

Rating Methods by Sector

City Gas

1. Business base

City gas is an important energy source used across very large areas. City gas companies purchase raw materials, and then produce and supply gas, and as such serve an important public interest. The rating considers this public interest and government regulations in place to protect it, the economic environment, and trends in demand in the operating areas, and differences in the earnings and financial bases of individual companies.

(1) Characteristics of the industry

(i) Market overview

The primary use of city gas includes hot-water supply and cooking in households as well as heat demand in the industrial sector, and demand is consequently stable. Sales volumes have been rising, particularly for industrial uses. Natural gas, the major raw material for city gas, is environmentally superior to other fossil fuels, with lower CO₂ and other emissions. For this reason, the use of natural gas and fuel conversion is being encouraged in the industrial sector as measures against global warming, suggesting that demand for city gas will continue to rise.

(ii) Competitive situation

Business development in the city gas industry is restricted with systems based on regulations such as the Gas Utility Industry Law, which constitutes a high barrier to entry. While competition with other energy sources such as electric power, LP gas, and kerosene does exist, essentially monopolistic supply is possible in regulated markets, which limits competition among companies in the same industry and ensures basically stable customer bases. Consequently, there has been no consolidation of companies, and still more than 200 companies, including government enterprises, operate in the industry.

Although amendments to the Gas Utility Industry Law in the past prompted a gradual expansion of deregulated areas, new entrants have rarely taken away market share and the direct impact on revenues is negligible. At present, no changes to the system that could affect the business base are being considered. The nuclear accident triggered by the Great East Japan Earthquake, however, is likely to encourage the government to modify its energy policy. Changes in the direction of energy policy will need to be tracked to reveal implications for the gas business system.

(iii) Cost structure

City gas companies need to make considerable investments, including raw material purchases and production and supply system development. In regulated areas, however, pricing based on the full-cost principle, in which an appropriate profit is added to an appropriate cost, is possible, allowing the companies to keep earnings at a certain level.

In the past, large operators increased the volume of sales by capturing large-scale demand and streamlined their businesses to reduce expenses per unit of sales, with the exception of the cost of raw materials, and reduced the gas rate on a regular basis. Currently, however, scope for cost cutting appears to be diminishing while growth in sales volumes has slowed, apparently resulting in lower capacity for gas rate reduction.

Fluctuations in the prices of raw materials affect profits. In the regulated areas, however, a gas rate adjustment system that separately adjusts for changes in the cost of raw materials has been adopted, which controls the medium-term impact on profitability. Contracts of similar forms are also common in the deregulated areas. Fluctuations in raw material prices, therefore, are considered manageable for gas companies and will not significantly affect their business foundations.

(2) Important factors in market position and competitiveness

(i) Market position

Systems that become high barriers to entry and stable demand allow even those gas companies with a small business to operate generally stable businesses. On the other hand, prompt action against all-electric homes for competition primarily in household-use gas and investment in fuel conversion for industrial use, the expansion of business areas, and other activities becomes more important. These measures require financial strength, technical capabilities, the ability to make proposals, and other attributes, and such factors basically increase depending on the size of the business. In view of raw material purchasing power, the efficient transportation of raw materials, and building production and supply systems, the scales of business and customer base are considered important.

(ii) Demand composition and potential demand

Purchasers of city gas are broadly divided into households, industry, commerce, and others. Demand for household gas often used for hot-water supply is basically expected to remain stable, despite some fluctuations due to air and water temperatures. Since household gas consists of small buyers, the gas rate is higher than that for industrial use, constituting the core of the income base of gas companies.

Meanwhile, ongoing development of large-scale industrial and commercial demand is important in increasing sales volume and expanding the business. The scale of potential demand is identified based on the demographic and economic conditions of development areas, the competitiveness of corporate customers, the expansion capacity of business development areas, and other aspects. If sales concentrate in specific industries or companies, the volatility of sales volumes associated with

business fluctuations increases. Imbalances in demand composition, therefore, also require attention.

(iii) Resistance to other energy sources

City gas competes against other energy sources such as electric power, LP gas, and kerosene. In particular, competition against electric power for household use (all-electric homes) has been intensifying in recent years. The market penetration of all-electric homes in the development areas varies among suppliers, depending on geographical factors, including the number of condominiums with limited space for equipment installation that prevents electrification, and the likely effect of measures such as cooperation with home builders, the sale of ENE FARM (household fuel cell cogeneration systems) and other strategic equipment products, and improvements in relations with business partners based on increased connection with their customers. JCR therefore monitors the progress and effectiveness of each company's measures. The competitiveness of city gas to meet demand for heat in high-temperature zone is high, and competition with electric power is unlikely in gas for industrial use mostly for such purposes.

(iv) Ability to procure raw materials

Raw materials are procured through various channels, including direct procurement from overseas markets, purchases from other city gas suppliers, or a combination of the two. Contract terms are examined in view of whether amounts to match medium-term demand are obtained while diversifying the risk of relying on specific suppliers and whether the fluctuations in procurement costs are successfully controlled, among other criteria. Even when purchasing from other companies, signing appropriate contracts with companies with a solid business base should enable a company to avoid being at a significant disadvantage to its peers in terms of stable supply and cost. Companies with a strong business base and raw material purchasing power, however, are capable of using diversified purchase methods, participating in upstream interests, and carrying out raw material trading, which increases the degree of strategic freedom. This is something that may be assessed separately.

Demand for natural gas, the raw material of city gas, has been growing with the increase in thermal power generation as an alternative to nuclear power generation in Japan. It has also been rising in the global market, particularly in emerging counties such as China. Still, factors that could depress demand exist, such as the increased production capacity for liquefied natural gas (LNG) in Qatar and the serious commercial production of shale gas that has begun in the United States and other counties. Large gas companies have established long-term contracts that can generally cover medium-term demand, and this should prevent problems in raw material procurement for now.

(v) Investment strategy for infrastructure development

Demand for city gas, supported by the promotion of fuel conversion and the expansion of

development areas, is expected to grow over the medium and long terms. To encourage the increased use of natural gas, which effectively reduces CO2 emissions, the government is considering policy support for infrastructure development, including pipelines and LNG terminals. Rapid infrastructure development is not just important for the public interest; it is also critical for the growth of gas companies. While investment is basically viewed positively as contributing to the strengthening of the business base and future growth, JCR confirms in the rating the purposes of the investment, such as cost cutting or improvement of supply capacity and stability, as well as the expected results. Subsequently, demand is observed and business and fund plans are examined to assess the possibility of recouping the investment.

2. Financial base

(1) Earnings strength

Periodical profit and loss inevitably changes with fluctuations in raw material prices. JCR attempts to identify the effective earnings strength that takes this effect into account. Maintaining a household income base that faces intensifying competition with electric power and ensuring appropriate margins from large customers who have relatively strong bargaining power, among other factors, are considered important in improving earnings strength.

Key financial indicators:

- The ratio of ordinary profit to sales
- Return on assets

(2) Cash flow

In preparation for medium- and long-term growth in demand for natural gas, many companies are constructing LNG terminals and large natural gas pipelines. While the certainty of investment recovery based on demand forecast is thought to be high, the amount being invested in each project is large and a considerable financial burden is expected. Efforts to improve the ability to generate cash flow are therefore important.

Key financial indicators:

- EBITDA
- Cash flow from operating activities
- Ratio of interest-bearing debt to EBITDA

(3) Safety

The gas supply business has comparatively large capital expenditure requirements and a long period of investment recovery, which tends to mean a large amount of interest-bearing debt. However, after the completion of the conversion of calorific value, an expensive process, many gas companies saw an improvement in their finances. In recent years, though, many companies are undertaking large-scale

capital investment to meet growing demand, and some are experiencing financial decline again. While the industry enjoys a stable income base and ease of external financing, it is vital to maintain a financial base that can withstand natural disasters or sudden changes in demand, even during a temporary increase in investment.

Key financial indicators:

- Shareholders' equity
- Equity ratio
- Debt equity ratio

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