MAJOR ELECTRICITY USERS' GROUP

8 August 2006

MEUG information memorandum on industrial electricity and gas prices in New Zealand as at August 2006

1. This memorandum briefly describes the New Zealand electricity and gas markets and estimates prices paid by industrial consumers. All prices are in $NZ unless otherwise stated and exclude Goods and Services Tax (GST). This memorandum is public.

Electricity market

2. The NZ electricity industry is characterized by:

   a) Monopoly lines services; and

   b) Contestable energy services.

3. Lines services (transmission and local distribution monopolies) are subject to threshold regulation. Ownership separation is required of line and energy companies. Threshold regulation is more light-handed than standard CPI-X regulation. Line monopolies that breach thresholds can negotiate a settlement with the regulator or failing that are subject to company specific CPI-X control.

4. Line charges for industrial consumers are approximately $23/MWh[1]. Anecdotal reports indicate the variance around this average industrial consumer line charge can range from below $20/MWh to above $60/MWh depending on the site, proximity to the transmission grid and who bears the cost of grid connection assets.

5. Energy related prices (spot, financial derivatives and retail products) are not regulated. However most energy related services are subject to or influenced by various regulatory requirements, eg the wholesale (spot) market is mandatory and the market rules are subject to control by a Government entity, the Electricity Commission.

6. Based on market forward prices for a node in the centre of NZ, a base load industrial consumer with a generator grade credit rating would pay approximately $65/MWh for energy[2]. Most electricity intensive consumers are not based in the centre of NZ and hence

[1] Refer NZ Ministry of Economic Development, NZ Energy Data File, January 2006, p138-139, Table G.13, Electricity end use for year end March 2005 (refer http://www.med.govt.nz/templates/MultipageDocumentTOC____15181.aspx). MEUG estimate calculated using ANZSIC industrial classification excluding Basic non-ferrous metal sector which is mainly Comalco which has dedicated transmission services. Line charges are subject to some uncertainty in the future. Distribution charges largely will not exceed CPI until 2009 when there will be a reset of the thresholds. The transmission company is claiming significant increases in charges but the regulator is reviewing this claim.

[2] Forward price curve as at 4th August 2006 (refer www.energyhedge.co.nz) for first year is NZ$65.32/MWh and for second year (07Q4 to 08Q3) is $65.42/MWh. Spot and hence hedge and retail prices in NZ are subject to large

there is a nodal price risk margin that needs to be added. Most electricity intensive industries also do not have a flat demand profile (some are very seasonal such as the dairy industry) and few have a credit rating equivalent to that of generators. There are no reliable statistics produced on the value of these differences from the forward price marker. Anecdotal reports from industrial consumers indicate an average margin of $10/MWh on the forward price is reasonable, with the actual margin site specific dependent mainly on location, shape of the demand curve and credit rating. Sometimes other terms and conditions affect the price such as force majeure and suspension provisions. The estimated average industrial energy cost is therefore $75/MWh.

7. In aggregate the current delivered cost of electricity for industrial consumers is estimated to be approximately $23/MWh+$75/MWh = $98/MWh, ie 61$US/MWh assuming $US/$NZ=0.6264[3].

Gas market

8. The NZ gas industry is characterized by some monopoly services being regulated although the largest pipeline (the Maui gas pipeline) and some smaller local gas distributors are not regulated. The contestable portions of gas contracts are negotiated bi-laterally with no transparent forward market or published over the counter contract price index. Gas trading is in its infancy in NZ. A voluntary co-regulation model is being promoted through the Gas Industry Company.

9. The only public information on gas prices are historic aggregate averages. Using these sources the average delivered gas prices for industrial consumers is estimated as $5.97/GJ[4], ie 3.74$US/GJ assuming $US/$NZ=0.6264. The industrial gas market includes very large gas users such as power stations and methanol plants through to industrial gas users' with demand two or three orders of magnitude less. The above industrial average gas price is therefore skewed by data for the very large users'. An indication of the upper range of gas prices for industrial consumers is the average delivered gas price for commercial consumers of $11.63/GJ[5], ie 7.28$US/GJ assuming $US/$NZ=0.6264. A realistic range for an average sized industrial gas consumer is likely to be between $7.50/GJ and $8.50/GJ, ie between 4.70$US/GJ and $5.32/GJ assuming $US/$NZ=0.6264.

10. The gas prices for industrial consumers are subject to considerable uncertainty because the market is not transparent and gas supply has become increasingly constrained as the largest field (Maui) has been declining and replacement supply from smaller fields has not meet all demand. Hence gas prices have been rising rapidly.

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seasonal variations depending on hydro inflows and storage. That variability is demonstrated by spot prices at Haywards Grid Exit Point (Haywards is a commonly quoted GXP in the centre of NZ) for Jul-06 averaging $69.76/MWh, whereas the rolling 12 month average monthly price was $94.94/MWh. The latter higher price reflecting a recent sustained dry period that has ended.

[3] $US/$NZ = 0.6264 from NZ Reserve Bank for7-Aug-06 (http://www.rbnz.govt.nz/statistics/exandint/b1/data.html)

[4] MEUG estimate based on NZ Ministry of Economic Development, NZ Energy Data File, January 2006 (same reference as footnote 1 above), p152, Table I.7, industrial gas price for Sep-05 quarter of $5.83, indexed by NZ Statistics Department change on non-household gas prices Sep-05 (Index=1611) to Mar-06 (Index=1649), ie +2.4% (refer http://www.stats.govt.nz/products-and-services/info-releases/nz-energy-stats-info-releases.htm)

[5] Ibid