Rating Methodology for City Gas Distribution Companies

Overview

City Gas Distribution (CGD) companies provide piped natural gas (PNG) to commercial and industrial establishments for heating and power generation purposes and to households for cooking and heating purposes. CGD companies also retail compressed natural gas (CNG) for use as auto fuel. For distribution of PNG to consumers, CGD companies set up a network of steel and medium density polyethylene pipelines across its geographical area (GA) that transports the gas from its City Gas Station (where gas is received from the supplier) to the consumer; for retailing CNG, companies sets up dispensers either at their own exclusive stations or at the fuel pumps of Oil Marketing Companies (OMCs). As large upfront capex and numerous approvals are required for setting up the pipeline network and CNG stations, the credit risk profile of CGD companies depends on the size of capex, means of funding, extent of approvals already obtained and current stage of operations.

In 2007, the Government of India (GoI) set up a regulator, the Petroleum and Natural Gas Regulatory Board (PNGRB), which has, among other mandates in the hydrocarbon sector, the mandate of regulating the CGD business. The PNGRB invites bids for different GAs and four such rounds have been conducted till date. However the attractiveness of a particular GA is dependent upon the potential for gas sales and a favourable mix of industrial, commercial, domestic and CNG segment. Additionally aggressive bidding by companies may make them vulnerable to competition from third party marketers once the exclusivity period is over. Accordingly the credit risk profile of a CGD entity depends upon the current gas consumption and potential of its GA, consumption mix and bid parameters.

In the initial years, the regulatory mandate was the real demand driver for CGD business growth; however, subsequently the sheer cost economics of gas vis-a-vis alternate fuels has spurred demand growth. Recently the GoI has mandated provision of domestic gas for the consumption of the CNG and PNG (domestic) segments, which being cheaper than imported Regassified Liquid natural gas (RLNG) makes the economics of switching to gas more attractive for the end consumers. On the other hand the gas demand of the commercial and industrial segments is met by the costlier RLNG wherein the economics of using gas vis-a-vis alternate fuels vary with the type of fuel. Hence, the assessment of credit risk profile of CGD companies involves a study of volume growth and gross margins achievable which in turn is a function of price competitiveness with alternate fuels.
Business Risk Profile

Gas pipeline connectivity: Availability of gas is crucial to the operations of the CGD companies as there have been many instances in the as yet nascent industry where connectivity with the national grid or trunk pipeline had been delayed by months or years as compared to initial estimates. Delay in pipeline connectivity delays effective project start-up leading to stretched economics and mismatches in cash flows with the entity depending upon the promoters or group for servicing debt obligations. For such connectivity, the CGD Company has to depend on the trunk pipeline owner, who may however have several competing projects of much larger scope and scale to execute. Further, the bargaining power of the CGD entity with respect to the trunk pipeline owner remains limited, given the much larger size of the latter. Besides, once pipeline project commences, laying of new pipelines might get delayed due to several reasons including delay in securing right of use (ROU), delays in approvals, local activism etc.

Availability and Price of gas: In a positive development for the CGD sector, the GoI in November 2013 and February 2014 mandated provision of domestic gas for the entire consumption of the CNG and PNG (domestic) segments of all CGD entities in the country. The move by GoI ensures availability of domestic gas for the current consumption and future growth in these segments. As the prices of domestic gas (price as on Nov 2014 being $ 5.61/mmbtu on Net Calorific Value (NCV) basis) are much lower than that of imported RLNG (FOB price as on Nov 2014 being about $ 11/mmbtu on NCV basis), provision of the same for the entire consumption of these segments makes the economics of switching to gas more attractive for the end consumers which in turn is expected to drive growth in consumption. The gas demand of the commercial and industrial segments is met by the costlier RLNG. Conversion to gas and accordingly volume growth remains dependent on the cost economics and convenience of use of gas vis-a-vis alternate fuels.

Post implementation of the modified Rangarajan Committee formula for pricing of domestic gas, gas sourcing costs for CGD players has increased. With the price increase in the PNG (domestic) segment, it’s economics of use with respect to LPG (domestic) have turned unfavourable as the latter continues to draw a large subsidy. In the case of auto fuels, though an increase in price of gas has reduced the overall cost competitiveness of CNG as compared to the liquid fuels, the time taken to break even still remains attractive for vehicle owners to convert to CNG.

Size of operations: The returns from the GA of a CGD company needs to be ascertained from its current and potential scale of operations or gas volumes. The other factors that need to be considered include, among others, distance travelled by the average commuter, population density, and supporting infrastructure in the GA. The initial cost of setting up the pipeline network and other infrastructure may make the project economics un-remunerative in case the market potential is low. Additionally, many cities being bid for do not have many multi-storey buildings as is the case with big cities pushing the cost of providing PNG (domestic) connections higher. Also, in comparison with bigger cities, the distances travelled by commuters are shorter in the smaller ones, which means the CNG volumes per vehicle per day are low. These factors impact the viability and returns of rolling out CGD networks in smaller towns. Moreover, project economics need to factor in the high
volatility and escalation in the prices of steel and other commodities, given the long construction and project execution time that a CGD project typically requires.

**Slow scale-up in domestic demand in PNG (domestic) segment:** Even as setting up a CGD network is a capital intensive activity, scale-up of volumes remains slow and even a reasonable level of 50-60% customer penetration level is achieved only after nine to ten years after the start of operations in most cities. PNG (domestic) is the least profitable segment because of lack of competitiveness vis-a-vis highly subsidized LPG (domestic), thereby limiting the ability of the CGD companies to increase the prices of PNG (domestic) beyond a certain level. Additionally the fixed costs incurred for the extensive network to be established in residential areas has a long payback period due to the low billing per household and low conversions in the initial years, even though part of the fixed costs are recovered as deposits. Thus, overall slow scale-up in demand, low customer penetration, low cost of LPG, high cost of connectivity, low sales volume per customer and high customer management efforts make PNG (domestic) the least profitable segment within the various CGD customer segments. Furthermore, as the MoPNG has directed all CGD companies to increase the number of new PNG (domestic) connections aggressively, the proportion of sales from this segment is expected to increase leading to some moderation in profitability and return metrics.

**Consumer mix:** The credit risk profile of a CGD entity depends upon the current gas consumption and consumption mix. While the domestic segment is the least profitable segment, the industrial and large commercial segments offer the benefits of greater pricing flexibility, lower customer management efforts, and larger volumes. From the industrial and commercial customers’ perspective, use of gas offers various benefits like cost savings, environment friendliness (gas being a cleaner fuel), better quality heat and power (critical in continuous process-based industries), low maintenance costs, and storage and operational convenience, among others. The industrial and large commercial customers act as anchor tenants for CGD companies and provide large volumes in the initial years even as the PNG (domestic) and CNG segments require several years to build commercially viable volumes.

**Statutory approvals and support from State administration:** The implementation and operation of a city gas distribution network requires a host of approvals from a number of agencies, such as the National Highways Authority of India, municipal corporations, public works departments, and pollution control boards. Obtaining multiple approvals from various civic and governmental agencies and authorities calls for extensive liaison work, besides time, and may stretch the manpower resources of smaller companies. Moreover, local administration and State Governments play a crucial role in facilitating statutory approvals from various agencies. At times it is the State development authority that allots land for CNG stations at heavy vehicular traffic areas of cities. The State pollution control board encourages the industry to switch from cheaper but polluting fuels like coal to natural gas and the regional transport authority mandates conversion of public transport vehicles to CNG. However, these initiatives require strong political will and administrative machinery to implement, and if lacking could well delay a CGD player’s project.

**New entrants could have high risk profile as selection is based on bids:** According to PNGRB Regulations, award of CGD networks for new areas has to be done through a competitive bidding process, under which along with technical and financial parameters, the
bidders are evaluated against a set of criteria. The bidding criteria since September 2013 is as listed below:

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<th>Bidding Criteria</th>
<th>Weightage</th>
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<td>Lowness of the present value of the overall unit network tariff (Rs./MMBTU) over the economic life of the network project (25 years)</td>
<td>70%</td>
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<tr>
<td>Lowness of the present value of the compression charge (Rs./kg) for dispensing CNG at the CNG stations over the economic life of the network project (25 years)</td>
<td>30%</td>
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Several of the bidders have made aggressive bids, with reference to network & compression tariff, steel pipelines to be laid and PNG (domestic) connections, with the latter two criteria applicable only for the initial three rounds. The strategy of quoting low tariff could expose the aggressive bidders to competition once the exclusivity period is over; any third-party marketer could use the network of the successful bidder at a nominal cost and sell gas to current or new customers in the region.

While the players who had adopted such an aggressive bidding approach could be banking on: (a) cross-subsidy from the gas trading margin (b) creation of entry barriers and/or (c) deficit in the availability of domestic gas vis-à-vis demand. However, there are uncertainties associated with each of these assumptions. For example, the ability to achieve sufficient marketing margin is uncertain, given the slow scale-up of volumes. Also, the regulator could disallow creation of any entry barriers for third-party marketers, while the availability of domestic natural gas could improve over the longer term although being in deficit in the medium term.

**Aggressive bids for new cities by incumbents:** Some of the incumbent CGD companies have been participating in the bids for gas distribution projects in the “new” cities as part of their pan-India growth strategy. While entering the new cities could lower their geographical concentration risk, the same could also translate into higher credit risks, given the several challenges posed by the new cities (as discussed earlier). The impact on their credit profiles would be a function of the potential of its GA, consumption mix, size of capital expenditure, means of finance and bid parameters, in relation to existing operations.

**Regulatory risk for incumbents:** The incumbents who are operating in different cities are exposed to the regulatory risks, which can emanate in the form of authorisation of their operations and approval for network/compression tariff. While most of the PSU CGD companies have obtained authorisation from PNGRB as they were approved by MoPNG before PNGRB Act came into being, authorisation is awaited even for them for few cities as there are multiple operators or alternate operator in those cities. As PNGRB Act envisages a single entity which will provide network access for each city, the regulator has to decide how multiple operators will be accommodated. Companies whose presence is deemed unauthorised run the risk of stranded investments. As regards the network/compression tariff, the same has to be approved by regulator following a tariff petition by the concerned CGD, which should include multi-year forecasts of cash flows (until the end of balance license period). The regulator may adopt different assumptions on capex, opex and volumes for forecasts, which could end up resulting in lower tariff than petitioned for by the CGD companies. In some instances, there might be need for refunding the excess tariff for the past periods, which could entail significant cash outflow if there is a wide difference between the regulator approved tariff and petitioned tariff. Indraprastha Gas Ltd (IGL), the
operator in NCT and NCR experienced such a risk, which has been under litigation since then. The litigation also involves the powers of PNGRB to regulate the tariff for incumbents for sales to their customers, as the earlier High Court verdict entailed that the regulator can only fix tariff for 3rd party access. As the matter is in Supreme Court, there is regulatory uncertainty for the industry.

**Payback period and limited marketing exclusivity period:** It usually takes two to three years for a CGD company to develop the infrastructure, including, among others, the pipeline network, a city gas station, and CNG stations before commencing operations. After the start of operations, sales scale-up is typically slow and it takes three to four years to reach a commercially viable level. The slower scale-up of sales and the large upfront capital outlays also mean the payback period of a CGD project is seven to eight years.

Under the PNGRB Act, 2006, new entrants/incumbents will enjoy monopoly with regards to network provision for 25 years and marketing exclusivity for five years, both from the date of authorisation. Although the marketing exclusivity is for five years, the actual period works out much shorter as network construction itself takes two to three years. The five-year marketing exclusivity for new entrants may not be adequate, given that the history of the CGD business in India points to the actual gestation period being longer. After the marketing exclusivity period is over, there is the risk that the CGD company’s customers and several untapped consumers would migrate to a different gas provider. The impact of such a switch-over would be higher for CGD companies that bid zero or very low network tariff rates which would allow any third party marketer to sell the gas by paying negligible network tariff. However, this risk is partly mitigated by the lack of availability of gas currently. Further, for any third party marketer wanting to utilize issuer’s infrastructure for CNG/PNG sales there will be practical issues associated like constraints over the infrastructure at the point of gas inflow into GA, operational issues related to retail management set-up/expertise (billing, collection & metering along with after-sales/repair related services), regulatory issues related to lack of regulations by PNGRB over the estimation of excess capacity available for marketing and unattractiveness of returns particularly in case of low sales volume for PNG-domestic. However the PNG segment, particularly industrial/commercial, with its large volumes and lower operational issues due to bulk customer management could be open to competition post marketing exclusivity. Accordingly in case gas availability were to improve significantly, say over the long term, third-party marketers could present a considerable threat to incumbent CGD companies.

**Taxation by States:** The competitiveness that CNG and PNG enjoy over substitute fuels also derives from the supportive taxation structure that these fuels enjoy in most states. However, as these fuels gain popularity, there is no certainty that State Governments will not see that as an opportunity to earn additional tax revenues as has been the case with liquid transportation fuels such as motor spirit, high-speed diesel and aviation turbine fuel. Already, some States like Uttar Pradesh are levying very high tax on CNG and PNG impacting the competitiveness of these fuels vis-a-vis substitutes.

**Management Risk**

All debt ratings necessarily incorporate an assessment of the quality of the issuer’s management, as well as the strengths/weaknesses arising from the issuer’s being a part of a
“group”. Also of importance are the issuer’s likely cash outflows arising from the possible need to support other group entities, in case the issuer is among the stronger entities within the group. Usually, a detailed discussion is held with the management of the issuer to understand its business objectives, plans and strategies, and views on past performance, besides the outlook on the issuer’s industry. Some of the other points assessed are:

- Experience of the promoter/management in the line of business concerned
- Commitment of the promoter/management to the line of business concerned
- Attitude of the promoter/management to risk taking and containment
- The issuer’s policies on leveraging, interest risks and currency risks
- The issuer’s plans on new projects, acquisitions, expansion, etc.
- Strength of the other companies belonging to the same group as the issuer
- The ability and willingness of the group to support the issuer through measures such as capital infusion, if required.

As CGD sector entails significant business risks, companies backed by strong sponsors, preferably with background in Oil & Gas business, can be better placed to navigate the risks involved. Operational support from sponsors can arise in several ways, notably competitively priced R-LNG tie-ups, co-location of CNG stations in their retail outlets and tap off access from adjacent gas transmission pipelines.

**Financial Risk Profile**

In order to assess the issuer’s current financial position, trends in profitability, gearing, coverage and liquidity are also analysed. These are discussed below:

**Operating profitability**: The analysis here focuses on determining the trend in the issuer’s operating profitability and how do they compare versus the peers in other cities. Barring few exceptions, the incumbents have demonstrated the ability to pass on the increase in gas costs to consumers, albeit with some time lags. Accordingly while analyzing CGD companies, a key metric to analyse is the gross margin (Gas Sale Price - Gas Purchase price) on a per scm basis. CGD companies strive to maintain the gross margin on a per scm basis even though the operating profitability may decline due to higher base effect (on account of increase in gas cost). Besides gross margin on an overall blended basis, the same is also analysed on a segmental (PNG, CNG) basis with the objective to detect any pressures on profitability in any of these segments due to resistance of consumers to price pass through.

**Gearing**: A CGD project entails large upfront capex besides which CGD entities incur large capex on a regular basis in order to expand network and thereby grow sales; accordingly the objective here is to ascertain the level of debt in relation to the issuer’s own funds and is viewed in conjunction with the business risks that the issuer is exposed to. Long maturity profile of the loans can partially offset the risk associated with high financial leverage, as the payback period for CGD business can be long. For higher rated CGD companies, inter-alia, ICRA expects these companies to have low financial leverage in order to offset the high business risk associated with slow build-up in volumes, slow pace of approvals, high regulatory oversight etc.
**Debt service coverage ratios:** Here, the trends in the issuer’s key debt service coverage ratios like Interest Coverage and Net Cash Accruals/Total Debt are examined.

**Working capital intensity:** The analysis here evaluates the trends in the issuer’s key working capital indicators like receivables, inventories and creditors, again with respect to industry peers. ICRA notes that working capital intensity as measured by NWC/OI is either low or negative in the CGD business, because of large cash sales in retailing, negligible inventories and moderate creditor days.

**Cash flows:** As CGD companies incur large capex on a regular basis with the benefits accruing from the same with a lag of a few years, cash flows are analysed for upcoming capex requirements and term loan repayments. In the case of project stage CGD Companies dependence on group and their ability for servicing of term loan repayments is also seen.

Some of the other aspects that are also analysed include the following:

- **Foreign currency related risks:** Generally the CGD companies have back to back foreign currency pass through clauses in contracts with large commercial and industrial consumers. However for the PNG (domestic), CNG and small commercial segments, impact of depreciation in Rupee vis-a-vis the US dollar are passed through periodic price increases. Additionally for any imports (of compressors etc) the CGD Company may avail buyer’s credit for which the hedging policy needs to be assessed.

- **Tenure mismatches, and risks relating to interest rates and refinancing:** Large dependence on short-term borrowings to fund-long term investments can expose an issuer to significant re-financing risks, especially during periods of tight liquidity. The existence of adequate buffers of liquid assets/bank lines to meet short-term obligations is viewed positively. Similarly, the extent to which an issuer would be impacted by movements in interest rates is also evaluated.

- **Accounting quality:** Here, the Accounting Policies, Notes to Accounts, and Auditor’s Comments are reviewed. Any deviation from the Generally Accepted Accounting Practices is noted and the financial statements of the issuer adjusted to reflect the impact of such deviations.

- **Contingent liabilities/Off-balance sheet exposures:** In this case, the likelihood of devolvement of contingent liabilities/off-balance sheet exposures and the financial implications of the same are evaluated.

- **Financial flexibility:** As the CGD business is capital intensive, ability to raise resources from the banks at competitive rates will be a key rating strength. Accordingly, the issuer’s financial flexibility—as reflected by it unutilised bank/credit limits, liquid investments, and the nature of its relationship with banks, financial institutions and other intermediaries—is assessed.

**Summing up...’**

The credit risk profile of CGD companies is evaluated considering the current stage of operations with respect to volume sales, gross margins, consumer mix and gas tie-ups in place; moreover future volume growth in sales is analysed vis-a-vis potential of the GA and competitiveness with alternate fuels. As project stage CGD companies have to contend with
high project execution risks, given the long execution period involved and the multitude of approvals required from several agencies, factors that increase the projects’ vulnerability to cost and time overruns, the status of approvals and support from the State Administration are evaluated. Being a capital intensive industry, cash flows, capex plans, funding mix and debt repayment commitments are analysed wherein a low leverage and/or long tenure of loan could act as a counterweight to the high business risk profile and also enable the issuers to achieve healthy debt protection metrics.