

FRANKLEY ROAD NATURAL GAS INDICES

Calculation Methodology – Applies from 01 January 2017

This document contains the calculation methodology for the Frankley Road Natural Gas Indices. The Indices track natural gas transactions for physical delivery on the emsTradepoint markets over two time periods; rolling monthly and rolling quarterly. Unless otherwise stated, each capitalised term used in this document has the meaning given to it in the emsTradepoint Market Rules, which are accessible through www.emstradepoint.co.nz.

INDEX DESCRIPTION

emsTradepoint publishes two indices based on natural gas Traded on the emsTradepoint Markets:

1. Frankley Road Natural Gas Monthly Index (**FRMI**)
2. Frankley Road Natural Gas Quarterly Index (**FRQI**)

(together the **Indices**).

The Indices are New Zealand dollar denominated and track Trade Prices and Trade Quantities of emsTradepoint Natural Gas Physical (**NGP**) contract(s).

Both Indices are volume weighted average prices (**VWAP**); FRMI over a rolling month; and FRQI over a rolling quarter.

INDEX CALCULATION AND PUBLICATION

The Indices are calculated at Market close each trading day and Published on the next Business Day. The Indices will also be published by Bloomberg and other selected third parties.

ROLL PERIODS

The Indices track historical NGP Trades on the Markets for roll periods equal to the number of days in the current month or quarter. So:

- The FRMI and FRQI calculated at the close of 15 June will have roll periods of 30 days and 91 days respectively (being the number of days in June and quarter 2 respectively).
- The FRMI and FRQI calculated at the close of 15 July will have a roll periods of 31 days and 92 days respectively (being the number of days in July and quarter 3 respectively).
- At the close of the last trading day of each month, the FRMI fully represents the VWAP of that month's Trades.
- At the close of the last trading day of each quarter, the FRQI fully represents the VWAP of that quarter's Trades.

See Appendix III for the roll periods for each month and quarter.

CONSTITUENTS

Underlying Trades

The Indices are calculated from the Trade Prices and Trade Quantities of constituent NGP contracts with Delivery Periods in, or partially in, the applicable roll period.

See Appendix I for the Indices calculation.

See Appendix II for constituent NGP contract codes.

Exclusion Treatment of Off-Exchange Trades

Off-exchange Trades are included in the normally excluded from the Indices' calculations if, and only if, the Buyer and Seller are not known to one another at the time of Trade Confirmation.

However, in the event of extraordinary circumstances, such as disruption to the Trading System, emsTradepoint may, at its absolute discretion, determine that an Index calculation include all Off-Exchange Trades. emsTradepoint will Publish a notice if it does this.

Exclusion of Irregular Market Data

emsTradepoint may, at its absolute discretion, exclude any Trade from the Indices' calculations if it appears to emsTradepoint that the Trade was formed in breach of the emsTradepoint Market Rules. The exclusion will be upheld while the Trade is investigated. The Trade will be included in the Indices' calculations if the investigation shows the Trade was formed in accordance with the emsTradepoint Market Rules, but only on a prospective basis (i.e. previously Published Indices will not be amended).

Absence of Eligible Trade Data

If there are no eligible Trades from which to calculate an Index, the Index value will be the same as the Index value for the last rolling month or quarter (as the case may be) for which there was at least one eligible Trade.

Data Error

In the event a data input to a Published Index calculation is subsequently believed to be in error, emsTradepoint may, at its absolute discretion, declare the data error to be immaterial to the Published Index value, and are under no obligation to re-calculate an already Published Index value.

CHANGES TO CALCULATION METHODOLOGY

The methodology for calculating the Indices may change over time in order to reflect developments in the Markets. emsTradepoint will endeavour to Publish reasonable advance notice of any such changes, as well as an assessment of any expected impact on the Indices.

ABOUT EMSTRADEPOINT

emsTradepoint, established in 2013, is a physical commodity exchange designed to provide a liquid, transparent and widely accessible trading platform to the energy industry.

FURTHER INFORMATION

Please direct any questions and/or comments to:

emsTradepoint Support Desk

+64 4 590 6692 | supportdesk@emstradepoint.co.nz

DISCLAIMER

emsTradepoint Limited (**emsTradepoint**), calculates and publishes the emsTradepoint Frankley Road Natural Gas Monthly Index and emsTradepoint Frankley Road Natural Gas Quarterly Index (the **Indices**) as an information service. The Indices do not constitute a recommendation to trade. emsTradepoint does not endorse or recommend any financial product underwritten or in any way associated with the Indices. Past performance is not necessarily indicative of future performance. Before making any investment decision, it is recommended that you seek advice from a qualified investment advisor.

While the Indices are based on data believed to be reliable, emsTradepoint makes no representation and gives no warranty as to the accuracy, timeliness, completeness or fitness for any purpose (whether or not made known to emsTradepoint) of the Indices. emsTradepoint and its directors, officers and employees disclaim all liability for the accuracy, timeliness, completeness or fitness for any purpose of the Indices or for the results obtained from the use of them.

The above exclusion applies to the fullest extent that applicable law permits, in all actions of any kind, whether based on contract, tort or any other legal or equitable theory. Any part of the exclusion that is invalid is severable and will not affect the validity or enforceability of the remainder of the exclusion.

APPENDIX I – INDEX CALCULATION**FRANKLEY ROAD NATURAL GAS INDICES**

$$\text{Index} = P_{\text{VWAP}} = \frac{\sum_j (V_j \cdot P_j)}{\sum_j V_j}$$

- V_j** = Trade Quantity (in GJ/Day) of Trade j multiplied by D_j
 D_j = Number of Days in the Delivery Period of Trade j within the applicable roll period
 P_j = Trade Price (in NZ\$/GJ) of Trade j
 j = each Trade with a Delivery Period in, or partially in, the applicable roll period

The Indices are rounded to four decimal places.

APPENDIX II – CONSTITUENT CONTRACTS

Product	Product Code
Natural Gas Physical – Trading Region South	NGP-TRS (D)
	NGP-TRS (W)
	NGP-TRS (M)
Natural Gas Physical – Frankley Road	NGP-FR (D)
	NGP-FR (W)
	NGP-FR (M)

APPENDIX III – ROLL PERIOD CALENDAR

Month	FRMI roll period (Days)	FRQI roll period (Days)
January	31	90 (91)
February	28 (29)	
March	31	
April	30	91
May	31	
June	30	
July	31	92
August	31	
September	30	
October	31	92
November	30	
December	31	