new combined cycle plants proposed by Genesis and Contact) have been put on hold because of an inability to obtain reliable gas supplies.

376. Further, of the discovered fields which have yet to be developed only Kupe has reserves in excess of 100 PJ and it appears that the Kupe field is likely to be costly to develop and to bring the gas to the market. As noted above, the MED in its February 2000 publication Energy Outlook to 2020 has noted that future level of gas discoveries is an uncertainty in any scenario of the New Zealand Energy sector. It assumed in its baseline scenario that new gas discoveries are around 80 PJ per annum. In its soon to be published update it is proposing to assume new gas production from new fields averaging 35 PJ per annum from 2008-2013 and 60 PJ per annum from 2014 onwards. In any event new discoveries of a significant scale are likely to take several years to develop. As an indication, the Pohokura field is likely to take 6 years from discovery to production and that field is generally regarded as a relatively straight-forward to develop because of its size and it being close to shore and to existing infrastructure.

[69] The Dominion Post reported on 24 April 2003 that Methanex needed about 20 PJ of gas a year to run the Waitara plant at full capacity and 33 PJ of gas for each of the two plants at Motonui. Ballance's ammonia urea plant currently takes around 7 PJ.

377. Having regard to the concentration of ownership, the current supply situation, the level of demand, and the very limited potential for significant new gas fields in the short-term, the Commission has concluded that owners of the Pohokura field would have an important degree of market power at least in the short-term irrespective of how the gas is marketed. They would, for a period at least, be able to earn rents – that is, income above the cost of their investment in the field.

378. The Applicants and others have argued that the nature of the industry makes it inappropriate to judge firms on the basis of an ex-post examination of the results from a particular field. To do so would overlook the substantial amounts of investment which are put into exploration before discovering a commercially viable field. They have argued that the presence of rents (which CRA refer to as 'differential' rents or 'Ricardian' rents) are necessary to attract investment into additional exploration.

379. Of relevance to the Commission's assessment of the Application before it is not so much whether the size of any rents per se, but rather whether the Arrangement might lessen competition and thereby increase market power (and rents) above the level they would otherwise reach.

380. The Commission concludes from the information available to it about the current and the likely future state of the market (as described above) that competition from other fields would not be sufficient to rule out the possibility of competitive harm arising from the way gas from the Pohokura field is marketed for the following reasons.

Question 9:

The Commission seeks comment on whether the current level of competition would preclude or limit the Pohokura JV parties from using any market power to engage in anti-competitive behaviour.

Effect on Prices from Joint Marketing

381. Many of the major gas users spoken to have suggested that the joint marketing of gas from the Pohokura field would lead to higher prices for that gas (with fewer options being offered on non-price terms). On the other hand the Applicants have argued that as the output of the field will be determined jointly in the counterfactual (and is likely to be no different on a yearly basis than with joint marketing), there can be no detrimental impact on prices from joint marketing. CRA on the Applicants' behalf has stated:

> Joint agreement on quantities and rates would mean that the share of each joint venture party is fixed. Accordingly, a price cut from the market-clearing price for the total quantity could only result in lower revenue. In other words, there would be no gain to a joint venture party in trying to undercut the other joint venture parties, as it could not gain any of their market shares, at least with respect to that field. This is in contrast to the

> situation in most other markets, where a firm could expect to gain market share from its competitors by cutting price.[70]

382. In a market where individual suppliers are not in a position to vary output, there is a very substantial constraint on each supplier's ability or incentive to compete on price. It can reasonably be expected that each supplier would refuse to sell at less than the market clearing price for the fixed output. No supplier can increase its revenue or market share by undercutting (which in practice would mean selling below the market clearing price) its competitors.

383. That point was commented on by Contact. It stated:

> The JV Parties have argued that separate marketing of Pohokura gas will not result in any greater competition, since all prices will tend to the same level via parallel behaviour (paragraph 69 of the application).
>
> Contact agrees that common prices may indeed result, even with separate marketing.
>
> However if this occurred, it does not mean that there will have been no additional competition in the separate marketing context. Many competitive markets have common prices. The issue is whether there will be any additional downward pressure on prices in general as a consequence of separate marketing.[71]

384. Other interested parties have suggested that the concept of one market clearing price for a fixed quantity of output depends on perfect market information, and the Commission agrees that this is not an obvious feature of the New Zealand gas market. The Commission considers that in the New Zealand environment, prospective acquirers of gas may be particularly disadvantaged by being at an information disadvantage, and when dealing with a single seller with market power such as the Pohokura JV), buyers may need to bid above the notional market clearing price to be certain of being supplied. On the other hand, with separate marketing by the Pohokura JV parties and the correspondingly greater number of possible sellers, buyers would be able to negotiate with, it is likely that the market will be better informed. In any event, with separate selling it is likely that each Pohokura JV party would compete against each other for the sale to any buyer which was at an information disadvantage until the price to that buyer would tend to come down to the market clearing price.

385. The Commission has considered the potential for the Pohokura JV, under joint marketing, to be able to practice price discrimination – in effect to charge each customer a price which varies with the amount each customer could afford to pay for the gas. In theory price discrimination, which can usually occur only where the seller has a substantial degree of market power, can mean that the producer could capture all the consumer surplus which would otherwise go to the gas buyer.

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[70] CRA Report paragraph 5.4.2.
[71] Contact Energy Ltd: Submission to the Commerce Commission, paragraph 4.12 to 4.14.

386. It is possible that potential purchasers of gas from the Pohokura field could afford to pay quite different amounts for the gas. For instance, an article in the Dominion Post on 24 April 2003 quoted an industry consultant as suggesting that at present Methanex could pay up to $8/GJ for gas in the short-term, while CRA have suggested electricity generators could pay $4.50/GJ. (These figures are adopted here purely for illustrative purposes – and should not be taken as the Commission's assessment). If the Pohokura JV had a significant amount of market power it could charge Methanex the full amount it could afford to pay (say $8) for its requirements and sell the remaining gas to the next highest bidder at the price it could afford to pay (say electricity generators at $4.50). However with separate marketing the individual Pohokura JV parties would be likely to compete against each other to sell to Methanex until the price offered to Methanex came down to the market clearing price ($4.50 in this hypothetical case).

387. In practice there are likely to be some important constraints on the ability of the Pohokura JV to price discriminate under the joint marketing proposal. The Pohokura JV is not likely to have unfettered market power – it will face some competition from other fields and from other energy forms. Further, the buyer may have some countervailing power - for example Methanex has made references in the past to the possibility of it shifting to other countries if it was faced with high gas prices in New Zealand. In addition there would appear to be some potential for the other purchasers of gas from the Pohokura field to engage in arbitrage – that is, to on-sell their relatively low priced gas to the gas user against which the Pohokura JV attempts to discriminate.

388. Nevertheless the Commission considers that some price discrimination may be possible with joint marketing, and that this would not be possible under the counterfactual.

389. While the argument has been made that price discrimination can enhance economic efficiency, the Commission does not accept that is necessarily the case. It has not ruled out the possibility that such price discrimination would cause a loss of competition in the gas market or in downstream markets.

Question 10:

The Commission seeks comment on the extent to which joint marketing would enhance the potential for the Pohokura JV to engage in price discrimination and the impact this may have on competition in the gas market or any other market.

Effect on Terms Available to Gas Purchasers

390. Gas consumers have told the Commission that a concern they have with joint marketing is that it would reduce the range of terms which would otherwise be available to them. They have suggested that with separate selling, each Pohokura JV party would be likely to offer terms reflecting their particular risk profile, and their individual view on how to maximise returns. These gas customers have

suggested, on the other hand, that with joint marketing the Pohokura JV would be likely to offer options based only on the collective position of Pohokura JV parties.

391. In addition it has been suggested to the Commission that some individual buyers may have a strong preference to avoid dealing with a particular Pohokura JV party even if this meant paying a premium in the price of the gas. However that possibility is removed if the buyer is required to buy from the Pohokura JV.

392. The Commission considers that in general the factors affecting price (principally supply and demand patterns) are also the predominant influences on terms and conditions. In this instance the supply of gas will be determined by the Pohokura JV parties jointly under both the Arrangement and the counterfactual.

393. Nevertheless the Commission accepts that choice of terms and conditions offered potential acquirers of gas is likely to be greater under separate marketing, and that a reduction in this choice amounts to a lessening of competition.

Question 11:

The Commission seeks comment on the extent to which the range of terms and conditions of sale would be limited by the Arrangement.

Effect on the Development of Competitive Markets in the Future

394. The decline in supply from the Maui field will have important implications for future shape of the gas production and wholesale market. The Minister of Energy has suggested that in the future supply is expected to come from a larger number of smaller fields.[72] The Minister has also stated:

> Enhanced wholesale market arrangements are needed to enable the efficient operation of the more complex gas supply market post-Maui, involving production from a wider number of fields. The development of market institutions raises technical issues that require detailed information and market understanding. The gas industry is best placed to develop market arrangements that meet these requirements.[73]

395. The Minister's comments followed the ACIL Review[74] which noted that current arrangements are inadequate for future markets with more diversified supplies and will increasingly create inefficiencies as Maui declines.

396. The ACIL Review noted that New Zealand is a very small market by international standards. The market is unlikely to be able to support the infrastructure seen in large overseas markets although ACIL noted that some form of gas spot market

[72]Gas Sector Review – Paper 1, from the Ministry of Energy to Cabinet Economic Committee dated 6 November 2002.
[73] Gas Sector Review – Paper 2: Minister of Energy to Cabinet Economic Committee dated 6 November 2002.
[74] ACIL Consulting. Review of the New Zealand Gas Sector – A Report to the MED, October 2001, p.xii.

involving trading at a logical hub in the system that is appropriate for New Zealand circumstances would, if it developed, be likely to bring with it significant economic efficiency benefits including by supporting entry by new gas producers, who would have alternative options for the marketing of gas. ACIL also stated:

> Given the small size of the New Zealand market, how quickly the spontaneous development of a gas spot market will occur is not clear. There is a case for explicit consideration and nurturing of a gas spot market.
>
> New Zealand has successfully developed its electricity spot market on a voluntary basis and this model of industry decision-making could possibly be adopted for the gas industry.[75]

397. The Commission accepts that the existence of a spot market, or even a market which facilitates the trading of overs and unders would have pro-competitive consequences. The timing and scale of such a market will largely depend on demand for such a market and that in turn will be a function of the benefits it could bring. In general these markets require a variety of suppliers and of purchasers undertaking a substantial number of trades to be sustainable and efficient.

398. A number of parties have noted the Applicants' argument that joint marketing is necessary because, in part, there is an insufficient number of participants to have an efficient spot market in New Zealand, but have suggested that one reason why there may not be a sufficient number of participants in the future is that Pohokura gas would be sold jointly. Contact, in its submission, stated:

> Authorisation of joint marketing has the potential to establish a precedent that acts as a disincentive on producers to enter into agreements which enable or encourage separate marketing to the extent that the inability of the New Zealand market to support separate marketing is self-fulfilling.

399. The Commission considers that a gas spot market and infrastructure changes necessary to facilitate an efficient and competitive gas market will depend in part on new gas fields being discovered and brought into production. However it will also depend on their being additional depth to the market. If Pohokura gas is sold jointly there would be fewer sellers than would otherwise be the case and consequently the depth to the market would be less. Accordingly the Commission considers it likely that joint marketing of gas from the Pohokura field would make it difficult for the Government to achieve its policy objectives set out in the Gas Industry GPS and it would inhibit pro-competitive developments in the production market.

[75] ibid Section 4.8.5.

Question 12:

The Commission seeks comment on whether the authorisation of the Arrangement may inhibit the development of a more competitive gas market in the future.

Overall Comparison of Competition in Proposal and in Counterfactual

400. The Commission considers that the Arrangment would be likely to lessen competition in comparison with the counterfactual. It would be likely to lessen the options available to potential purchasers of significant amounts of gas and the range of non-price terms which might be offered. Because the number of parties engaged in market transactions would be reduced, buyers would tend to be less informed about market conditions and this could increase prices. Joint marketing would also be likely to increase the potential for price discrimination between categories of gas users. Further it is likely that it would delay or inhibit market developments - such as the introduction of a spot market or an overs and unders market – which are necessary for a more efficient and competitive market.

401. The Commission acknowledges that separate marketing in this instance would not bring new producers into the market. Those who would be selling gas from the Pohokura field under a separate marketing arrangement are Shell, Todd and OMV, who are already major participants in the market, and Shell and Todd at least appear to have market power at present. The Commission also acknowledges that the intensity of potential competition between Todd and Shell may be constrained because of their common interests in gas fields and also their AMIA agreement (see paragraph 60).

402. The Commission also acknowledges that potential competition arising under the counterfactual may be constrained by the fact that under the counterfactual the field development and therefore its annual output will be determined jointly by the Pohokura JV parties. Thus the output with joint marketing is likely to be similar to the output in the counterfactual, and the individual JV parties would not be able to independently vary the amount of gas each has available for sale in either scenario. Thus it is unlikely that one of the potentially harmful feature of anti-competitive structures and arrangements – the ability of firms to withhold supply and thereby increase prices – would be materially different between the factual and the counterfactual.

403. However, while in the particular circumstances of this case there are features which mitigate the anti-competitive consequences of joint marketing in the short-term, the Commission considers that the overall impact of the Arrangement would be to lessen competition in the gas market. The Commission considers that the potential loss of competition would be greater over time as incipient pro-competitive changes may be delayed or forestalled by the on-going joint marketing of Pohokura gas.

Question 13:

The Commission seeks comment on its conclusion that the Arrangement would lessen competition in the market, particularly beyond the short-term.

PUBLIC BENEFITS AND DETRIMENTS

404. Having concluded that the Arrangement would result in a lessening of competition in a market, the Commission must consider whether the Arrangement will in all the circumstances result, or be likely to result, in a benefit to the public which would outweigh the lessening in competition that would result, or would be likely result, or is deemed to result therefrom.

General Approach

405. The authorisation procedures require the Commission to identify and weigh the detriments likely to flow from the Arrangement in the relevant markets, and to balance those against the identified and weighted public benefits likely to flow from the Arrangement. Only where the benefits clearly outweigh the detriments can the Commission be satisfied that the Arrangement will result, or be likely to result, in such a benefit to the public that it should be permitted, and thus be able to grant an authorisation.

406. The principles used by the Commission in evaluating detriments and benefits are set out in *Guidelines to the Analysis of Public Benefits and Detriments*, a revised version of which was issued by the Commission in November 1997. The various issues raised have been discussed in a number of Decisions by the Commission and the Courts in previous years. In assessing both benefits and detriments the focus in those Decisions has increasingly been on economic efficiency. For example the Court of Appeal in *Tru Tone Ltd v Festival Records*[76] that the Act:

> … is based on the premise that society's resources are best allocated in a competitive market where rivalry between firms ensures maximum efficiency in the use of resources.

407. The Commission considers that within the relevant markets, a public benefit is any gain, and a detriment is any loss, to the *public* of New Zealand, with an emphasis on gains and losses being measured in terms of economic efficiency. In contrast, changes in the distribution of income, where one group gains while another simultaneously loses, are generally not included because a change in efficiency is not involved. The Commission is also mindful of the observations of Richardson J in *Telecom Corporation of New Zealand Ltd v Commerce Commission* [77], on the Commission's responsibility to attempt to quantify benefits and detriments to the extent that it is feasible, rather than rely on purely intuitive judgement. This is not to say that only those gains and losses which can be

[76] (1988) 2 NZLR 351.
[77] *Telecom Corporation of New Zealand Ltd v Commerce Commission* (1992) 3 NZLR 429,447.

measured in dollar terms are to be included in the assessment; those of an intangible nature, which are not readily measured in monetary terms, must also be assessed.

408. The benefits that are likely to flow from the Arrangement in the future have to be assessed against a counterfactual of what might otherwise happen in the future in the absence of the Arrangement. Thus a comparison has to be made between two hypothetical future situations, one with the Arrangement and one without. The differences between these two scenarios can then be attributed to the impact of the Arrangement in question.

Detriments

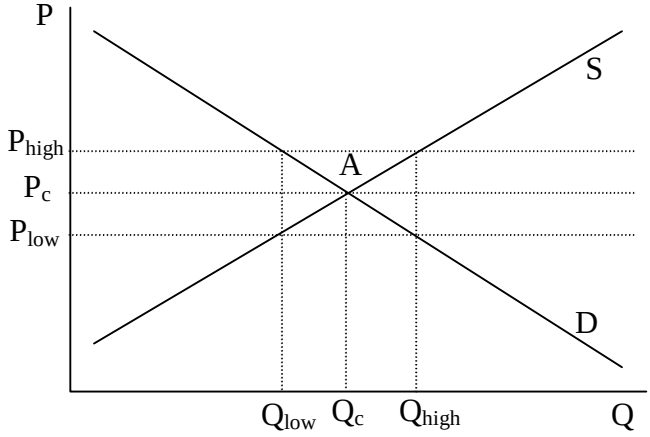
409. Potential detriments are normally assessed under the following three headings - allocative, productive and dynamic efficiency.

Allocative Efficiency

410. Subject to certain exceptions, the economy's scarce resources are allocated between alternative uses with maximum economic efficiency when, in any given market, the additional cost of producing the last unit of the good or service equals the price which a buyer is prepared to pay for that unit. Using economic theory, that optimum point is found where market demand equals market supply. Using the general market diagram shown in Figure 1, the intersection at point A of the competitive demand (D) and supply (S) curves for a particular product determines the optimum price and output of P_c and Q_c respectively.

411. An output higher than this, such as at Q_{high}, would be less than optimal as the social valuation of the good, as determined by the price a consumer is prepared to pay for it, as indicated by the demand curve, would be less than the sacrifice that society would make in producing that extra unit, as revealed by the supply curve. Similarly, at a less than optimal output, the reverse would apply; the social valuation of the good would exceed its social cost, indicating that more units should be produced.

Figure 1
A Generalised Competitive Market Model



Productive efficiency

412. A firm increases productive efficiency when it reduces costs. In terms of Figure 1, an improvement in productive efficiency by suppliers would be reflected in a downward movement of the supply curve.

413. A producer who enjoys a position of market power is normally considered to lack the competitive pressures to remain efficient in production, and to produce at minimum cost. Organisational slack may creep into its operations, bureaucracy may expand, principal-agent problems may arise, salaries may become inflated, and waste may occur, because a satisfactory level of profit is assured even when the firm is less than fully efficient. As a result, costs in general may increase. The increase in costs is a measure of the value of the resources being wasted, which in turn indicates the value of the output foregone by the economy as a whole from those resources not being employed productively elsewhere. It is this loss of output, measured by the higher costs, that is the social loss arising from an increase in productive inefficiency.

Dynamic Efficiency

414. Dynamic efficiency is concerned with the speed with which an industry adopts superior new technology and produces improved new products. The first brings advances in productivity allowing costs of supply to be reduced, and the second brings the benefit of meeting buyer wants more fully, both evaluated over time. In terms of the graphical analysis used above, product innovation would be reflected in a rightward shift of the demand curve, indicating a greater 'willingness to pay' of buyers for the improved products, whilst the lower costs associated with production innovation would be revealed by a downward shift in the unit cost curve.

415. Competition is generally considered to act as a stimulus to dynamic efficiency, and market power and regulation as retardants. It is generally believed that in an industry which has at least a significant scope for technological advance, the potential losses associated with market power are likely to be greater in the longer term in respect of dynamic inefficiency than they are in respect of the static forms of inefficiency (namely, allocative and productive) considered above. This is because of the loss of the compounding effect of the improvements over time.

Benefits

416. Benefits, to qualify as such under an authorisation, must adhere to the following criteria:

- they must be efficiency gains;
- have a clear nexus with the Arrangement; and
- not be obtainable under the counterfactual.

The Applicants' Quantification of Benefits and Detriments

417. The Applicants have submitted that joint marketing does not have the effect of lessening competition in a market. Further they submitted that joint marketing does not give rise even to theoretical detriment under section 30 of the Act by virtue of the joint venture price fixing exemption. Accordingly they consider that no competitive detriment should be attributed to joint marketing.

418. The Applicants have stated that the public benefits that accrue from the Arrangement, when compared with the counterfactuals they nominated, arise from:

- the avoidance of delay in the development of the Pohokura field;
- significantly lower production and transaction costs;
- optimal pool depletion;
- increased exploration incentives; and
- reduction in adverse effects on the environment.

419. The CRA report with the Application only quantified the public benefits that accrue from the earlier development of the Pohokura field and the consequential earlier production of gas from the field. The Application notes that the other benefits identified are either more difficult to quantify, or are likely to be smaller in magnitude, although CRA considers them to be significant.

420. CRA has measured the effect of the delay in the development of the Pohokura field by adopting a three year delay and measuring the discounted value of the sum of the (net) lost consumer and producer surplus in the gas market from such a delay. It has undertaken a sensitivity analysis using a range of scenarios.

421. CRA's assessment of the net present value of the welfare loss in its base case is $204.1 million, while its scenarios range from a low of $97.9 million to $451 million. These calculations were based on the assumption that if joint marketing was not authorised, production from the field would be delayed from 2004 to 2007. However as the Applicants have pointed out in their letter to the Commission dated 21 March 2003, even with an authorisation, production from Pohokura is now not expected to commence until February 2006. (The Applicants have stated that a failure to gain authorisation would now delay production to at least February 2009.) Further the Pohokura JV parties have now agreed not to pursue the staged development concept envisaged in the Application, but rather to supply at an annual rate of up to 70 PJ almost from the time production commences. In addition there have been other factual changes not factored into the CRA modelling, including the lower projected level of Maui reserves assessed by the independent expert following the re-determination process.

422. A more detailed commentary on the CRA model is set out later in this section.

Views of Major Gas Consumers on Benefits and Detriments.

423. The great majority of major gas consumers contacted expressed a clear preference for a competitive gas market. However, some considered that a requirement to separately market gas from the Pohokura field would not necessarily lead to a competitive market or, if it did, that it would not be worth achieving if it meant a delay in the gas being offered to the market. Others suggested that a requirement to separately market would not cause a delay, and that the greater competition from separate marketing of the gas would bring considerable consumer benefits.

424. Among the other points relevant to the assessment of benefits and detriments were:

- Contact stated that the CRA assessment does not take into account the fact that gas not used in the initial years because of any delay in development, will be available for use in later years;
- Contact stated that the CRA report does not take into account the allocative efficiency losses from higher prices arising from joint marketing;
- Contact suggested that authorisation of joint marketing is likely to inhibit the development of 'mature' market features associated with successful separate marketing;
- Ballance stated that the risk of delay with separate marketing has been overstated by the Applicants, and the detriments from joint marketing have been omitted by the Applicants;
- Ballance suggested that higher prices arising from joint marketing could result in the demise of the petrochemical industry;
- Ballance stated that the Commission should not ignore the potential precedent an authorisation might have for future marketing of gas;

- Ballance via its economic adviser[78] stated that the perfect competition model used to calculate welfare loss is not valid in a market with few sellers and buyers; and
- NGC/NZIER stated that using 'a simple depletion model', which compares gas sales in a competitive market with gas sales in a monopoly market, indicates an additional economic surplus of around $1.5 billion. A 'simple Cournot representation' suggests the welfare loss associated with joint marketing is between $0.35 billion and $1.1 billion. NZIER noted that these models are not exactly tailored to the Pohokura marketing scenarios, and it had not captured the relationship between joint *development* and separate *marketing*. However, it stated that the estimates suggest that the welfare consequences of allowing joint marketing in an already concentrated market could be substantial.

Assessment of Detriments

425. As discussed above, for the purpose of this draft determination, the Commission has adopted as its counterfactual a scenario which would see the Pohokura JV parties agreeing on various parameters for the development of the field, including an optimal depletion path, but would also see each party marketing separately its share of the gas from the field.

426. The Commission has concluded that the Arrangement would be likely to lessen competition in the gas market. The detriments arising from this loss of competition are discussed below under the headings: allocative, productive and dynamic efficiency.

Allocative Efficiency

427. The short-term loss of allocative efficiency arising from the lessening of competition is limited to some extent by the fact that the output from the Pohokura field would be the same under the Arrangement as it would be with the counterfactual.

428. The Commission considers however that there remains some potential for a loss of efficiency. Acquirers of gas at the production/wholesale level are small in number and acquire large volumes. Within limited price ranges their demand for gas appears inelastic, which means that producers can take advantage of information asymmetries and the potential to price discriminate to charge, on average, higher prices than would be possible in a fully competitive market. That in turn could have some impact on allocative efficiency in the short-term or, at least, lead to income transfers between the Pohokura JV and acquirers of gas. The issue of income transfers is discussed further below.

[78] Professor Tim Hazledine, University of Auckland.

429. The Commission also considers that beyond the short-term, joint marketing would hinder the development of a more competitive and efficient gas market. In turn it would affect the way the market develops and scarce resources are allocated. The Commission places a moderate but significant value on the loss of allocative efficiency from this factor.

Question 14:

The Commission seeks comment on the extent to which the Arrangement would impact on allocative efficiency.

Productive Efficiency

430. The Commission notes that the great majority of costs which would be incurred by the Pohokura JV are related to the production side of the business, rather than the marketing side. Production would be a joint activity in both joint marketing and separate marketing scenarios, and consequently in respect of production the incentive to be efficient would be similar in the Arrangement and in the counterfactual. Consequently, it is unlikely that the level of productive efficiency on the production side would be affected substantially by joint marketing.

431. The Commission considers that joint marketing would lessen the incentive to market Pohokura gas as efficiently as possible. With separate marketing it is likely the individual JV parties would compete with each other to achieve a premium on their sales by providing as efficient a service as possible. However, because gas tends to be sold by producers by way of a small number of large long-term contracts, marketing costs are unlikely to be large in comparison with production costs, and there would appear to be little room to make substantial efficiency gains in this area.

432. The Commission considers that on balance, no significant detriment should be attributed to a loss of productive efficiency arising from the Arrangment.

Question 15:

The Commission seeks comment on the extent to which the Arrangement would impact on the productive efficiency of the industry.

Dynamic Efficiency

433. The rate at which producers adopt new technology and improved methods is particularly important to the gas production sector. An ability to extract gas efficiently is likely to have a substantial impact on the volume of gas which can be produced profitably. In this instance, however, the production function would be undertaken jointly under both the Arrangement and the counterfactual. Consequently, there may be little difference between the Arrangement and the counterfactual in the incentive to adopt the most efficient new technology.

434. The Commission considers, however, that an on-going Arrangement could have an important detrimental effect on the way the market may develop in the future. The market has been classified as immature and it has few participants on either the supply or demand sides. This can be expected to change as new fields are discovered and developed, possibly by a range of companies. The existence of three firms marketing Pohokura gas rather than one would increase the depth to the market and quicken the time when the market matures sufficiently to support the infrastructure which is necessary for a fully competitive market.

435. On the other hand if the Arrangement to sell Pohokura gas jointly continued beyond the short-term, the prospects of a more competitive market evolving would lessen. Some new entry may be deterred if prospective exploration companies considered that they would be required to sell their gas in an immature market in competition with firms such as Shell and Todd who have existing market power. The Commission considers that joint marketing beyond the short-term may enhance the potential for Shell and Todd in particular to leverage their market power into down-stream markets.

436. The Government in its GPSs has emphasised the importance of developing an efficient gas industry in New Zealand. As the GPSs note, production from an increased number of smaller gas fields will require more sophisticated pro-competitive arrangements, including improved arrangements for gas balancing and reconciliation.

437. The Commission considers that any delay in the introduction of competitive and efficiency enhancing changes to the gas industry could have substantial detrimental consequences over time. This is particularly so as gas is becoming increasingly important to the supply of energy to the country. As the Commission considers that joint marketing of gas from the Pohokura beyond the short-term would delay these changes, it places a large detriment on this aspect.

Question 16:

The Commission seeks comment on the extent to which the Arrangement would impact on the dynamic efficiency of the industry in the short-term and also beyond the short-term.

Question 17:

The Commission seeks comment on means by which the loss of dynamic efficiency may be be quantified, and the outcome of any such quantification.

Price Discrimination, Price Increases and Wealth Transfers

438. The Commission considers that joint marketing would facilitate some price discrimination. That is, those customers who can afford to pay higher prices would be charged more than those which are unable or unwilling to pay the higher

prices. The extent to which price discrimination would be possible depends on the market power held by the Pohokura JV, and the ability of individual customers to switch to alternative suppliers of gas or to alternative fuels. The Commission notes that the Pohokura JV would be unlikely to have unfettered market power over an extended period and accordingly its ability to price discriminate would be limited. Nevertheless the Commission concludes that some potential would exist.

439. The Act does not prohibit price discrimination, and there are circumstances where price discrimination can be efficiency enhancing. However, the Commission does not consider that is the result in all instances. In this case price discrimination is unlikely to be efficiency enhancing as it would be unlikely to cause supply to be augmented, or customers to be supplied who would not otherwise be.

440. Price discrimination would result in some firms paying higher prices than they would otherwise. It might be that these higher prices could lead to a change in demand patterns and this may result in some allocative efficiency losses. It could have an undesirable impact on downstream markets where competition is limited if the higher prices were passed on. The electricity market might be detrimentally affected, for example.

441. The immediate result of price discrimination is that there would be a wealth transfer from those firms paying higher prices to the Pohokura JV. For the purpose of considering public benefits and detriments, the Commission does not normally attribute detriment to the wealth transfer in itself. This is because as one group (the gas producer) gains, another group (some gas acquirers) loses, leaving society as a whole no better nor worse off. However, the focus of the Act is on the welfare of New Zealanders; in its Guidelines the Commission defined the term 'public' in 'public benefit' as follows:

> The 'public' is the public of New Zealand; benefits to foreigners are counted only to the extent that they also involve benefits to New Zealanders.

442. Thus if transfers were to be paid by New Zealand consumers, but were to accrue to a foreign-owned firm and its shareholders, the transfer might no longer be neutral from a New Zealand perspective.

443. This raises the issue as to what constitutes a benefit to the New Zealand public. For example, if the transfer to be paid by New Zealand consumers, but were to accrue to a foreign-owned firm and its shareholders, the transfer might no longer be neutral from a New Zealand perspective. This issue arose in the AMPS-A case, where the High Court on appeal stated:[79]

> We reject any view that profits earned by overseas investment in this country are necessarily to be regarded as a drain on New Zealand. New Zealand seeks to be a member of a liberal multilateral trading and investment community. Consistent with this

[79] *Telecom Corp. of New Zealand Ltd. v Commerce Commission* (1991) 4 TCLR 473, 531; 3 NZBLC 102.340, 102.386.

> stance, we observe that improvements in international efficiency create gains from trade and investment which, from a long-run perspective, benefit the New Zealand public.
>
> On the other hand, if there are circumstances in which the exercise of market power gives rise to functionless monopoly rents, supra-normal profits that arise either from cost savings or innovation, and which accrue to overseas shareholders, we think it right to regard these as exploitation of the New Zealand community and to be counted as a detriment to the public.

444. This means that the redistribution of income associated with a business acquisition or restrictive trade practice would not necessarily be welfare neutral when there is an international dimension to the firm's operations, as in the present case, which would involve transfers between nationals of different countries. Transfers from New Zealanders to foreigners would potentially be losses, just as transfers from foreigners to New Zealanders would potentially be gains. To qualify for this treatment, transfers would have to be "functionless monopoly rents". In the present case this means that some of the transfers could count as a welfare loss, and that only a portion of the deadweight losses may be a welfare loss to New Zealanders.

445. In this instance the Pohokura JV, which would be the beneficiary of any transfers, comprises two overseas-owned firms (Shell and OMV) and one New Zealand-owned firm (Todd). The gas acquirers who would pay higher prices because of price discrimination are more difficult to determine. It has been suggested that Methanex at present could afford to pay more than others because of the current high world methanol prices (although these world prices appear very volatile). Methanex is overseas owned. On the other hand if the electricity sector was discriminated against, it is likely that Contact and Genesis would be most affected. If the reticulated sector was discriminated against, NGC (majority overseas-owned) and Contact would be most affected.

446. The Commission understands that the ownership position of these firms is as follows:

Producers	**% NZ Owned**
Shell	0
Todd	100
OMV	0

Sample of Acquirers	**% NZ Owned**
Methanex	0
Contact	20
Genesis	100
NGC	35

447. The Pohokura JV is effectively 74% overseas owned. On average (weighted by proportion of gas purchased this year) the buyers of gas are in the order of 66% overseas owned. On the basis of this information, the Commission considers that

the figures are reasonably similar and that therefore the treatment of transfers would not materially affect the Commission's assessment of the Application.

Question 18:

The Commission seeks comment on the extent of overseas ownership of the Pohokura JV and of acquirers of gas.

Question 19:

The Commission seeks comment on the extent to which any price discrimination by the Pohokura JV may lead to income transfers from gas consumers to the Pohokura JV, and the extent to which this would cause economic detriment.

Conclusion on Detriments

448. The Commission concludes that the economic detriments in the short-term from joint marketing would be limited, principally because the counterfactual would not be likely to result in different levels of production. However the Commission considers that the continuation of joint marketing beyond the short-term would be likely to have an important impact on how the gas market evolves and on the potential for an effective competitive market to evolve.

Question 20:

The Commission seeks comment on the conclusion that the detriments attributable to the on-going joint marketing of gas from the Pohokura field would be significant, particularly beyond the short-term.

Assessment of Benefits

449. The benefits which the Applicants have claimed would arise from joint marketing are discussed below.

Timely Development of the Field

450. As noted above, the Commission considers that a requirement to separately market the field would be likely to lead to a delay in the field commencing commercial production of gas by at least 6 months and possibly for as long as two years. For the purpose of measuring the benefit from the Arrangement a 1 year delay has been adopted.

451. The Commission accepts that the economic cost of a delay in the development of the field has the potential to be substantial. The Pohokura GPS states:

> Gas from Pohokura needs to be successfully marketed and in production in a timeframe and manner that ensures that national energy security and economic growth interests are

> met. This is particularly important to ensure that new electricity generation projects can be built in a timely manner to meet growing economic demand.

452. All the major gas users spoken to agreed that in current circumstances of constrained gas supply, anything less than timely development of the field would have very serious economic costs for the economy. Those in the electricity sector in particular saw dire consequences arising from a delay in production, especially in the event of on-going limited water inflows into the hydro lakes.

453. In its submission with the Application, CRA estimated the present value of the welfare loss in its base case scenario of a delay of three years of $204.1 million. However some important data used by CRA have not been updated to reflect the most recent information on such matters as the time of initial production from the Pohokura field, the production profile in the early years, total reserves in the Pohokura field, Maui reserves, and changes in demand from Methanex and electricity generators.

454. The CRA model focussed on the cost of delaying gas production from the field because the gas market was the area where the principal competition concerns might arise. However the Act requires the Commission to take into account all benefits to the public which arise from the Arrangement which is the subject of the Application. Accordingly the Commission has taken into its consideration the impact of a delay in the production of condensate and other products from the Pohokura field.

455. CRA has made its model available to the Commission and the Commission has run the model using its own information and assumptions. The reworked model is discussed further below.

The CRA Model

456. CRA calculated the public benefit from the avoidance of the delay associated with joint marketing by focussing exclusively on the gas market. To make the analysis more tractable, two simplifying assumptions were used. First, the analysis of the welfare effects in downstream markets was limited to the electricity generation and retailing markets on the one hand, and to the petrochemicals production market on the other. The supply of gas for use by others, principally those in the reticulated part of the market (which makes up about 15% of demand according to CRA), was removed from the analysis. The reticulated part of the market incorporates domestic, commercial and industrial customers.

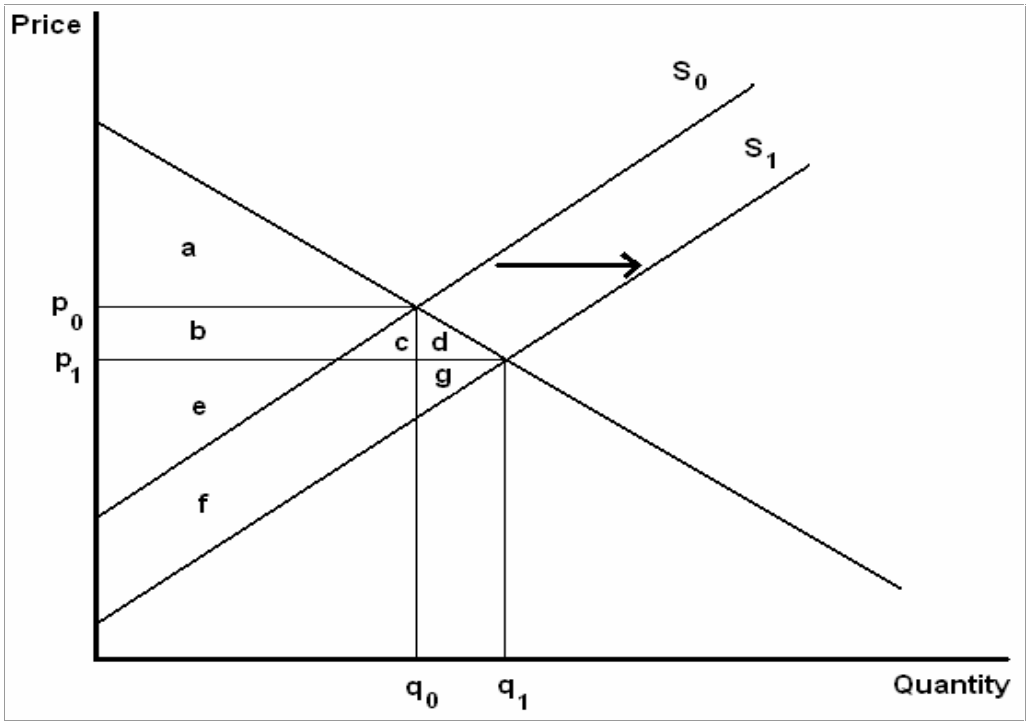
457. Secondly, by assuming that price is set equal to marginal cost in the relevant downstream markets, and by focusing on the equilibrium rather than the ‘standard’ demand curve in the gas market, it is possible to represent all of the welfare impacts from the delay in the Pohokura field start-up in the gas market alone. Hence, a demand and supply model of this single market encompasses the net welfare effects in that and the relevant downstream markets.

458. The welfare gains arise through the increased supply of gas in certain years in the future associated with the more rapid development of the field under the Arrangement, relative to the lesser supply with delayed development under the joint marketing alternative in the counterfactual. This gain is offset to some degree by the loss of the benefit in the factual from the continued availability of gas at the end of the field's life in the counterfactual. The welfare changes of the former are shown in a stylised way in Figure 2, which represents demand and supply in the gas market in a relevant year.[80]

459. With supply at S_0, producers' surplus is represented by the sum of areas *e* and *b*, and consumers' surplus by area *a*. With the supply expansion to S_1 and the consequential price fall from p_0 to p_1, and quantity expansion from q_0 to q_1, gas producers gain areas *f* and *g*, but lose *b* to users. Consumers gain areas *c* and *d*, and also *b* as a transfer from producers. Hence, the net welfare gain for producers and consumers together is the sum of *c*, *f*, *d* and *g*. The first two components measure the benefit from the now less expensive supply of the pre-existing quantity of gas; the last two components represent the welfare gain from the expansion in supply.

[80] This is a slightly modified version of CRA's Figure 3, p. 55.

Figure 2
Stylised View of Welfare Changes from an Increase in Supply

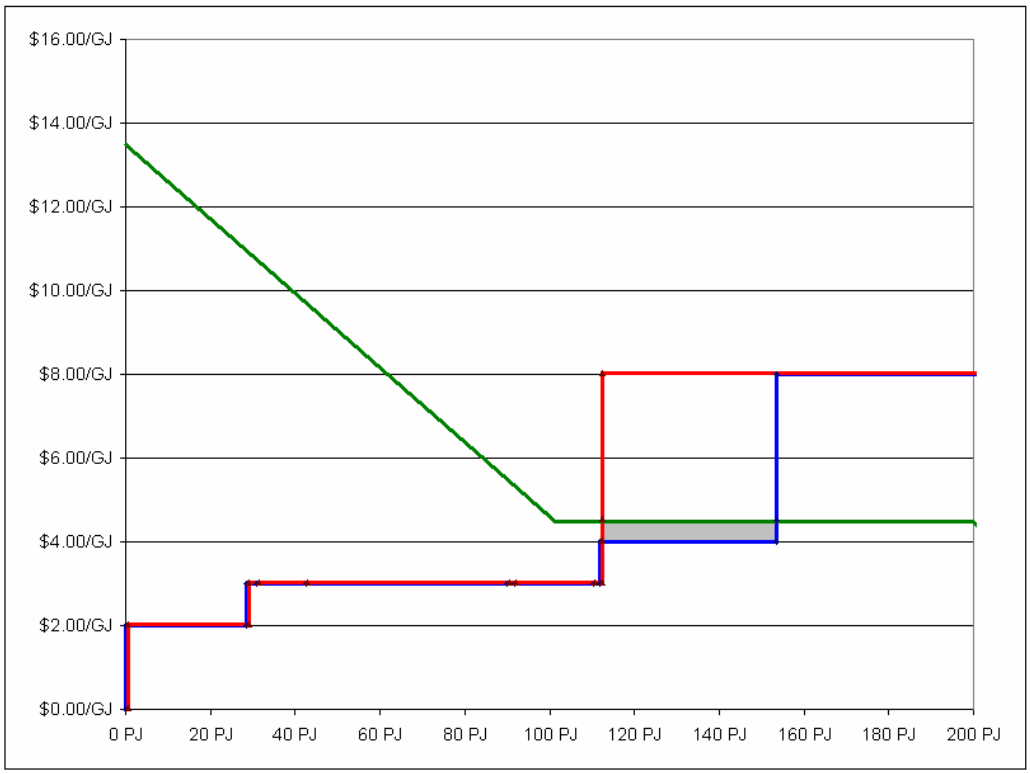


460. This stylized model then has to be tailored to reflect the nature of supply and demand in the gas market. This model is shown in Figure 3. It is a modified version of CRA's model for 2006[81].

461. The supply curve is a stepped line, with each 'tread' indicating the price and annual volume (for the year in question) of gas from each source of supply. These are arranged in ascending order of prices, so the curve steps upwards to the right, reflecting the assumption that lower cost sources will be exploited first. Prices reflect long-run marginal costs of supply. Volumes from each field were reduced to a proportion of those expected, to remove from the reckoning supplies devoted to the reticulation market. When the Pohokura field comes into production under the Arrangement, but not under the counterfactual, the effect is to introduce a new 'tread' into the supply curve at $4.00/GJ for the relevant year. The step above will shift rightwards (from roughly 110 to 150PJ), indicating an increase in supply, as illustrated in Figure 3. This implicitly assumes that the amounts supplied from other fields are not adjusted when the Pohokura field supply is introduced.

[81] CRA Report, Figure 6, p.62.

Figure 3
A Stylised View of the Gas Production Market in 2006, With and Without Pohokura



462. The gas demand curve is constructed by assuming that the critical price is $4.50/GJ. This is the price assumed to be paid currently by electricity generators, and the maximum price that would be paid by the petrochemical producers in the long-term. Hence, at a higher price only the generators would be in the market; this segment of the demand curve is constructed by assuming a linear function with a given price elasticity of -0.5, sloping backwards from a price of $4.50/PJ and (in 2006) a quantity of about 126PJs. The linearity of the function is admittedly unrealistic as a stepped one would be expected, given that generators are few in number and individually buy large 'blocks' of gas under long-term contracts, but a stepped function would be difficult to construct as their reservation prices are not known. At $4.50/GJ the petrochemical producers would be added to the demand function, so that it becomes kinked at this point, with a horizontal section representing the amount of petrochemical demand. The Commission has assumed, unlike CRA, that all of the capacity would be used at that price.

463. CRA expects generators' demand for gas to grow at 2% per annum, which would cause the curve to shift progressively rightwards year-by-year. Demand is also forecast to increase sharply in 2005 when two new gas-fired plants are commissioned (but only by the gas consumption of one, presumably because the net increase in capacity is equivalent to that of one). In the 'base case model' hydro-generation is assumed to be at a normal level. The Commission adopted

these assumptions, save for the one involving growth, which was assumed to be zero. This is because it is understood that combined cycle gas turbine stations are generally run as base-load and therefore close to full capacity. Hence, their demand for gas would only increase when new capacity is built.

464. The welfare gain from earlier development of the Pohokura field is shown in Figure 3 by the shaded area of additional surplus. These welfare effects have to be estimated for all years of the field's life. However, the major effect occurs in the 2006 year illustrated, given the one year delay assumed in the counterfactual at that point. The counterfactual has the partially offsetting benefit of a year's supply of gas from the Pohokura field at the end of the life of the field when gas has already been exhausted in the factual.

465. The CRA model seeks to make tractable the welfare analysis of a complex set of vertically related markets. Nonetheless, it is important to be aware of the intrinsic limitations of the model, which are as follows:

- the theoretical basis for calculating welfare effects in the vertically related markets using only the gas market relies on the assumption that the downstream markets are perfectly competitive (price equals marginal cost). This is highly unlikely to be the case given the structures of those markets;
- CRA states that they "assume a linear demand curve", yet this is inconsistent with its admission that the demand for gas is likely to be a step function. The construction of a stepped demand curve for gas for electricity generation is likely to be difficult;
- in applying the model, the focus is upon determining "observable" or "actual demand". However, the welfare model used is based upon "equilibrium demand", which is a theoretical construct that is not directly observable. For example, the equilibrium demand curve will have a steeper slope than the actual demand curve; and
- CRA's analysis is limited to only the first part of the life of the field (2004-2009), and so does not take into account the additional gas that would be available at the end of the field's life because of the delayed start in the counterfactual.

466. In addition, the calibration of the model is problematic because the gas industry is inherently difficult to forecast. This is illustrated by the changes that have occurred since CRA originally developed the model. For example, it assumed that the Pohokura field would start production in 2004, whereas now the earliest date is 2006. Similarly, it implicitly assumed that Huntly would continue to use mainly gas, whereas recently Huntly has switched almost entirely to coal. The same issue applies to New Plymouth, which is switching from gas to fuel oil.

467. A further consequence of uncertainty in gas markets is that many contentious assumptions inevitably have to be made in order to use the model to make welfare predictions, and these predictions are apt to be sensitive to the assumptions used. Amongst the more important assumptions are the following:

- the length of the delay caused by an absence of joint marketing, relative to the position with joint marketing;
- the reservation prices that Methanex and other petrochemical firms are prepared to pay (which is complicated by the unusually high international price of methanol currently);
- the timing of the commissioning of two new gas-fired generation plants;
- the amount of gas that Huntly would use;
- the assumption of a price elasticity of demand of -0.5 in the gas market;
- the price of $4.00/GJ at which Pohokura gas, and gas from other as yet undiscovered fields, would be sold; and
- the assumption that Kupe will start producing in 2008, and at a price of $4.50/GJ.

468. Because of the uncertainty attached to these figures, CRA subjected them to sensitivity testing, and also modeled alternative scenarios. CRA found that the discounted present value of the net benefits flowing from the Arrangement was sensitive to the values of a number of the variables used.

469. This discussion indicates that modeling in this case is subject to a higher than usual degree of reservation about the accuracy of any predictions made, given the great uncertainties inherent in the gas market, and the period over which projections need to be made.

The Commission's Model

470. For its own welfare calculations of the Arrangement, the Commission has used a modified version of the CRA model, and with some differences in data and calibration assumptions. The various demand and supply assumptions used are set out below.

Condensate and LPG

471. The Commission has also included in its analysis the producer surplus benefit from the earlier supplies of condensate from the Pohokura field under the Arrangement relative to the counterfactual. The Commission understands that condensates and gas must be extracted together, and that there will be no additional costs involved over-and-above those factored into gas production. Hence all of the additional revenues generated will be producer surplus.

472. The Commission understands that there may be around 30 million barrels of condensate in Pohokura and that its output declines at a faster rate than gas output.

473. The Pohokura field is considered to be rich in LPG. The Commission considers that there is also likely to be some benefit from the early supply of LPG from the field, but at this stage it does not consider that it has sufficient information about

quantities or the market for LPG over the life of the field to assess the size of this benefit.

Question 21:

The Commission seeks comment on the value that should be placed on benefits to the public arising from early production of condensate from the Pohokura field.

Question 22:

The Commission seeks comment on the value that should be placed on benefits to the public arising from early production of LPG from the Pohokura field.

Demand Assumptions

474. The Commission's demand assumptions for gas are set out in Table 10, where they are compared with those used by CRA.

Table 10
Demand Assumptions for Gas Used by the Commission

Element	Commission	CRA
Inflation	All monetary values expressed in 2003 dollars	All monetary values expressed in 2002 dollars
Non-electricity and petrochemical users	40PJs per annum	15% of supply
Current gas price and quantity for electricity users	$4.50/GJ in 2003	$4.50/GJ in 2002
Price elasticity for electricity users	-0.5	-0.5
Demand growth from electricity demand	Nil	2%
New demand from new power station	Extra 20PJs/year from 2007, coinciding with Pohokura production	Extra 20PJs/year from 2005
Huntly demand	Initially mainly coal, switching mainly to gas in 2007	Continuing predominance of gas over coal
Petrochemical maximum demand	98PJs/year	98PJs/year
Petrochemical demand	Zero capacity above $4.50/GJ; 100% capacity below $4.50/GJ.	2004 – full capacity 2005 – 50% capacity or above, depending on gas at less than $4.50/GJ 2006 onwards – 50% capacity at less than $4.50/GJ, and 100% at less than $3.00/GJ
Other energy sources	Normal	Normal

475. Projections of the demand for gas cannot be divorced from supply considerations. For example, if insufficient supplies were not available, electricity generators would tend to shift to alternatives means of generation other than gas-fired stations. Hence, the demand patterns assumed in Table 10 need broadly to be consistent with the supply projections set out below, as the two tend to go hand-in-hand.

Question 23:

The Commission seeks comment on all aspects of the demand assumptions adopted by the Commission.

Question 24:

The Commission seeks comment on the limitations of using a linear demand curve given the 'lumpy' nature of gas consumption.

Supply Assumptions

476. The Commission's supply assumptions for gas with respect to price are set out in

477. Table 11. These are very similar to those used by CRA.

Table 11
Supply Price Assumptions for Gas Used by the Commission

Element	Commission	CRA
Inflation	All monetary values expressed in 2003 dollars	All monetary values expressed in 2002 dollars
Price of Maui contract gas	$2.00/GJ	$2.00/GJ
Price of gas from smaller known fields	$3.00/GJ	$3.00/GJ
Price of gas from Pohokura	$4.00/GJ	$4.00/GJ
Price of Maui non-contract gas	$4.00/GJ	N/A
Price of gas in yet-to-be discovered fields	$4.00/GJ	N/A
Price of gas from Kupe	$4.50/GJ	$4.50/GJ
Ceiling price (coal alternative)	$8.00/GJ	$8.00/GJ
Gas production fields	As per table 12 below. The Commission does not consider significant production from the Kauhauroa field is sufficiently likely to include it in its assessment.	As per CRA report Appendix F. Includes 10 PJ per annum from Kauhauroa from 2010

Question 25:

The Commission seeks comment on all aspects of the supply assumptions adopted by the Commission, including the appropriateness of $8 as a ceiling price.

Table 12
Supply Volume Assumptions Used by the Commission

Field	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Pohokura				50	70	70	70	70	70	70	55	45	35	25	20	15	25	
Maui Contract	115	100	100	35														
Maui Non-contract				60	75	50	30											
Kapuni	25	25	25	25	20	20	20	20	20	20	20	15	15	15	15	15	15	15
TAWN	15	15	10	5														
McKee/ Mangahewa	15	15	15	15	10	10	5	2										
Rimu	2	2	2	2	2	2	2	2	2									
Other Fields	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Kupe						25	25	25	25	25	25	25	25	25	25	25	25	
New Fields						35	35	35	35	35	35	60	60	60	60	60	60	60
Total	**174**	**159**	**154**	**194**	**179**	**214**	**189**	**154**	**154**	**152**	**137**	**147**	**142**	**127**	**122**	**117**	**127**	**77**

Notes:
The Commission has used figures in its modelling reflecting the information provided to it. The precise figures were regarded as being commercially sensitive and accordingly the figures in the table above have been rounded.
Pohokura - Off-take figures have not yet been finalised by the Pohokura JV. The figures in the table up to 2015 are based on the expectations of the JV Parties, and the figures for the period beyond that are based on the same rate of decline in production as in the previous years.
Maui – The Commission has assumed that independent experts assessment of ERR reserves of 352 PJ is correct and that the extraction of that gas will be advanced and will meet contract obligations. The amount of non-contract gas has been assessed by the Commission. It takes into account information supplied by Maui Joint Venture parties. The Commission has assumed that contract gas will be provided before non-contract gas.
Other fields – Includes Kahili and Ngatoro – are based on knowledge of current production levels.
Kupe – The Commission has found no reason to change the "likely production figure" used in Decision 408.
New fields - The Commission has used in the above table MED's assessment of likely production from new fields.

478. One of the very difficult judgements required in the above assumptions is determining the amount of gas likely to be produced by new fields, particularly out over very long periods. In the above table the Commission has adopted

MED's assessment that fields which have not yet been discovered will produce 35 PJ per annum from 2008 to 2013 and 60 PJ per annum from 2014 onwards.

479. MED recognises that forecasting that far into the future is a very imprecise task. However the Commission considers that MED's figures may be conservative. It would be likely that the anticipated fall-off in production from current fields, and the consequential likely increase in gas prices, will increase prospecting activity. In turn this would be likely to increase the number of new discoveries. The Commission notes that the discovery of one field the size of Pohokura would mean that the MED's figures are significantly understated.

480. The Commission considers that it cannot place great weight on any one production estimate beyond this decade. However for the purpose of this assessment it has used an assumption that total supplies plateau at a level of 175 PJ per annum from 2010. The Commission considers that the MED's assessment and the above assumption of 175 PJ per annum provide it with a reasonable and conservative range to make its assessment.

Question 26:

The Commission seeks comment on likely and possible gas production through until 2020. The Commission seeks comment on what might be a reasonable range of production to use when undertaking its analysis, in particular, the plausibility of MED's assessment and of the assumption of 175 PJ per annum gas production from 2010 onwards.

Comparison of Model Results

481. As noted above, CRA's assessment of the net welfare gain from the speedier development of the Pohokura field under the Arrangement using its model results in a base case figure of $204.1 million (with a range under various other scenarios from $97.9 million to $451 million). This involved use of a discount factor of 10%, which the Commission has also adopted.

482. Using MED's future production profile, and somewhat different assumptions than those adopted by CRA, the Commission has calculated a public benefit of $22.9 million.

483. If MED's production profile is replaced by a production profile of 175 PJ per annum from 2010 onwards, the Commission has calculated a public benefit of $57 million.

484. The difference between CRA's modelling and the Commission's is attributable to a number of different assumptions. The principal ones are:

- CRA's model calculates the losses from a delay of three years, not one;

- CRA's model extends only to 2009, when in both the factual and counterfactual cases, the Pohokura field is in full production. The offsetting effects at the end of the Pohokura field's life are therefore not counted. An initial delay in the Pohokura field's production means that its exhaustion is also delayed. The Commission counts this ultimate extra consumption in its calculations;
- the different assumptions on demand and supply; and
- the incorporation of benefits attributable to the earlier production of condensate from the field.

Question 27:

The Commission seeks comment on all aspects of the assessment of the benefit to the public arising from the avoidance of a delay in production of gas, condensate and LPG from the Pohokura field.

Production and Transaction Costs

485. The Applicants have stated:

> Compared to joint marketing, separate marketing would lead to significantly higher production and transaction costs. Clearly, quantification of these higher costs is extremely difficult, due to the uncertainty over how the extra required negotiations and investments would proceed (there is of course no precedent in New Zealand or Australia).

486. However, the Applicants, "drawing on a mixture of development and marketing experience and judgments about the level of complexity of separate marketing" provided the following estimates[82]:

Extra negotiation costs – staff, consultancy And legal fees	- $6.6 million per annum
Extra facilities costs	- $50 million
Extra operating costs	- $5 million
Extra appraisal and design costs	- Significant
Miscellaneous costs – Standing down project team during period of delay	- $4 million
Litigation costs	- Not quantified.

487. The Commission accepts that there will be additional transaction costs with separate marketing. Clearly separate marketing will require the Pohokura JV parties to reach agreements on appropriate off-take and balancing arrangements. Coordination may be more difficult. Information flows are likely to be

[82] Letter from Applicants to Commission 14 March 2003, pp.14, 15.

constrained as each Pohokura JV party would be wishing to protect its commercially sensitive information. There may be a greater areas for dispute between the Pohokura JV parties, and this could lead to increased litigation. At this stage, however, the Commission considers that the Applicants, in their assessment quoted above, may have overstated some of these costs.

Extra Facilities Costs

488. The Applicants' submission has suggested that separate marketing could lead to a 10% (which it has stated is conservative) level of overcapacity, and that this could add $50 million to development costs.

489. The Commission accepts that separate marketing may mean that joint development decisions are made on a less informed basis than they would have been with joint marketing. This can result in there being a greater chance of less than optimal development decisions being made. This can mean either too much is spent on development, or too little. Anything more or less than optimal is undesirable from a public benefit point of view, but the Commission is not convinced at this stage that the detriment would be as much as $50 million. It appears to the Commission that a figure of this size may be appropriate where the Pohokura JV parties effectively separately determine development parameters, but that is not part of the counterfactual adopted by the Commission.

Extra Appraisal and Design

490. The Pohokura JV has engaged STOS to conduct technical and operational work for the appraisal and development of the field. The Applicants have noted:

> The Pohokura joint venture parties have conflicting interests in aspects of the appraisal and development of the field (for instance of downstream infrastructure). These conflicts are manageable in the context of an overall joint effort to develop the field. In this situation, the Pohokura joint venture parties are sufficiently aligned that they work jointly in the key aspects of appraisal, development, commercial and marketing work. ….
>
> If the Pohokura joint venture is required to separately market gas this will introduce (further) misalignment. The alignment that currently exists that allows the joint venture parties to cooperate and rely on the resources of STOS will cease. That is because STOS is not owned or staffed by the joint venture. Accordingly, if the joint venture parties were forced to separately market, aspects of operatorship may have to be considered. That will be a substantial exercise and would take a considerable period of time to address and resolve.
>
> This is likely to result in:
>
> *Extra Subsurface Work*
>
> ….
>
> Enforced separate marketing will compel the Pohokura joint venture parties to invest in extra risk mitigation strategies. This will include spending more money and time prior to development decisions in understanding the subsurface structures. …

> The misalignment of joint venture party interests in managing the subsurface risk will very likely result in each joint venture undertaking at least in part its own subsurface analysis rather than relying on the work of Shell/STOS.
>
> …
>
> *Extra Development Work*
>
> As with the subsurface analysis, the misalignment of joint venture party interests will very likely result in each joint venture undertaking at least some of its own surface analysis rather than relying on the work of Shell/STOS.

491. The Applicants have noted that the extra appraisal as a result of separate marketing might be limited to extra 'desktop' work using existing data. The Pohokura JV paid around $23 million in 2002 for this work. The Applicants have suggested that each Pohokura JV party could feel compelled to undertake this type of work individually.

492. The Commission is not convinced at this stage that the amount of analysis in addition to that undertaken by STOS would necessarily be significantly more with separate marketing than with joint marketing. Under both arrangements each party would want a high level of confidence in the reliability of the analysis work, given the implications of a serious error. No doubt under both scenarios each party would test the reliability of the conclusions reached by STOS.

493. Accordingly the Commission has placed only limited weight on the claim that additional costs would be incurred under separate marketing as a result of the parties each undertaking surface and subsurface analysis.

Optimal Pool Depletion

494. The Applicants have stated:

> It is important to note that scenario 1 effectively involves the joint venture parties making decisions on development parameters (including quantities and rates) prior to sales contracts being entered into. This approach could mitigate the over-extraction incentives to an extent. However, a disadvantage of it is that those parameters would be established using a smaller set of demand-side information than could be obtained under, for example, joint marketing. The consequences are that:
>
> - The parameters are less likely to be set at the welfare maximising point; and
> - Negotiations over those parameters would be longer and more contentious, particularly given that there would be an asymmetry between each joint venture party's imperfect set of demand-side information.

495. The Commission accepts that joint marketing will be likely to mean that development decisions will be made with better knowledge of the market's requirements than would be the case with separate marketing. In the latter scenario, it is likely that each Pohokura JV party would be unwilling to divulge to the other parties the needs of its prospective customers. Further, with the greater

flexibility from scale with joint marketing, it should be possible to meet more closely the different requirements of customers on such matters as offtake terms, swing, risk and so on.

496. The Commission has attributed a moderate amount of public benefit from these outcomes of joint marketing.

Exploration Incentives

497. The Applicants and other exploration companies have suggested to the Commission that if the Pohokura JV was required to market separately additional costs and risks would arise. While this may not prevent the development of the Pohokura field, it would be seen by prospective explorers as a disincentive to invest in New Zealand.

498. The Commission does not accept this argument for the following reasons:

- the Commission's analysis of the implications of joint marketing is on a case by case basis. The decision in this instance could not be taken as an indication of what the Commission might conclude under different circumstances in the future;
- the Commission's particular concerns in this case are the high level of market concentration, the existing market power of the Pohokura JV parties and the limited supply alternatives in the near future. In addition the New Zealand market remains immature, with few participants. The Commission anticipates these circumstances changing in coming years, possibly to the extent where separate marketing becomes the preferred option of the field owners; and
- in any event, at least in respect of fields similar to Pohokura, the costs which may be associated with separate selling would be small in comparison with the gains to the owners from the field.

Reduction in Adverse Effects on the Environment.

499. The Application stated that as a result of joint marketing there would be a reduction in adverse affects on the environment. It suggests the most likely alternative to gas for electricity generation is coal, and that coal has significantly more externalities than gas.

500. The Commission does not consider a case has been made for significant weight to be given to this factor. It has not been demonstrated that there would be less gas produced with separate marketing in the counterfactual, merely that it would be delayed by perhaps one year. Whether that would mean more coal being used in the period of the delay, or the extent of any adverse effect this would have on the environment, has not been demonstrated.

Question 28:

The Commission seeks comment on the value that should be placed on benefits to the public arising from lower production and transaction costs, enhanced exploration incentives and from reduction in adverse effects on the environment.

Balancing of Public Benefits and Detriments

501. The Commission considers that the lessening in competition from the Arrangement would result in significant detriments. It would give rise to a loss of allocative efficiency beyond the short-term by hindering the development of a more efficient and competitive gas market. It would also significantly reduce dynamic efficiency beyond the short-term. Overall the Commission places an important weight on these detriments, given the importance of the market to New Zealand's economic development.

502. The Commission considers that public benefits would arise from the Arrangement in the form of lower transaction costs, lower appraisal and design costs, lower development costs and more efficient decisions on optimal depletion rates. However the Commission, although it has not been able to quantify these benefits at this time, the Commission considers that they have been overstated in the Application. By themselves they would not exceed the detriments from the lessening of competition.

503. The Commission recognises that an important benefit would arise from the earlier production of gas, condensate and LPG as a result of joint marketing. The Commission has assessed on a conservative basis that this benefit would be in the range of $22.8 million to $57 million. It considers that these figures are likely to be understated because they do not include anything for the early production of LPG, and because many of the factors limiting the overall size of the benefit arise well into the future when predictions of market conditions are subject to a very high level of uncertainty. Thus the Commission considers that there is a good chance that the benefits could be higher than the upper bound of the range assessed above.

504. The Commission has found that the benefits from factors, other than the avoidance of the delay, do not outweigh the detriments. Potentially, the principal benefit from the Arrangment (the early production of gas, condensate, and LPG) would only arise if the joint marketing avoided the delay in the field development. At this stage, the Commission considers that it cannot be certain that the Arrangement will, in fact, result in the earlier development of the field. Consequently, it considers that it is necessary that any authorisation would be subject to conditions which would give greater certainty that the early production would result, and therefore give rise to the benefits. The Commission also considers that it can achieve greater confidence that the public benefits exceed the detriment by placing a condition on any authorisation that limits the amount of detriment.

Question 29:

The Commission seeks comment on its assessment of the weight that should be given to public benefits and detriments that would arise from the Arrangement.

POSSIBLE CONDITIONS ON AN AUTHORISATION

505. Section 61(2) of the Act states:

> Any authorisation granted pursuant to section 58 of this Act may be granted subject to such conditions not inconsistent with this Act and for such period as the Commission thinks fit.

506. In the consideration of the Application to date, various interested parties and the Commission have been concerned that if authorisation were granted for joint marketing of gas from the Pohokura field, it is crucial that the benefits of the earlier development of the field be cemented in. In addition, it is equally important that granting the authorisation does not act as an impediment to the further development of gas market arrangements as set out in the Gas Industry GPS

507. At this time, the Commission considers, that in order to authorise the proposal, it would impose conditions on the authorisation designed to ensure that the benefits are realised, and that the detriments to future competition in the affected market are reduced.

508. The Commission is considering granting authorisation for the proposal with the following conditions.

Limited Period of Authorisation

509. A limitation on the period of authorisation has been a common approach in other jurisdictions. It means that joint marketing of gas would not be protected from action under the Act after the period of authorisation is over, unless a further authorisation was applied for and granted by the Commission.

510. The Commission considers that a time limitation has the following advantages:

- it would greatly limit any detriments not identified at present, but which might arise in the future in the new post-Maui environment;
- granting authorisation will allow the development of the Pohokura field (as a Greenfield development) to proceed as planned. On the expiration of the period of authorisation, presumably the Pohokura field will qualify as a Brownfield development (a situation where it is generally accepted that separate marketing is easier to achieve);
- as this is the first occasion where the joint marketing issue has arisen in the New Zealand environment, and as the Applicants are seeking authorisation for

the life of the field, the Commission notes it is impossible for it or for anyone else to predict how the market will develop and change both in relation to the demand and supply sides. Imposing a time limit on the authorisation enables the Commission to allow for future changes, and the potential of increased competition in the market;

- the period of the authorisation will allow time for the gas industry to make further progress on the issues raised in the Gas Industry GPS, and in particular the development of efficient gas market arrangements; and
- overall, it enables the Commission to review the state of the industry and the benefits and detriments once significant development has taken place.

511. The Commission's current view is that the time period of the authorisation should be 5 years.

Requirement for Pohokura to be Developed by Certain Time

512. The Applicants have stated that if authorisation for joint marketing is granted, then first gas is scheduled for the beginning of February 2006, and full production capability is scheduled for the second quarter of 2006.

513. The Commission's assessment of the counterfactual is that without authorisation the development of the Pohokura field will be delayed by one year. In order to ensure that the benefits of early development are cemented in, the Commission considers that any authorisation should be conditional on such early development.

514. The Commission considers two options might achieve this:

1. Impose a condition of any authorisation that requires the Pohokura field to produce first gas by the beginning of February 2006, and full production capability by 30 June 2006; and/or
2. the 5 year authorisation would take effect from February 2006, thus providing the Applicants with an extra incentive to develop the field according to their projections. If the development of the Pohokura field was delayed, the period of authorisation would in effect be reduced.

515. At this time, the Commission's preliminary view is that option 1 is preferred.

Assignment of Authorisation to Successors

516. The Commission would consider restricting the authorisation to the existing parties to the Application. The reason for not extending authorisation to future assigns and successors is to protect against the risk of common ownership between competing projects and the subsequent increased information flow between these projects.

Ring-Fenced Marketing

517. The Commission would consider making any authorisation conditional on the Pohokura JV parties implementing a ring fencing arrangement for the sales of gas from the Pohokura field. The marketing activities for the Pohokura field would be required to be kept separate from the gas trading activities of the separate Pohokura JV parties.

518. The purpose of such a condition is to ensure that gas from the Pohokura field is marketed in competition from gas from other fields.

Question 30:

The Commission seeks comment as to the appropriateness of these possible conditions, or any other conditions.

DRAFT DETERMINATION

519. The Commission acknowledges that the Arrangement has the potential to deliver the benefits outlined in this draft determination, however, the Commission shall not make a determination granting an authorisation unless it is satisfied that the Arrangement to which the Application relates, will in all the circumstances result, or be likely to result, in a benefit to the public which would outweigh the lessening of competition that would result, or would be likely to result or is deemed to result therefrom. At this stage the Commission is not satisfied that the benefits will in fact be delivered so that they would outweigh the lessening of competition that would result or be likely to result. In these circumstances the Commission would decline to grant an authorisation under s 61(6) of the Act.

520. However, with certain conditions on the proposal, the Commission's preliminary view is that it would be satisfied that the Arrangement to which the Application relates, will in all the circumstances result, or be likely to result, in a benefit to the public which would outweigh the lessening of competition that would result, or would be likely to result or is deemed to result therefrom. The Commission's preliminary view is that these conditions are likely to limit the potential detriments to future competition in the affected markets and ensure that the benefits from the timely development of the Pohokura field are achieved.

521. In that case, following consideration of submissions on this draft determination, the Commission, if its preliminary view is confirmed after consideration of submissions, would grant an authorisation under s 61(6) of the Act subject to certain conditions.

APPENDIX 1 – THE GAS INDUSTRY GPS

March 2003

Government Policy Statement

Development of New Zealand's Gas Industry

This statement sets out the Government's policy for the development of New Zealand's gas industry, and its expectations for industry action.

Introduction

1. The Government is committed to a sustainable and efficient energy future. Natural gas will play a significant part in achieving that commitment.

2. The expected end of the life of the Maui gas field signals the need for significant changes in gas supply arrangements. Production from an increased number of smaller gas fields will require more sophisticated pro-competitive market arrangements, including improved arrangements for gas balancing and reconciliation.

3. The Government welcomes investment in exploration and development of new gas fields. The Crown Minerals Act and the Minerals Programme for Petroleum set out clear policies and procedures to facilitate exploration and development including an internationally competitive and attractive royalty regime.

4. The Government's policy for gas is consistent with the overall outcomes it seeks from its Energy Policy Framework, released in October 2000. These overall energy policy objectives are:

a. environmental sustainability, including continuing improvement in energy efficiency and a progressive transition to renewable sources of energy;

b. reliable and secure supply of essential energy services;

c. costs and prices to consumers which are as low as possible while ensuring that prices reflect the full cost of supply including environmental costs;

d. fairness in pricing, so that the least advantaged in the community have access to energy services at reasonable prices; and

e. continued public ownership of publicly owned assets.

Evolution of gas industry arrangements

5. The Government wishes to see further development of gas market arrangements, and has established the following policy objective, outcomes and guiding principles for the evolution of gas industry arrangements.

Policy objective, outcomes and guiding principles for the gas industry

The Government's overall policy objective for gas is:

"To ensure that gas is delivered to existing and new customers in a safe, efficient, fair, reliable, and environmentally sustainable manner."

Industry arrangements should promote the satisfaction of consumers' gas requirements in a manner that is least-cost to the economy as a whole and is consistent with sustainable development.

Consistent with this overall objective, the Government is seeking the following specific outcomes:

a. gas resources are used efficiently;

b. market barriers to gas exploration and field development are minimised;

c. the costs of producing and transporting gas are signalled so that investors and consumers can make decisions consistent with obtaining the most value from gas;

d. delivered gas costs and prices are subject to sustained downward pressure;

e. the quality of gas services, and in particular trade-offs between quality and price, should as far as possible reflect customers' preferences;

f. risks relating to security of supply, including transport arrangements, are properly and efficiently managed by all parties;

g. gas safety is promoted; and

h. greenhouse gas emissions are minimised.

To meet this policy objective and outcomes, gas industry participants, in conjunction with consumers, should ensure that arrangements are developed to meet the requirements of this Government Policy Statement. The arrangements should be consistent with the following guiding principles. In particular, the arrangements should:

a. enjoy wide support from supply-side gas market participants and consumers;

b. promote enhanced competition, including inter-fuel competition, wherever

possible and, where it is not, seek outcomes that mirror as far as possible those that would apply in competitive markets;

c. be stable over time so that investment is encouraged;

d. ensure there are mechanisms to reduce demand when gas is scarce;

e. be consistent with government policies on climate change and energy efficiency; and

f. be consistent with the Commerce Act 1986 and all other relevant laws.

Industry-led solutions

6. To meet its objective and outcomes for the gas sector, the Government favours industry-led solutions where possible, but is prepared to use regulatory solutions where necessary.

7. The Government invites the gas industry to establish:

- a governance structure and decision-making process to manage the further development of gas market arrangements in the areas that are set out below; and

- a work programme that enables the development of efficient gas market arrangements in a timely and effective manner.

8. Principles guiding the development of governance structures. The governing entity must:

- be representative of all stakeholders, including consumers;

- have an independent chair;

- have a majority of independent persons (any director, employee or significant shareholder of the supply side of the industry does not meet the test of independence);

- have the independent members appointed after consultation with the Minister of Energy;

- not operate in the interests of individual participants; and

- have the power to develop and enforce arrangements consistent with the Government Policy Statement.

9. The Government expects the industry, including consumer representatives, to develop arrangements with respect to:

Production and Wholesale Markets

- The development of protocols, standards and conventions applying to wholesale gas trading, including quality standards, balancing and reconciliation.

- The development of a secondary market for the trading of excess and shortfall quantities of gas.

- The development of capacity trading arrangements.

Transmission and Distribution Networks

- The establishment of an open access regime across all high-pressure transmission pipelines so that gas market participants can access transmission pipelines on reasonable terms and conditions.

- The establishment of consistent standards and protocols across all distribution pipelines so that gas market participants can access distribution pipelines on reasonable terms and conditions.

- The establishment of gas flow measurement arrangements to enable effective control and management of gas.

Retail Markets

- The standardisation and upgrading of protocols relating to customer switching, so that barriers to customer switching are minimised.

- The development of efficient and effective arrangements for the proper handling of consumer complaints.

- The development of model consumer contracts that are fair to consumers and retailers.

Gas Safety

- The establishment and delivery of effective and internationally consistent safety standards and conventions.

- The ensuring of the competency of all those undertaking gas work.

- The operation of effective self-audit, monitoring and reporting on levels of competency and safety compliance.

Open Access to the Maui Pipeline

The Government recognises that there is demand to enable non-Maui gas to use the Maui pipeline to assist with the ongoing supply of gas to markets north of Taranaki. The Maui contracts (to which the Government is a party) currently preclude non-Maui gas from using the Maui pipeline before 2009.

The Government, as a party to the Maui contracts, invites Maui Developments Ltd, the Natural Gas Corporation, Contact Energy and Methanex to present it with a proposal to enable open access to the Maui pipeline consistent with the following approach:

- The Government does not seek to improve its current commercial position as a result of a move to open access;
- The Government, however, seeks to maintain the value of its existing contractual rights;
- The Government will not accept any increase in the risk it faces as a party to the Maui contracts as a result of the move to open access; and
- The open access arrangements need to provide non-discriminatory access to all potential users and not be biased towards those with an existing contractual interest in the Maui pipeline.

Government oversight

10. The Government will monitor the industry's progress in developing the arrangements outlined under "Industry-led solutions" above. Gas industry participants, in conjunction with consumers, should report to the Minister of Energy each quarter on progress. The reports should be presented by a representative or representatives selected for the purpose by gas industry participants and consumers.

11. The first report is expected by 31 March 2003. That report should comment on the institutional arrangements, process and timetable (including measurable milestones) for the work programme envisaged in paragraph 7.

12. The Government expects that efficient industry arrangements will be in place by December 2004.

13. If progress towards the measurable milestones is unsatisfactory, the Government will consider regulatory solutions.

Hon Pete Hodgson
Minister of Energy

APPENDIX 2 – THE POHOKURA GPS

Government Policy Statement on the Importance of the Pohokura Gas Field for Energy Security

Hon Pete Hodgson

Minister of Energy

April 2003

The Maui re-determination has put economically recoverable reserves at 3,562PJ. This is considerably less than earlier industry expectations, and raises medium-term security of supply issues.

Pohokura is the only significant new gas field (over 500PJ) that can be brought into commercial production quickly.

Gas from Pohokura needs to be available in a timeframe and manner that ensures that national energy security and economic growth interests are met.

Gas Policy

The expected end of the life of the Maui gas field signals the need for significant changes in gas supply arrangements in the New Zealand market. Production from an increased number of smaller gas fields will require more sophisticated market arrangements, including improved arrangements for gas balancing and reconciliation than currently exist.

The Government's policy for the development of New Zealand's gas industry, and its expectations for industry action, is outlined in its *Government Policy Statement - Development of New Zealand's Gas Industry*.

That policy statement outlines the Government's expectations for better gas wholesale market arrangements and industry governance structures. This includes developing open access arrangements to the Maui pipeline.

This additional policy statement sets out the Government's views on the importance of the development of the Pohokura gas field to help remove uncertainty about New Zealand's medium-term energy security including facilitation of early decisions on new electricity generation investment.

Energy Security Risks

Gas is an important fuel for electricity generation. Currently New Zealand has 2,134MW of gas powered thermal generation capacity. With over 60 percent of New Zealand's generation based on hydro, thermal capacity is important for base load generation as well as for dry-year reserve.

With steadily increasing demand for electricity, New Zealand needs an additional 150MW of electricity generation per annum to meet demand growth.

New generation capacity is crucial for economic growth. Without the timely construction of new generation, supply will be insufficient (even with significant improvements in energy efficiency and demand management) and electricity prices will rise substantially.

Renewable energy will play an increasingly important role in New Zealand's electricity generation mix. The National Energy Efficiency and Conservation Strategy targets at least a 20 percent improvement in energy efficiency and an additional 30 petajoules (PJ) of consumer energy from renewable sources by 2012. These outcomes are a key part of New Zealand's climate change policy.

Notwithstanding these initiatives, gas will continue to be an important fuel for electricity generation. It is a premium fuel for large-scale generation plant. Direct use of gas will also continue to be an important component of New Zealand's energy future.

The petrochemical industry has been a major user of gas. It has been anticipated that petrochemical production would substantially reduce as the Maui field declined and gas at the Maui Contract price had been exhausted. However, a buoyant world market for methanol and the need to service the Asia Pacific region mean that New Zealand petrochemical production could continue for several years. Consequently, there is uncertainty where new gas will be used.

Uncertainty of Gas Supply - Maui Re-determination

For over two decades, Maui has dominated the New Zealand gas market. Due to its plentiful gas supply and the nature of the Maui contract, gas prices are significantly lower than world prices. Apart from Maui, a number of smaller fields

are in production. The largest of these are Kapuni, TAWN[1], Mangahewa, McKee and Rimu.

As a result of low gas prices, until recently, incentives for petroleum exploration have been muted. With the expected decline of Maui, exploration has increased significantly over the last few years. Currently there are 68 exploration permits / licences granted over seven basins.

The next commercial field of any significant size that is expected to be brought into production as Maui declines is Pohokura (reserves estimated at 600-700PJ). Gas from the Kupe field is also a possibility, but it is known to be a technically challenging and expensive field to develop. There are some interesting structures (possibly Pohokura size) off the East Coast of the lower North Island and Canterbury. However, the absence of gas transmission infrastructure in these regions reduces the likelihood they will be developed in the near future.

A recent re-determination of the Maui field has put economically recoverable reserves (ERR) at 3,562PJ. This is considerably less than earlier industry expectations. At 7 February 2003, there was only 352PJ of Maui gas remaining at Maui contract prices. This has substantially brought forward the need for production from new gas fields, especially for electricity generation.

Pohokura and the National Interest

Pohokura is the only sizeable commercial field available to meet the requirement for significant quantities of new gas.

The Government recognises that it is not certain that gas from Pohokura will be secured for electricity generation. However, investment decisions on a number of generation projects are currently on hold until there is greater certainty on the future of gas supply. The timely supply of gas from Pohokura is, therefore, important to provide greater certainty over where the gas is used, enabling new generation investment decisions (whether gas or alternative fuels) to be made.

Accordingly, gas from Pohokura needs to be successfully marketed and in production in a timeframe and manner that ensures that national energy security and economic growth interests are met. This is particularly important to ensure that new electricity generation projects can be built in a timely manner to meet growing electricity demand.

1.Comprised of four small fields - Tariki, Ahuroa, Waihapa and Ngaere.

APPENDIX 3 – LIST OF QUESTIONS

1. The Commission seeks comment on the likely impact on the analysis of the Application in the event that Methanex either continues production, mothballs, or closes its three plants.

2. The Commission seeks comment on the possible impact of the two GPSs and in particular what affect they may have on the issues being addressed in this draft determination.

3. The Commission seeks comment on the developments in Australia and other jurisdictions and asks, in the New Zealand context, how much relevance these developments have for this Application.

4. The Commission seeks comment on its current view that the joint venture exception applies to the proposal.

5. The Commission seeks comment on its definition of the market as the national natural gas market.

6. The Commission seeks comment on its conclusion that separate marketing is feasible and that the Pohokura field would be developed even if authorisation were not granted.

7. The Commission seeks comment on the characteristics of its counterfactual.

8. The Commission seeks comment on the likely length of delay under the counterfactual.

9. The Commission seeks comment on whether the current level of competition would preclude or limit the Pohokura JV parties from using any market power to engage in anti-competitive behaviour.

10. The Commission seeks comment on the extent to which joint marketing would enhance the potential for the Pohokura JV to engage in price discrimination and the impact this may have on competition in the gas market or any other market.

11. The Commission seeks comment on the extent to which the range of terms and conditions of sale would be limited by the Arrangement.

12. The Commission seeks comment on whether the authorisation of the Arrangement may inhibit the development of a more competitive gas market in the future.

13. The Commission seeks comment on its conclusion that the Arrangement would lessen competition in the market, particularly beyond the short-term.

14. The Commission seeks comment on the extent to which the Arrangement would impact on allocative efficiency.

15. The Commission seeks comment on the extent to which the Arrangement would impact on the productive efficiency of the industry.

16. The Commission seeks comment on the extent to which the Arrangement would impact on the dynamic efficiency of the industry in the short-term and also beyond the short-term.

17. The Commission seeks comment on means by which the loss of dynamic efficiency may be quantified, and the outcome of any such quantification.

18. The Commission seeks comment on the extent of overseas ownership of the Pohokura JV and of acquirers of gas.

19. The Commission seeks comment on the extent to which any price discrimination by the Pohokura JV may lead to income transfers from gas consumers to the Pohokura JV, and the extent to which this would cause economic detriment.

20. The Commission seeks comment on the conclusion that the detriments attributable to the on-going joint marketing of gas from the Pohokura field would be significant, particularly beyond the short-term.

21. The Commission seeks comment on the value that should be placed on benefits to the public arising from early production of condensate from the Pohokura field.

22. The Commission seeks comment on the value that should be placed on benefits to the public arising from early production of LPG from the Pohokura field.

23. The Commission seeks comment on all aspects of the demand assumptions adopted by the Commission.

24. The Commission seeks comment on the limitations of using a linear demand curve given the 'lumpy' nature of gas consumption.

25. The Commission seeks comment on all aspects of the supply assumptions adopted by the Commission, including the appropriateness of $8 as a ceiling price.

26. The Commission seeks comment on likely gas production through until 2020. The Commission seeks comment on what might be a reasonable range of production to use when undertaking its analysis, in particular, the plausibility of MED's assessment and of the assumption of 175 PJ per annum gas production from 2010 onwards.

27. The Commission seeks comment on all aspects of the assessment of the benefit to the public arising from the avoidance of a delay in production of gas, condensate and LPG from the Pohokura field.

28. The Commission seeks comment on the value that should be placed on benefits to the public arising from lower production and transaction costs, enhanced exploration incentives and from reduction in adverse effects on the environment.

29. The Commission seeks comment on its assessment of the weight that should be given to public benefits and detriments that would arise from the Arrangement.

30. The Commission seeks comment as to the appropriateness of these possible conditions, or any other conditions.