

INDEPENDENT REVIEW OF THE REFINING NZ PROCESSING AGREEMENT

Prepared for REFINING NZ

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Executive Summary

Hale & Twomey (H&T) has updated its 2014 Independent Review of the processing arrangements Refining NZ has with customers, looking particularly at the competitiveness of Refining NZ supply and whether the 30% of the gross refining margin (GRM) retained by customers continues to be appropriate. The analysis now includes performance for 2014, 2015 and 2016. In addition H&T has been asked to comment on a question raised by a shareholder at Refining NZ's 2016 Annual Meeting whether there is value in moving the Floor and Cap structures to a rolling basis.

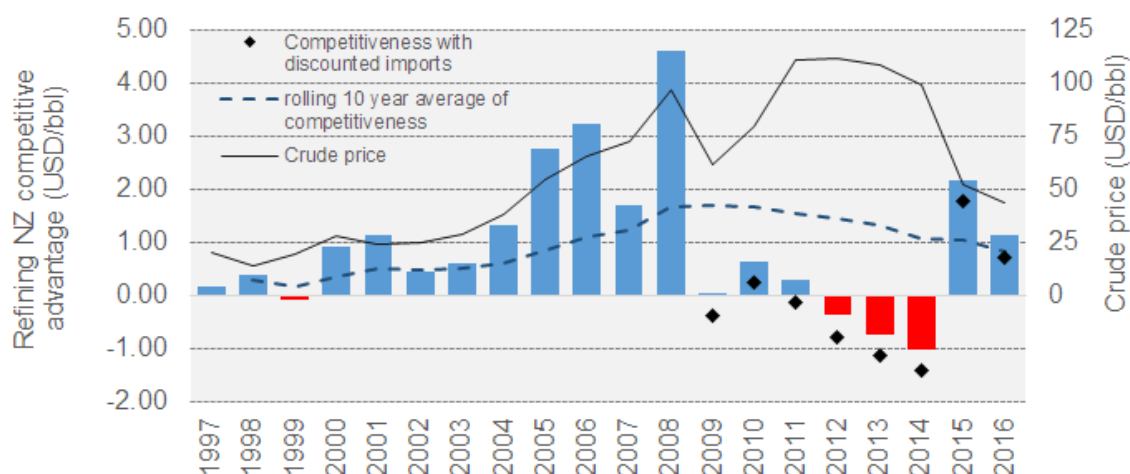
H&T has found that the customers' 30% of GRM continues to be appropriate:

- over a 10-year cycle Refining NZ continues to provide its customers with a competitive supply of products (i.e. better than the import equivalent);
- the benefit over the cycle is not excessively in the customers' favour;
- during periods when refining margins are low, Refining NZ's supply may not be competitive but customers accept that as part of the business cycle of refining; and
- Refining NZ's competitive position has improved in the past two years as lower oil prices have reduced the customers' cost for holding stock.

We recommend that Refining NZ does not consider moving the Floor and Cap to a rolling basis as it undermines the critical link between the Floor and the customers' commitment to capacity.

Competitiveness

This update using refinery performance for 2014 through 2016 highlights some significant improvements in Refining NZ's ability to provide competitive supply relative to its customers' option of importing finished product from international markets. After a period of low margins when Refining NZ supply was assessed as being less competitive than importing finished product (2012-2014), supply in 2015 and 2016 was much more competitive. This was driven by improved margins (Refining NZ's competitiveness improves with higher margins) and reduced costs for Refining NZ's customers due to the much lower cost for holding oil stocks.



In the second half of 2014, oil prices fell substantially from over USD100/bbl to under USD50/bbl. Over the last two years prices have moved between USD30-USD60/bbl, on average less than half the value of the 2011-2014 period. This has significantly reduced the cost of holding stock needed in the refining process and customers now need to generate less income to provide an appropriate return on the stock held. Lower costs and higher margins, particularly in 2015 when some

customers reached the Cap, has resulted in Refining NZ supply being more competitive by over USD1.00/bbl in the last two years (greater than USD2.00/bbl in 2015).

Looking at competitiveness over a business cycle (the last 10 years has had a wide range of margin conditions), we calculate that Refining NZ supply has been around USD0.80/bbl more competitive than imported product. This period (2007 through 2016) includes six years of relatively low margins (2009-2014) and three years when all or some customers hit the Cap (2007, 2008, 2015). This finding is similar to the 2014 Report although the average advantage of Refining NZ supply has reduced as most of the period of high margins from 2004 through 2008 has now been removed from the analysis. If the impact of the Cap is removed the average benefit of Refining NZ supply reduces to USD0.60/bbl.

In H&T's view Refining NZ needs to offer a more competitive supply than imported product to its customers to encourage them to maximise utilisation of the refining route. Importing finished product directly from international markets is a simpler operation than buying and refining crude as well as importing product as customers do now. At the same time, we consider the benefit over the business cycle is not excessively in the customers' favour.

We have updated the analysis comparing Refining NZ's supply competitiveness with changes in gross margin. Using the last 10 years' averages, Refining NZ supply is competitive down to margins around USD4.80/bbl. This is significantly lower than the breakeven point calculated in the 2014 Report (USD6.50/bbl) using 2013 data. With the reduced stock cost, if only 2015 and 2016 were considered that breakeven point would be even lower, at around USD3.50/bbl. With crude oil prices in the USD50-60/bbl price range, Refining NZ supply is now likely to be competitive over a wider range of margin conditions, with a significant incentive for customers to maximise throughput on average (~+USD1/bbl).

Floor and Cap

The Floor and Cap structures currently operate within Refining NZ's financial years. Refining NZ was asked to consider if there is benefit in moving this to a rolling basis so any balances at year end could be taken through to following years. In effect over a normal margin cycle this would render all Floor payments or Cap credits neutral as each party would refund any benefit as the margin environment changes.

In our opinion moving the Floor and Cap to a rolling mechanism would undermine the intention of the Floor, which is a commitment to a minimum payment in return for the dedication of all of the refinery capacity to the customers. Recital E of the Processing Agreement states: "*In consideration for NZRC making available to the Refinery Users the total capacity of the Refinery, Schedule 8 of this Agreement provides for a Floor to the total processing fees payable by the Refinery Users*". Moving to a rolling basis would undermine this link as the Floor payments would be repaid in subsequent years when the margin recovers. The periods when the Floor is applied are likely to coincide with periods when refining margins are very weak, product supply is in surplus, and Refining NZ production is not competitive with imports. Customers could see added incentive to under load the refinery when they know any Floor payments would be repaid.

In our view the link of capacity entitlement and Floor payment commitment is a critical element in the processing agreements that has helped keep the refinery fully utilised since the move to the current processing fee structure in 1995. We therefore do not recommend that Refining NZ pursues such a change with its customers.

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Glossary

Cap	An element of the processing fee structure that sets an upper limit for the gross refining margin above which a customer no longer pays 70% of the gross refining margin.
Floor	An element of the processing fee structure that sets a lower limit for the processing fee payable to Refining NZ even if the processing fee calculation results in a lesser amount.
FOB	Free on Board - Incoterm used when buyer takes ownership and responsibility for shipping on loading.
Gross Refining Margin (GRM)	The total value of the products produced at the refinery (valued at the import value into port terminal) less the cost of buying and shipping crude and other feedstock to the refinery, divided by the refinery intake.
Import Parity Price (IPP)	The cost to buy, ship and land finished product from the market to a port in country.
kbd	Thousand barrels per day. Often used as a measure of refinery capacity.
kT	Thousand tonnes.
Schedule 8	The schedule of the processing agreement that details the build-up of the gross refining margin and processing fee
White products	Term used to cover petrol, jet fuel and diesel products.

1.0 Introduction

From time to time Refining NZ has commissioned independent reviews of the processing agreements it has with its customers. These have generally been directed toward an assessment of whether these agreements provide an appropriate commercial framework between Refining NZ and its customers, and whether they are in Refining NZ's best interests.

The processing agreements are individual contracts with each of Refining NZ's customers. These contracts outline the roles and responsibilities of each party for processing crude oil through the refinery. They also outline the basis of the payments that customers need to make to Refining NZ for processing the crude oil (referred to as the processing fee).

In 2014 Hale & Twomey (H&T) completed a comprehensive review of the processing arrangements and Refining NZ's competitive position versus direct product imports. This report updates that work, covering performance over the last three financial years (2014-2016), with particular focus on Refining NZ's competitive position versus direct imports and whether the 70/30 split of the processing fee is appropriate in that context. This period includes the commissioning of the Te Mahi Hou project in late 2015, which improved Refining NZ's petrol producing capability and efficiency.

Refining NZ continues to perform a major role in the New Zealand petroleum fuel supply chain, although to fully meet market demand all key petroleum product grades (petrol, jet fuel and diesel referred to collectively as white products) are also directly imported from international markets. Despite an increase in production capacity following commissioning of Te Mahi Hou, Refining NZ's share of the market is gradually declining as the total market increases. In the 12 months to September 2016, Refining NZ's share was just under 70% of white product demand, down from 72% in 2013¹.

The terms of reference for this review are included in Appendix 1. In addition to the competitive analysis, H&T has been asked to comment on a question raised by a shareholder representative at Refining NZ's 2016 Annual Meeting whether the Floor and Cap should move to a rolling period mechanism.

Prior to responding to the questions in detail, Section 2.0 discusses the competitive environment faced by Refining NZ over the period since the 2014 Review. The 2014 Report provided additional detail on the petroleum supply chain in New Zealand and Refining NZ's role in it. That background is not repeated in this report.²

¹ Ministry of Business, Innovation and Employment Oil Data to September 2016

² Readers interested in this background should read Section 4 of the 2014 report - <http://www.refiningnz.com/media/2986/Hale%20Twomey%20Review%20of%20Processing%20Agreement.pdf>

2.0 Refining NZ's competitive environment

2.1 2014 to 2016

At the time of writing the 2014 Report, refining margins were very low and the outlook was for continued pressure on margins as capacity expansions were expected to outpace demand growth leaving a large surplus of refining capacity. The poor refining returns since the Global Financial Crisis (GFC) in 2008 were starting to have an impact, with many of the proposed capacity expansions being either shelved or reprogrammed.

The big change in the refining environment since the last report has been the impact from the large slide in oil prices that started in the second half of 2014. Crude oil prices fell from around USD110/bbl to a low of USD30/bbl in early 2016. After averaging under USD45/bbl in 2016, they are now around USD50/bbl³.

Refining margins improved as crude prices fell more quickly than product prices. Refining companies also benefited from lower stock costs although 2014 financial accounts included a loss on inventory value for those companies owning the stock. Lower prices also stimulated petroleum demand, particularly in many OECD⁴ countries where demand had fallen significantly from mid-2000s peaks. This was particularly true for global gasoline (petrol) demand which was the main driver of improved refining margins in 2015/16.

For integrated companies involved in both producing crude oil and refining, the lower prices also led to constraints on capital spending. Many refining projects were delayed although, with the lag in investment timing, this impact is more evident in 2016/17 than in 2014/15.

2.2 Australia refining

The Australian refining sector has contracted significantly in the past five years. The sector became increasingly less competitive against large export-focused refineries in Singapore, Japan, South Korea and India.⁵ As a consequence, Australian refining capacity has approximately halved to 410 kbd.

After this sustained period of closures, the continuing viability of domestic refining remains uncertain although all refiners are currently committed to retaining their capacity. Recent investment by ExxonMobil (to receive larger shipments and 10% capacity increase) and Viva⁶ at Geelong (increased tankage and a major maintenance program in 2015) was seen as renewed commitment to domestic refining. Additionally, domestic refining was buoyed by improved regional refining margins in 2015-16.

However the Australian government recently announced a review of gasoline and diesel specifications including reducing the sulphur content in gasoline.⁷ If sulphur content is reduced, this could trigger further closures as refiners will be required to either increase the sulphur

³ The Dated Brent quote is used for all oil price references

⁴ Organisation for Economic Co-operation and Development

⁵ As an example of the competitive position of Australian refineries, the largest domestic refinery (BP Kwinana) has less than half the capacity of South Korea's smallest refinery.

⁶ Viva is the name of the Australian business bought from Shell by Vitol in 2014 when Shell exited the Australian downstream market.

⁷ Australian gasoline specification allows some of the highest sulphur content in Asia.

elimination capacity (higher capital expenditure), or reduce refinery throughput to their current sulphur elimination capacity (higher per unit cost) or buy lower sulphur content feedstock (higher cost). A consequence of a change to gasoline specifications is that it could trigger additional closures in 2020-22.

3.0 Competitive analysis

The competitive analysis assesses whether Refining NZ customers' 30% share of GRM continues to be appropriate, having regard to:

- each party's costs and risks;
- Refining NZ's need to incentivise its customers to utilise its refining capacity fully; and
- Refining NZ's need to be price competitive against finished product imports.

The 2014 Report found that Refining NZ's competitiveness followed its profitability. When profitability was good, Refining NZ provided a much more competitive supply of product than imported product, but when profitability was low or negative, Refining NZ supply was uncompetitive against imported product. This is because the refining margin level impacts both profitability and competitiveness.

The 2014 Report concluded that while supply from Refining NZ could be uncompetitive at times, over a business cycle Refining NZ was providing a competitive supply. Refining NZ's customers accept the variability in competitiveness knowing that on average Refining NZ supply should be more competitive and this is one of the major reasons they continued to fully utilise Refining NZ.

H&T has updated the model used in the 2014 Report to include performance from 2014 to 2016. As with the earlier work all the analysis is in US dollars as exchange rate variation has a relatively small impact on the choice between refinery processing and direct imports⁸.

The model assesses the supply chain cost for each year via two routes:

1. Import of crude for processing by Refining NZ, then distribution of products to New Zealand terminals and ports; and
2. Direct import of finished product from offshore suppliers to the same locations.

The analysis assesses the competitiveness of Refining NZ as a whole; that is if its customers imported all their product instead of using the refinery what would the costs involved be? These costs are compared with delivering the same product to the same locations using Refining NZ processing. As the competitive dynamic is primarily around supply of white products (petrol, jet fuel and diesel) which make up around 90% of market demand, the analysis assesses the relative value of these products through each supply route.

⁸ Most costs in the refinery and import supply cost build ups are in US dollars. The main item that isn't is distribution costs – both RAP pipeline fees and Coastal Distribution (there may be an element of coastal distribution costs that are US dollar based). A strong NZ dollar makes these costs more expensive (erodes competitiveness of Refining NZ supply chain) whereas a low NZ dollar makes them cheaper (improves competitiveness).

The costs and values of feedstock and products are built up using H&T’s view of customers’ costs and values although with product premia information based on the actuals (Refining NZ information) incurred across each year.

H&T’s analysis assumes customers can import to all terminal locations in New Zealand. In reality Refining NZ provides a critical part of the distribution infrastructure for the northern part of the North Island, where product is distributed to Auckland via the Refinery to Auckland Pipeline (RAP) and to the Marsden Point Truck Loading facility from finished stock held at the refinery. While Refining NZ’s customers could not import all product efficiently without using its assets, we calculate the product values in the northern locations as if the companies could import. We take account of cost of finished stock required to replace stock held by Refining NZ that supports the current distribution system, but not cost of the infrastructure.

Table 1 compares the cost categories in each supply route (refining versus imported product).

Table 1: Cost components in supply route comparison

Supply via processing crude at Refining NZ	Supply via Direct Product Import
<ul style="list-style-type: none"> ■ Cost of crude/feedstock ■ Cost of crude/feedstock freight and related costs (losses and insurance) ■ Processing fee paid to Refining NZ ■ Cost of holding stock less credit terms for crude payments ■ Distribution costs to get products to distribution terminals 	<ul style="list-style-type: none"> ■ Cost of products ■ Cost of product freight and related costs (losses and insurance) ■ Landing and other related costs ■ Cost of additional inventory required if importing with no refinery, less credit terms for product payments

3.1 Refinery supply route

The cost elements for the refinery supply route were built up from intake and production balances provided by Refining NZ, along with H&T’s valuation of each component using appropriate pricing benchmarks reflecting our view of the actual costs incurred.

The analysis compares the value of Refining NZ white product production against direct imports. Any fuel oil exports and other specialty products (bitumen and sulphur) are valued at an ex-refinery value (actual netback estimate for exports, sales value for sulphur and import parity equivalent for domestic fuel oil and bitumen, less distribution cost where relevant). The value of these product streams is taken as a credit against the cost of crude and other feedstock. This means white product sales value has to recover a return for total refinery stock cost. Arguably some of the domestic black products should also carry some of this cost although the impact would be small.

Details of the cost build ups are covered in the 2014 Report and this report uses the same methodology.

3.1.1 Coastal distribution cost methodology

H&T continued to use the coastal distribution cost modelling approach used in the 2014 Report, although this was adjusted to reflect actual ship and crew costs published in Silver Fern Shipping (SFSL) accounts. SFSL provides the ships, crews and related services to Coastal Oil Logistics Limited⁹ (COLL), so their accounts reflect a significant portion of the total costs. The other main costs for coastal distribution are port and wharfage costs charged by port companies, and bunker fuel costs. These are indexed against publically available information.

The main changes in coastal distribution costs in the last three years are:

- Ship costs have increased significantly¹⁰, and for the accounts to June 2016, will (partially) reflect the impact of changes to the fleet¹¹;
- Other ship costs (as reported in SFSL accounts) also increased over the period;
- Port costs and wharfage increased in line with rates published by port companies in New Zealand (generally at a greater rate than inflation); and
- Bunker costs have reduced substantially due to the decline in crude oil prices. The new ship is also reported to be more fuel efficient.¹²

Coastal distribution costs (per bbl) are also influenced by the volume carried. Many of the coastal distribution costs (particularly ship costs) are fixed, therefore fewer tonnes carried results in a higher cost per tonne (or per bbl) moved. While volumes carried by COLL increased up to 2015, in 2016 they decreased due to a large increase in volume through the RAP (leaving less volume for distribution by coastal tanker). The 2016 year has seen a jump in estimated cost per tonne due to higher costs and lower volumes.

3.2 Direct product import supply route

The cost build up for direct product imports uses a product import parity build up. The build-up modelled varies from the standard build up so that it reflects delivery to all ports, not just those currently supplied by imports (to put it on a like for like comparison with the coastal distribution costs included in the refinery cost build up).

As noted earlier, the analysis does not include any storage infrastructure investment which would be required if there was a full bypass of Refining NZ. Therefore to some extent it underestimates costs customers would incur should they move to 100% import.

The 2014 Report included an additional point on the competitive analysis representing the competitive level should Refining NZ's customers be able to secure direct import supply on average USD0.40/bbl below H&T's assessment of cost (average reduction across all products). This was included as some of Refining NZ's customers had publicly stated that they were securing lower cost imports (e.g. because of reductions in market premia). This was at a time of poor refining margins and surplus refinery capacity and is illustrated on Figure 7 by the black diamonds

⁹ Coastal Oil Logistics Limited schedules the tankers and manages port stocks for Refining NZ's customers. It is owned by those customers.

¹⁰ Some of this may have been due to exchange rate variation as the accounts are in NZ dollars whereas the ship cost may be US dollar based.

¹¹ A new ship the 'Matuku' replaced an older ship the 'Torea' in May 2016

¹² <http://www.stuff.co.nz/business/82060277/matuku-the-giant-new-oil-tanker-coming-to-a-port-near-you>

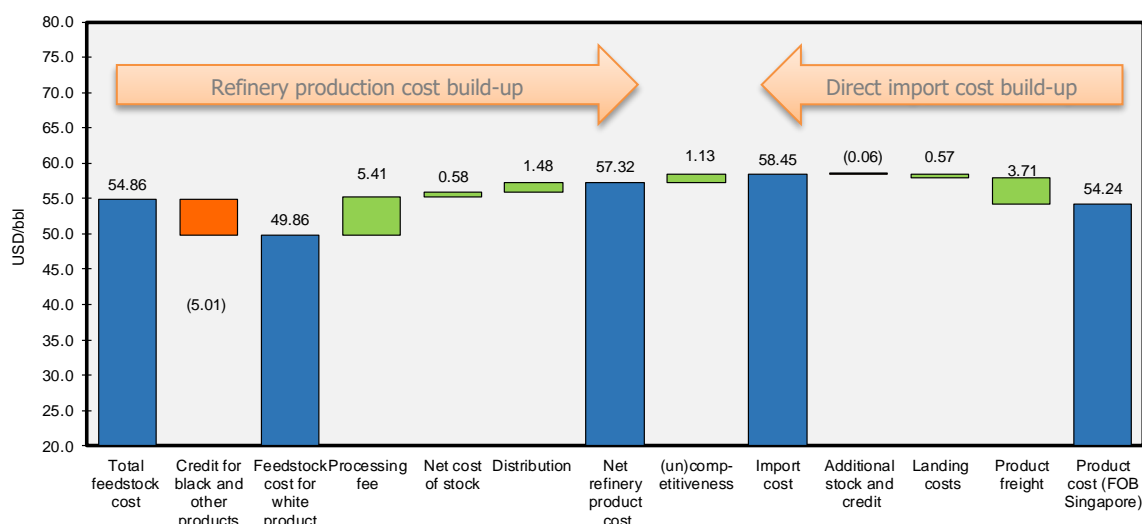
(these are only shown from 2009 as there was little surplus capacity before then, hence little discounting existed).

In recent years product premia have declined so it is difficult to separate any reported 'savings' by market participants. In addition the refining market does not have the same excess capacity as it did from 2009-2013 so it may be that the level of discounting has reduced anyway. For consistency with the 2014 Report we continue to show a competitive level if imports could be secured USD0.40/bbl lower than our estimate (diamond points on Figure 2). We doubt such a discount could be achieved across all products against H&T's current import cost build-up.

3.3 Supply route competitiveness comparison

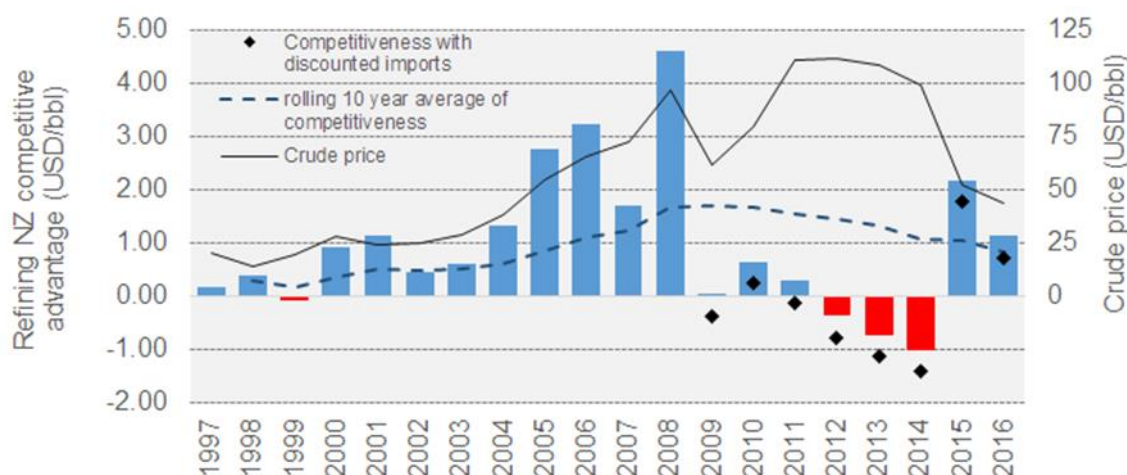
The costs for both supply routes were updated for 2014 through 2016. The results for the 2016 year are shown in Figure 1.

Figure 1: Costs per barrel of white product produced (2016)



In 2016 (unlike the year 2013 reported in the same Figure in the 2014 Report) Refining NZ supply was calculated to be, on average, more competitive than direct imports (by USD 1.13/bbl). Figure 2 shows the updated competitiveness trend over time.

Figure 2: Refining NZ competitive advantage versus import 1997-2016



In general Refining NZ supply is more competitive than imports (blue bars) except in the period 2012-2014 (red bars). From 2012 through to 2014 Refining NZ's customers would have been financially advantaged by importing rather than processing (i.e. the costs they incurred in refining were greater than the income from retaining 30% of the GRM). Over a business cycle (rolling 10 year average of competitiveness in Figure 2) Refining NZ provides a more competitive supply than imports.

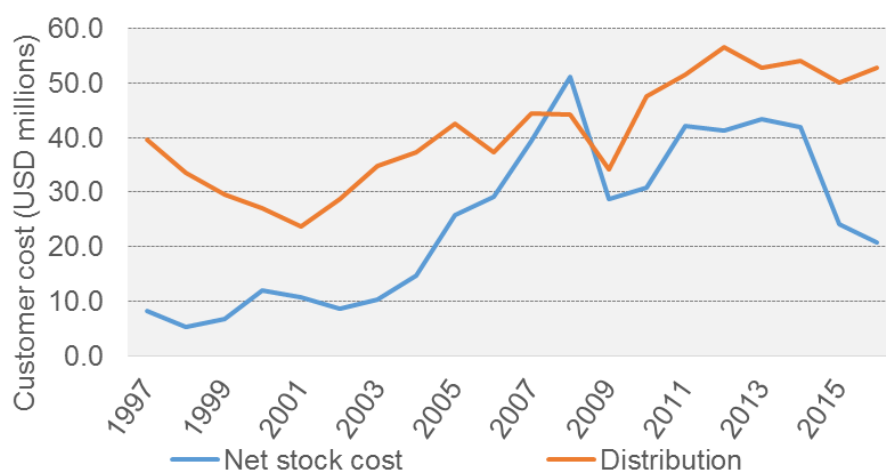
In the last three years, competitiveness continued to decline in 2014 (the Floor was paid in the first half of 2014), before experiencing a sharp improvement in 2015 and 2016. This change in competitiveness is consistent with improved Refining NZ GRMs, particular in 2015 when the Cap was reached for some customers.

Refining NZ's competitive advantage was significantly enhanced in 2015/2016 due to declining oil prices reducing the cost to Refining NZ's customers of holding stock. This cost has more than halved from the 2011-2014 period, significantly reducing their costs (the stock cost in 2016 was the lowest since 2004).

If crude oil prices stay in the USD50-60/bbl range in the medium term, this will continue to assist refinery competitiveness, meaning Refining NZ will be able to provide competitive supply at lower margins than assessed earlier (e.g. in 2012 and 2013 Refining NZ supply would have been competitive if oil prices had been at current levels).

Figure 3 shows the trend of the two significant cost elements for Refining NZ's customers. The distribution cost has increased over time whereas the income needed to generate a return of the stock held has dropped sharply in 2015/16.

Figure 3: Cost components covered by customers in Refining NZ supply route



Net stock cost includes credit impact and distribution cost is only for white products

As expected, the one Refining NZ customer who publishes detailed financial reporting (Z Energy) reported significantly improved returns for its Refining segment in its results to March 2016.¹³ While the results can't be directly compared due to different time periods (and H&T's analysis is averaged across all Users), the magnitude of the change is in line with our assessment of improved competitiveness for Refining NZ's customers.

¹³ Z Energy 2016 Results Presentation for the year ending 31 March 2016 (pg. 10).

3.4 Competitiveness and incentive to maximise throughput

The rolling 10-year average of competitiveness measure (Figure 2) is now around USD0.80/bbl positive for Refining NZ supply when the effects of the Cap and Floor are included. The 10-year period from 2007 through 2016 takes into account six years of low margins between 2009-2014 (competitiveness was low) and removes the very competitive years up to 2006 from the earlier analysis. To ensure robustness of the average, an analysis removing the two outlier years (most and least competitive years - 2008 and 2014 respectively) resulted in Refining NZ supply being competitive by an average of just over USD0.60/bbl. A similar average of USD0.60/bbl is calculated if the impact of the Cap and Floor in the past 10 years is removed from the analysis.

In our view Refining NZ needs to offer more competitive supply than imports to encourage its customers to maximise utilisation of the refining route. Importing finished product directly from Asian refineries is a simpler operation and may provide other advantages including:

- Fewer people required including less specialist technical expertise;
- Product cargoes are smaller with less volatility in inventories and cash flow;
- Customers may be able to generate additional income elsewhere in their organisation by processing through their other refineries;
- Removing cost, complexity and marine risk of operating a coastal fleet;
- Reducing capital on the balance sheet (stock cost) which may improve customers' reported returns; and
- If customers were purely marketing companies they could avoid some volatility in performance caused by refining margin variation.

Based on our updated analysis we conclude that Refining NZ continues to provide competitive supply of product across a business cycle, despite many adverse impacts during the most recent cycle (low refining margins, high cost of stock). At the same time, we consider the benefit over the cycle is not excessively in the customers' favour.

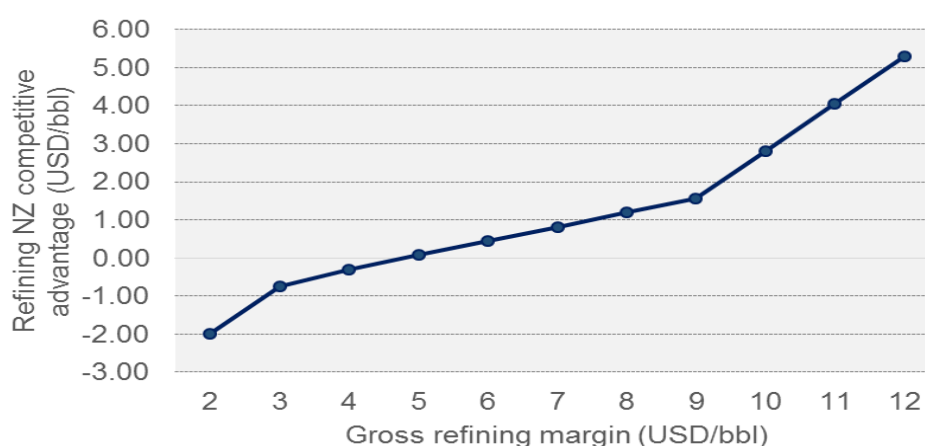
3.5 Competitiveness variation with GRM

Refining NZ's supply competitiveness is impacted by the GRM level. Figure 4 shows how Refining NZ's competitiveness varies using average data from the last 10 years¹⁴. This has changed from the 2014 report which only used one year's data (2013) to calculate the competitiveness change versus GRM. 2013 was a year when refining supply was less competitive than direct imports.

Across the last 10 years, Refining NZ supply is calculated as being competitive down to margins around USD4.80/bbl whereas for the 2014 report the breakeven point was around USD6.50/bbl. With the reduced stock cost, if only 2015 and 2016 were considered, that breakeven level would be even lower, around USD3.50/bbl. This illustrates how the lower price of crude oil has improved Refining NZ competitiveness. With crude oil prices in the USD50-60/bbl range, Refining NZ is likely to be competitive over most margin environments in a normal business cycle, with a significant incentive for customers to maximise throughput on average (~+USD1/bbl).

¹⁴ All costs are averaged across 2007-2016 with the impact of Cap removed in the data so as to reflect the trend across the margin range (note crude price average ~ USD84/bbl).

Figure 4: Refining NZ competitive advantage versus GRM level (2007-16 average¹⁴)



4.0 Application of the Fee Floor and Margin Cap

The Floor and Cap mechanisms are key elements in the processing agreements should the calculated processing fees fall below certain levels or the calculated GRM rise above a certain level over the financial (calendar) year. At Refining NZ's 2016 Annual Meeting a shareholder representative asked whether the Floor and Cap mechanisms should be changed to include some form of carry-over arrangement, specifically instead of realising any Floor payments or Cap credits at the end of a financial year, these would be allowed to roll forward. This section provides details of the current Floor/Cap mechanism and examines how this might change under a "rolling" Floor/Cap. The pros and cons of the rolling option are then discussed.

4.1 Current Floor and Cap mechanism

The current Floor and Cap mechanism works off the two-monthly calculation of processing fees. If the sum of fees for all periods completed since the start of the year are less than that same proportion of the Floor for the year, then the Floor will be charged rather than the processing fee. Should fees rise as the year progresses (i.e. processing fees rise above the Floor level as in 2014), the Floor payments made are returned as customers only pay the total fees calculated on a calendar year-to-date basis less what they have paid in previous periods. At the end of the financial year this running calculation stops. If Floor payments still exist at this point they become permanent (as in 1999) i.e. they do not rollover at the end of the contract year.

The Cap is calculated in the same way. If the customer's GRM is capped early in a year, it may be recovered if the average GRM (using the calendar year-to-date basis) falls below the Cap level as the year goes on. It is only when the customer's average GRM at the end of the financial year is above the Cap that the impact is crystallised in the financial results.

4.2 Floor and Cap rollover mechanism

Under a rollover mechanism the current Floor and Cap obligations would remain but instead of the position at year end crystallising the final Floor/Cap obligation for that year, the Floor and Cap balances would rollover. Ultimately they would continue to rollover until these were unwound by rising or falling refinery margins. In effect this would be like a positive or negative "bank balance" where Floor or Cap payments/benefits would be recorded and carried across financial years.

The impact of this for Refining NZ would be:

- **Floor:** Where the Floor has resulted in payments to Refining NZ this would give a minimum level of income for the refinery during low margin periods. While Refining NZ would still record Floor income in the financial year payments were made, it would have a forward liability of the same amount that would be discounted off future processing fees once margins recovered (i.e. the Floor payments would be returned to customers and this could be in a different financial year).
- **Cap:** Similarly, for the rolling Cap any margin over the Cap level would be retained by the refinery's customers while refining margins were high, but eventually this would be repaid to Refining NZ as part of the processing fees when margins started to fall below the Cap level.

Over a business cycle a rollover mechanism would remove the overall impact of the Floor and Cap from the processing fees paid by customers to Refining NZ, although there would be financial periods where Floor payments might be due or the Cap applied.

4.3 Accounting for Floor and Cap balances

A key issue with having a rolling Floor and Cap system would be accounting for any Floor or Cap balances at the end of financial years; these amounts would be liabilities for Refining NZ in the case of the Floor and for refinery customers in the case of Cap payments. These liabilities would presumably need to be reported as contingent in each company's financial results should they be outstanding on balance date.

4.4 Assessment of rollover proposal

Before assessing the proposal it is important to consider the purpose of the Floor and the Cap. The commitment to Floor payments is part of the arrangement whereby refinery capacity is dedicated to Refining NZ's customers. Recital E of the Processing Agreement states "*In consideration for NZRC making available to the Refinery Users the total capacity of the Refinery, Schedule 8 of this Agreement provides for a Floor to the total processing fees payable by the Refinery Users*" and clause 3.02 states "*NZRC will make available to the Refinery Users the total available capacity of the Processing Systems of the Refinery, and the User shall be responsible for the payment of its share of the Floor, as set out in Schedule 8*".

This link to capacity is very important and any proposed change to the structure needs to be considered in that light. By contrast the Cap is included in the processing fee because of the Floor. Recital F of the Processing Agreement states "*In recognition of the Floor, This Agreement also provides for a Margin Cap to the processing fee as defined in Schedule 8*". In other words the Cap is included in the Processing Agreement due to the Floor, whereas the Floor is included due to the commitment to make the capacity available, not because there is a Cap.

4.4.1 Floor

The Floor payments are designed to help cover Refining NZ's cash costs should margins fall to very low levels. While Floor payments will not keep the refinery profitable (and based on 2015 expenses will not completely cover cash costs), the protection of the Floor is important for Refining NZ's security as margins can go very low at points of the cycle. The Floor provides cash flow at those times and assurance that operation can be sustained.

The Floor payments are also a very strong commitment from customers that they intend to use the refinery capacity they are offered. Without the Floor mechanism, Refining NZ's customers may be more inclined to not fully load the refinery, particularly during times when it is likely to be more

profitable to increase imports of finished product and lower the use of Refining NZ. In many ways this is a more important feature of the Floor rather than the 'safety net' payments.

The question is whether a change to a rolling Floor would change any of the current drivers of the Floor mechanism. Financially we think the impact would not be significant – Refining NZ would still have the cash flow benefit of Floor payments when margins were low but would need to repay these when margins were better (in effect like 2014 but on a rolling basis). However the link between the Floor and the commitment to refinery capacity would be undermined, which we believe would be adverse to Refining NZ's interests.

The Floor acts as a fixed cost, incentivising the customer to continue to use the refinery rather than import. If customers were entitled to recover Floor payments, the Floor would no longer act in this way; customers could underload the refinery (to benefit from more cost effective imports) knowing floor payments would be returned when refining margins improved. This under-loading would over time reduce Refining NZ's processing fee income. Ultimately this could impact Refining NZ's viability.

4.4.2 Cap

The Cap benefits customers in periods of high margins when both Refining NZ's profitability and its competitiveness versus imports are robust. The Cap adds to that competitiveness for its customers.

Moving to a rolling basis for the Cap effectively means that any benefit for the customer is temporary. Any benefit gained by a customer through not paying processing fees when GRM is above USD9.00/bbl will be returned to Refining NZ when margins decline.

While this would be positive for Refining NZ (it would not lose income permanently in periods of high margins), customers may not like the change. The Cap will only impact when margins are high and at that point Refining NZ's customers will be generating significant revenue from their share of GRM. However if "banked" Cap payments can be rolled forward, customers risk that these are then charged as additional processing fees in periods when margins fall and the contribution from the refining route is lower. This could undermine customers' profitability in the payback period possibly leading to undermining the competitiveness of the Refining NZ supply route. Some customers may prefer to forego the Cap, preferentially paying the full processing fee when refining margins were high and avoiding the risk of having to make additional payments when margins were lower.

4.5 Summary

In summary we do not think moving the Floor and Cap payment mechanism to a rolling basis would benefit either Refining NZ or its customers. In our view the link between the commitment to irrecoverable Floor payments, and Refining NZ making available all its capacity to its customers is a critical element that has helped keep the refinery fully utilised since the move to the current processing fee structure in 1995. Our main concern with a change to a rolling Floor/Cap mechanism is that by removing this link, it reduces the incentive for customers to fully utilise the refinery during periods of low refining margins. We therefore recommend that Refining NZ not pursue such a change with its customers.

Appendix 1: Terms of Reference

For the 2017 Review, Refining NZ requires the following:

1. Competitiveness Analysis Report

An assessment of whether the customers' 30% of GRM continues to be appropriate, having regard to:

- a. Refining NZ's need to incentivise customers to utilise its refining capacity fully and be price competitive against final product imports by customers from foreign suppliers, including Singapore and Korea, to New Zealand coastal ports, including having regard to the following factors:
 - i. Customers' coastal tanker costs for Refining NZ products;
 - ii. Customers' capital costs of crude supplied to Refining NZ;
 - iii. Customers' capital cost benefits achieved from long credit periods for imported products that compete with Refining NZ's products;
 - iv. Other contract provisions including the Fee Floor and GRM Cap.
- b. Refining NZ's need to set charges that maximise its profits, consistent with its needs to remain competitive against final product imports and to maximise its revenue by ensuring that its customers utilise its processing capacity fully.

2. Fee Floor and GRM Cap Report

In response to a question at the 2016 AGM, review the application of the Floor and Cap over a calendar year. Consider the pros and cons of removing "calendar year" as the timeframe (i.e. carrying any processing fees subject to the Cap and Floor over to the next year), and on the balance make a recommendation to continue with the current arrangements or seek to negotiate a change. In undertaking this review, consider the following factors:

- a. the customers' agreement to the fee floor being given in consideration for Refining NZ making available the total capacity of the Refinery and the purpose of the processing agreements being to incentivise customers to keep the Refinery operating at full capacity;
- b. the effect of any fee floor benefit to Refining NZ being repaid to customers where the margin environment improves during the calendar year; and
- c. the effect upon customers of a low margin environment in which the fee floor comes into effect (including their incentives to import finished fuels), together with the effect of the high margin environment that will exist in circumstances where the GRM cap is in effect, and what this means for the customers' and Refining NZ's earnings volatility over the margin cycle.