

Industry Flash

4 March 2009 | 8 pages

India Natural Gas

City Gas Bidding Commences

- Bids for 6 cities placed** — The PNGRB has announced that it has received 17 bids from 8 entities for the development of city gas distribution (CGD) networks in 6 cities viz. Kakinada (Andhra Pradesh), Kota (Rajasthan), Dewas (Madhya Pradesh), Meerut (Uttar Pradesh), Sonapat (Haryana), and Mathura (Uttar Pradesh) (see Figure 1). Those who qualify will have to submit a financial bid within 10 days. Bidding for 14 more cities is also expected to commence soon.
- Significant value potential from CGD** — Commencement of bidding is positive for the sector, given est. total value generation opportunity of CGD at US\$1.2-3.1bn (net equity value), as highlighted in our 22 Sep 2008 *Oil Gauge*¹ report.
- Reliance, GAIL place bids as expected** — As per press reports (*Business Standard*, *Economic Times*), Reliance, through its wholly-owned subsidiary Reliance Gas Corporation, has bid for Kakinada, while GAIL, also through its wholly-owned subsidiary GAIL Gas, has submitted bids for the other 5 cities.
- Cairn a surprise entry** — Cairn, through a JV with BPCL, has placed bids for the cities of Kota and Sonapat. This was a surprise as Cairn has so far not stated any plans of entering the CGD business, and signals its intent to pursue other opportunities given significant cash flow generation from 2010. Capex required to roll out a CGD network in a city is, however, quite reasonable at cRs4bn.
- IGL bids for 2 cities, positive for growth** — IGL has bid for the cities of Sonapat and Meerut. Despite stiff competition, we view this as a positive for geographical growth opportunities, which have so far been limited to the NCR.

Saurabh Handa¹
 +91-22-6631-9858
 saurabh.handa@citi.com

Rahul Singh¹
 +91-22-6631-9863
 rahul.r.singh@citi.com

Garima Mishra¹
 garima.mishra@citi.com

Figure 1. Bids placed for the first 6 cities

City	Bidders
Kakinada	Reliance Gas, Bhagyanagar Gas
Sonapat	GAIL Gas, Indraprastha Gas, Cairn-BPCL, IOC-Adani, DCM Infrastructure
Meerut	GAIL Gas, IOC-Adani, Indraprastha Gas
Dewas	GAIL Gas, GSPC, IOC-Adani
Kota	GAIL Gas, Cairn-BPCL, IOC-Adani
Mathura	GAIL Gas

Source: Business Standard, Citi Investment Research and Analysis

¹"Life beyond NPV (KG D6!FY09:FY28)". Click on the link: <https://www.citigroupgeo.com/pdf/SAP20407.pdf>

See Appendix A-1 for Analyst Certification and important disclosures.

Citi Investment Research is a division of Citigroup Global Markets Inc. (the "Firm"), which does and seeks to do business with companies covered in its research reports. As a result, investors should be aware that the Firm may have a conflict of interest that could affect the objectivity of this report. Investors should consider this report as only a single factor in making their investment decision. Non-US research analysts who have prepared this report are not registered/qualified as research analysts with the NYSE and/or NASD. Such research analysts may not be associated persons of the member organization and therefore may not be subject to the NYSE Rule 472 and NASD Rule 2711 restrictions on communications with a subject company, public appearances and trading securities held by a research analyst account.

~1Citigroup Global Markets India Private Limited

Downstream value potential of city gas

We highlight below our Oil Gauge report titled '*Life beyond NPV (KG D6/ FY09:FY28)*' dated 22 September 2008 where we had explored the significant downstream value potential of the new gas finds by focusing on two key segments – a) Power generation (incl. merchant) and b) City gas distribution (CNG/PNG), which together can create US\$3-5bn value. The following is an extract from the report, where we focus on the potential of city gas distribution. The detailed report can also be accessed at:

<https://www.citigroupgeo.com/pdf/SAP20407.pdf>

City Gas – stage set for explosive growth

The notification of city gas distribution regulations by the Petroleum and Natural Gas Regulatory Board (PNGRB) in April was an important milestone for the sector, which is on the cusp of witnessing significant growth given the imminent commencement of production from D6. Reliance itself has realised the value of this opportunity and has consequently expressed interest to set up city gas distribution networks in 54 cities (regulations give 5 years marketing exclusivity for new players), with the intention of capturing a significant part of the value ex-wellhead i.e. in the downstream part of the gas value chain. We estimate the total (net) value of this opportunity at ~US\$1-3bn over the next 5 years, with RIL potentially being a major beneficiary, but other players like GAIL, Gujarat Gas, GSPL, etc. also likely to benefit.

Net equity value generation of US\$1-3bn

We estimate total value generation opportunity of city gas distribution at US\$1.2-3.1bn (net equity value). This is based on total distribution volumes of 35 mmscmd over the next ~5 years, as estimated by RIL for the 54 cities it has expressed interest for, increasing to ~75 mmscmd by 2020 (see Figure 3). Figure 2 below illustrates how we arrive at the aforementioned range.

Figure 2. Potential equity value that can be generated from city gas distribution (over 5 years)

	Units	CNG	PNG	Total	Comments
Sale price	Rs/kg, Rs/scm, Rs/cyl	20.0	12.0		Based on expected realizations assuming normalised crude of ~US\$80/bbl
Delivered gas cost	US\$/mmbtu	10.2	7.9		Avg delivered price assuming well-head price of US\$4.2/mmbtu
	Rs/scm	8.3	8.3		
Typical opex	US\$/mmbtu	5.5	5.5		Based on actual operating costs of incumbents
	Rs/scm	1.9	1.1		
EBITDA	US\$/mmbtu	1.3	0.7		CNG margins tend to be higher, though at higher capex
	Rs/scm	5.1	2.6		
EBITDA margin	US\$/mmbtu	3.4	1.7		CNG margins tend to be higher, though at higher capex
	%	33%	22%		
Total est. demand	mmscmd	5.0	30.0	35.0	As per RIL estimates for current demand potential (see Fig.7)
Capex	US\$m	623	1,761	2,384	CNG involves higher capex
- ow Debt	US\$m	311	881	1,192	
- ow Equity	US\$m	311	881	1,192	
EBITDA (base case)	US\$m	223	686	910	
EBITDA (regulated case)		156	440	596	
Payback (base case)	years	2.8	2.6	2.6	Paybacks/return ratios for both segments (CNG/PNG) even out
Payback (regulated case)	years	4.0	4.0	4.0	
EBITDA/gross block (base case)	%	36%	39%		Base case yields a post-tax ROCE of ~25%
EBITDA/gross block (regulated case)	%	25%	25%		Base case yields a post-tax ROCE of ~17%
EV/EBITDA	x	6.0	6.0		
EV (base case)	US\$bn	1.3	4.1	5.5	
EV (regulated case)		0.9	2.6	3.6	
Equity value (base case)	US\$bn			4.3	After deducting debt of US\$1.2bn (50% of US\$2.4bn capex)
Equity value (regulated case)	US\$bn			2.4	
Net Equity value (base case)	US\$bn			3.1	After deducting book value of equity investment of US\$1.2bn
Net Equity value (regulated case)	US\$bn			1.2	

Source: Citi Investment Research and Analysis

Our key assumptions are as follows:

1. Total distribution volumes of 35 mmscmd, based on estimates of RIL. Interestingly, the more lucrative CNG segment forms a small proportion (just 5 mmscmd) of the total volumes, with the bulk being taken up by industrial consumers. Domestic and commercial customers comprise the balance (see Figure 3 for the detailed break-up).
2. Total cumulative capex of US\$2.4bn to be incurred over the next ~5 years, with a disproportionately higher (~1/4th) share of CNG vis-à-vis PNG. These assumptions are based on the capex that IGL (heavily biased towards CNG) and GGas (primarily PNG) have incurred so far. We assume a D/E split of 1:1.
3. EBITDA margins of 33% and 22% for CNG and PNG based on an average gas price (delivered) of US\$5.5/mmbtu, sales realisation of Rs20/kg (CNG) and Rs12/scm (PNG), and actual operating costs of incumbents (IGL and GGas). These figures also lie between the 20% and 42% operating margins realised by GGas and IGL in CY07/FY08.
4. **Scenario 1 – base case:** based on the above margin and realisation estimates (base case), the payback period works out to a very attractive

~2.5-3 years and an EBITDA/gross block of 35-40%, imputing a post-tax ROCE of ~25%. This yields a total EBITDA of ~US\$0.9bn.

5. **Scenario 2 – regulated case:** Given the evolving regulatory environment and the notified post-tax ROCE of 14% for network tariff/CNG compression charge for the city gas distribution business (albeit leaving the end consumer price and consequently the marketing margin unregulated), we have also assumed a more conservative scenario where regulation will not permit a distributor to achieve super-normal returns. This scenario assumes a more reasonable EBITDA/gross block of ~25%, a payback period of ~4 years, and imputes a post-tax ROCE (including mktg) of ~17%, which is more consistent with the regulatory environment. This yields a total EBITDA of ~US\$0.6bn.
6. Applying an EV/EBITDA of 6.0x to the above EBITDA range of US\$0.6-0.9bn results in an EV of US\$3.6-5.5bn, which after deducting US\$1.2bn of debt yields a net equity value range of US\$1.2-3.1bn. This, as explained in #2 above, is arrived at after deducting the book value of the equity investment of US\$1.2bn (50% of US\$2.4bn capex).

Figure 3. RIL's estimated demand for city gas distribution as per the 54 EOIs submitted by it

mmscmd	Domestic	Commercial	CNG	Industrial	Est. demand (current)	Est. demand (2020)
Agra	0.06	0.03	0.11	0.25	0.45	0.90
Ahmedabad	0.26	0.08	0.22	0.53	1.09	1.95
Allahabad	0.06	0.02	0.07	0.10	0.25	0.55
Amritsar	0.01	0.06	0.03	0.04	0.14	0.53
Aurabgabad	0.10	0.03	0.09	0.13	0.35	0.80
Bangalore	0.13	0.75	0.25	0.43	1.57	6.25
Bhiwandi	0.14	0.03	0.42	0.40	0.99	1.50
Bhopal	0.08	0.02	0.07	0.08	0.25	0.60
Chandigarh	0.08	0.02	0.09	0.10	0.29	0.75
Chennai	0.06	0.32	0.06	0.35	0.79	3.15
Coimbatore	0.18	0.03	0.02	0.10	0.33	0.83
Faridabad	0.08	0.03	0.07	0.10	0.28	0.75
Ghaziabad	0.05	0.02	0.07	0.36	0.50	0.94
Gurgaon	0.02	0.04	0.02	0.19	0.27	1.12
Gwalior	0.04	0.01	0.03	0.08	0.16	0.30
Hubli-Dharwad	0.05	0.02	0.07	0.10	0.24	0.44
Hyderabad	0.13	0.10	0.45	1.74	2.42	4.50
Indore	0.09	0.02	0.07	0.18	0.36	0.75
Jabalpur	0.05	0.02	0.04	0.01	0.12	0.20
Jaipur	0.20	0.04	0.00	0.49	0.73	1.30
Jalandhar	0.03	0.05	0.09	0.15	0.32	1.00
Jamnagar	0.01	0.03	0.00	0.13	0.17	0.33
Kakinada	0.01	0.01	0.02	0.10	0.14	0.26
Kanpur	0.20	0.05	0.05	0.86	1.16	2.70
Kochi	0.04	0.03	0.03	0.50	0.60	1.20
Kolkata	0.47	0.14	0.39	0.92	1.92	3.75
Kozikode	0.03	0.03	0.03	0.11	0.20	0.45
Lucknow	0.17	0.04	0.14	0.20	0.55	0.95
Ludhiana	0.02	0.06	0.03	0.24	0.35	1.57
Madurai	0.01	0.05	0.01	0.04	0.11	0.42
Mangalore	0.20	0.02	0.02	0.74	0.98	1.75
Meerut	0.05	0.02	0.07	0.36	0.50	1.40
Mysore	0.04	0.02	0.06	0.20	0.32	0.70
Nagpur	0.20	0.06	0.17	0.38	0.81	1.70
Nashik	0.08	0.04	0.10	0.18	0.40	1.00
Navi Mumbai	0.05	0.04	0.08	0.05	0.22	0.75
Noida	0.03	0.01	0.05	0.05	0.14	0.35
Pune	0.17	0.07	0.30	0.65	1.19	3.50
Rajkot	0.02	0.03	0.05	0.32	0.42	1.00
Salem	0.04	0.05	0.06	0.20	0.35	0.60
Shahdol	0.01	0.01	0.03	0.15	0.20	0.45
Sholapur	0.02	0.03	0.04	0.15	0.24	0.50
Surat	0.14	0.07	0.13	4.87	5.21	7.10
Thane	0.07	0.03	0.12	0.25	0.47	1.12
Thiruvananthapuram	0.07	0.02	0.01	0.05	0.15	0.30
Tiruchirapalli	0.05	0.03	0.04	0.28	0.40	0.60
Tirupati	0.02	0.01	0.02	0.01	0.06	0.10
Tuticorin	0.02	0.01	0.03	1.00	1.06	2.00
Udaipur	0.02	0.02	0.03	0.13	0.20	0.45
Vadodara	0.14	0.06	0.12	2.46	2.78	4.20
Vapi	0.00	0.01	0.00	2.46	2.48	4.10
Varanasi	0.06	0.02	0.08	0.10	0.26	0.50
Vijayawada	0.04	0.01	0.04	0.11	0.20	0.50
Vizag	0.07	0.04	0.06	0.77	0.94	2.00
RGCL* Total	4.47	2.91	4.74	24.93	37.06	77.41

Source: PNGRB and CIRA estimates. *RGCL (Reliance Gas Corporation Limited), a 100% subsidiary of RIL.

Appendix A-1

Analyst Certification

Each research analyst(s) principally responsible for the preparation and content of all or any identified portion of this research report hereby certifies that, with respect to each issuer or security or any identified portion of the report with respect to an issuer or security that the research analyst covers in this research report, all of the views expressed in this research report accurately reflect their personal views about those issuer(s) or securities. Each research analyst(s) also certify that no part of their compensation was, is, or will be, directly or indirectly, related to the specific recommendation(s) or view(s) expressed by that research analyst in this research report.

IMPORTANT DISCLOSURES

Global Markets India Pvt Ltd is providing a fairness opinion to Reliance Petroleum in its proposed merger with Reliance Industries.

Analysts' compensation is determined based upon activities and services intended to benefit the investor clients of Citigroup Global Markets Inc. and its affiliates ("the Firm"). Like all Firm employees, analysts receive compensation that is impacted by overall firm profitability, which includes revenues from, among other business units, the Private Client Division, Institutional Sales and Trading, and Investment Banking.

For important disclosures (including copies of historical disclosures) regarding the companies that are the subject of this Citi Investment Research product ("the Product"), please contact Citi Investment Research, 388 Greenwich Street, 29th Floor, New York, NY, 10013, Attention: Legal/Compliance. In addition, the same important disclosures, with the exception of the Valuation and Risk assessments and historical disclosures, are contained on the Firm's disclosure website at www.citigroupgeo.com. Private Client Division clients should refer to www.smithbarney.com/research. Valuation and Risk assessments can be found in the text of the most recent research note/report regarding the subject company. Historical disclosures (for up to the past three years) will be provided upon request.

Citi Investment Research Ratings Distribution

Data current as of 31 Dec 2008

	Buy	Hold	Sell
Citi Investment Research Global Fundamental Coverage	46%	37%	17%
% of companies in each rating category that are investment banking clients	48%	43%	38%

Guide to Fundamental Research Investment Ratings:

Citi Investment Research's stock recommendations include a risk rating and an investment rating.

Risk ratings, which take into account both price volatility and fundamental criteria, are: Low (L), Medium (M), High (H), and Speculative (S).

Investment ratings are a function of Citi Investment Research's expectation of total return (forecast price appreciation and dividend yield within the next 12 months) and risk rating.

For securities in emerging markets (Asia Pacific, Emerging Europe/Middle East/Africa, and Latin America), investment ratings are: Buy (1) (expected total return of 15% or more for Low-Risk stocks, 20% or more for Medium-Risk stocks, 30% or more for High-Risk stocks, and 40% or more for Speculative stocks); Hold (2) (5%-15% for Low-Risk stocks, 10%-20% for Medium-Risk stocks, 15%-30% for High-Risk stocks, and 20%-40% for Speculative stocks); and Sell (3) (5% or less for Low-Risk stocks, 10% or less for Medium-Risk stocks, 15% or less for High-Risk stocks, and 20% or less for Speculative stocks).

Investment ratings are determined by the ranges described above at the time of initiation of coverage, a change in investment and/or risk rating, or a change in target price (subject to limited management discretion). At other times, the expected total returns may fall outside of these ranges because of market price movements and/or other short-term volatility or trading patterns. Such interim deviations from specified ranges will be permitted but will become subject to review by Research Management. Your decision to buy or sell a security should be based upon your personal investment objectives and should be made only after evaluating the stock's expected performance and risk.

Guide to Corporate Bond Research Credit Opinions and Investment Ratings: Citi Investment Research's corporate bond research issuer publications include a fundamental credit opinion of Improving, Stable or Deteriorating and a complementary risk rating of Low (L), Medium (M), High (H) or Speculative (S) regarding the credit risk of the company featured in the report. The fundamental credit opinion reflects the CIR analyst's opinion of the direction of credit fundamentals of the issuer without respect to securities market vagaries. The fundamental credit opinion is not geared to, but should be viewed in the context of debt ratings issued by major public debt ratings companies such as Moody's Investors Service, Standard and Poor's, and Fitch Ratings. CBR risk ratings are approximately equivalent to the following matrix: Low Risk Triple A to Low Double A; Low to Medium Risk High Single A through High Triple B; Medium to High Risk Mid Triple B through High Double B; High to Speculative Risk Mid Double B and Below. The risk rating element illustrates the analyst's opinion of the relative likelihood of loss of principal when a fixed income security issued by a company is held to maturity, based upon both fundamental and market risk factors. Certain reports published by Citi Investment Research will also include investment ratings on specific issues of companies under coverage which have been assigned fundamental credit opinions and risk ratings. Investment ratings are a function of Citi Investment Research's expectations for total return, relative return (to publicly available Citigroup bond indices performance), and risk rating. These investment ratings are: Buy/Overweight the bond is expected to outperform the relevant Citigroup bond market sector index (Broad Investment Grade, High Yield Market or Emerging Market), performances of which are updated monthly and can be viewed at <http://sd.ny.ssm.com/> using the "Indexes" tab; Hold/Neutral Weight the bond is expected to perform in line with the relevant Citigroup bond market sector index; or Sell/Underweight the bond is expected to underperform the relevant sector of the Citigroup indexes.

OTHER DISCLOSURES

For securities recommended in the Product in which the Firm is not a market maker, the Firm is a liquidity provider in the issuers' financial instruments and may act as principal in connection with such transactions. The Firm is a regular issuer of traded financial instruments linked to securities that may have been recommended in the Product. The Firm regularly trades in the securities of the issuer(s) discussed in the Product. The Firm may engage in securities transactions in a manner inconsistent with the Product and, with respect to securities covered by the Product, will buy or sell from customers on a principal basis.

Securities recommended, offered, or sold by the Firm: (i) are not insured by the Federal Deposit Insurance Corporation; (ii) are not deposits or other obligations of any insured depository institution (including Citibank); and (iii) are subject to investment risks, including the possible loss of the principal amount invested. Although information has been obtained from and is based upon sources that the Firm believes to be reliable, we do not guarantee its accuracy and it may be incomplete and condensed. Note, however, that the Firm has taken all reasonable steps to determine the accuracy and completeness of the disclosures made in the Important Disclosures section of the Product. The Firm's research department has received assistance from the subject company(ies) referred to in this Product including, but not limited to,

discussions with management of the subject company(ies). Firm policy prohibits research analysts from sending draft research to subject companies. However, it should be presumed that the author of the Product has had discussions with the subject company to ensure factual accuracy prior to publication. All opinions, projections and estimates constitute the judgment of the author as of the date of the Product and these, plus any other information contained in the Product, are subject to change without notice. Prices and availability of financial instruments also are subject to change without notice. Notwithstanding other departments within the Firm advising the companies discussed in this Product, information obtained in such role is not used in the preparation of the Product. Although Citi Investment Research does not set a predetermined frequency for publication, if the Product is a fundamental research report, it is the intention of Citi Investment Research to provide research coverage of the/those issuer(s) mentioned therein, including in response to news affecting this issuer, subject to applicable quiet periods and capacity constraints. The Product is for informational purposes only and is not intended as an offer or solicitation for the purchase or sale of a security. Any decision to purchase securities mentioned in the Product must take into account existing public information on such security or any registered prospectus.

Investing in non-U.S. securities, including ADRs, may entail certain risks. The securities of non-U.S. issuers may not be registered with, nor be subject to the reporting requirements of the U.S. Securities and Exchange Commission. There may be limited information available on foreign securities. Foreign companies are generally not subject to uniform audit and reporting standards, practices and requirements comparable to those in the U.S. Securities of some foreign companies may be less liquid and their prices more volatile than securities of comparable U.S. companies. In addition, exchange rate movements may have an adverse effect on the value of an investment in a foreign stock and its corresponding dividend payment for U.S. investors. Net dividends to ADR investors are estimated, using withholding tax rates conventions, deemed accurate, but investors are urged to consult their tax advisor for exact dividend computations. Investors who have received the Product from the Firm may be prohibited in certain states or other jurisdictions from purchasing securities mentioned in the Product from the Firm. Please ask your Financial Consultant for additional details. Citigroup Global Markets Inc. takes responsibility for the Product in the United States. Any orders by US investors resulting from the information contained in the Product may be placed only through Citigroup Global Markets Inc.

The Citigroup legal entity that takes responsibility for the production of the Product is the legal entity which the first named author is employed by. The Product is made available in Australia to wholesale clients through Citigroup Global Markets Australia Pty Ltd. (ABN 64 003 114 832 and AFSL No. 240992) and to retail clients through Citi Smith Barney Pty Ltd. (ABN 19 009 145 555 and AFSL No. 240813), Participants of the ASX Group and regulated by the Australian Securities & Investments Commission. Citigroup Centre, 2 Park Street, Sydney, NSW 2000. The Product is made available in Australia to Private Banking wholesale clients through Citigroup Pty Limited (ABN 88 004 325 080 and AFSL 238098). Citigroup Pty Limited provides all financial product advice to Australian Private Banking wholesale clients through bankers and relationship managers. If there is any doubt about the suitability of investments held in Citigroup Private Bank accounts, investors should contact the Citigroup Private Bank in Australia. Citigroup companies may compensate affiliates and their representatives for providing products and services to clients. The Product is made available in Brazil by Citigroup Global Markets Brasil - CCTVM SA, which is regulated by CVM - Comissão de Valores Mobiliários, BACEN - Brazilian Central Bank, APIMEC - Associação Associação dos Analistas e Profissionais de Investimento do Mercado de Capitais and ANBID - Associação Nacional dos Bancos de Investimento. Av. Paulista, 1111 - 11º andar - CEP. 01311920 - São Paulo - SP. If the Product is being made available in certain provinces of Canada by Citigroup Global Markets (Canada) Inc. ("CGM Canada"), CGM Canada has approved the Product. Citigroup Place, 123 Front Street West, Suite 1100, Toronto, Ontario M5J 2M3. The Product is made available in France by Citigroup Global Markets Limited, which is authorised and regulated by Financial Services Authority. 1-5 Rue Paul Cézanne, 8ème, Paris, France. The Product may not be distributed to private clients in Germany. The Product is distributed in Germany by Citigroup Global Markets Deutschland AG & Co. KGaA, which is regulated by Bundesanstalt fuer Finanzdienstleistungsaufsicht (BaFin). Frankfurt am Main, Reuterweg 16, 60323 Frankfurt am Main. If the Product is made available in Hong Kong by, or on behalf of, Citigroup Global Markets Asia Ltd., it is attributable to Citigroup Global Markets Asia Ltd., Citibank Tower, Citibank Plaza, 3 Garden Road, Hong Kong. Citigroup Global Markets Asia Ltd. is regulated by Hong Kong Securities and Futures Commission. If the Product is made available in Hong Kong by The Citigroup Private Bank to its clients, it is attributable to Citibank N.A., Citibank Tower, Citibank Plaza, 3 Garden Road, Hong Kong. The Citigroup Private Bank and Citibank N.A. is regulated by the Hong Kong Monetary Authority. The Product is made available in India by Citigroup Global Markets India Private Limited, which is regulated by Securities and Exchange Board of India. Bakhtawar, Nariman Point, Mumbai 400-021. The Product is made available in Indonesia through PT Citigroup Securities Indonesia. 5/F, Citibank Tower, Bapindo Plaza, Jl. Jend. Sudirman Kav. 54-55, Jakarta 12190. Neither this Product nor any copy hereof may be distributed in Indonesia or to any Indonesian citizens wherever they are domiciled or to Indonesian residents except in compliance with applicable capital market laws and regulations. This Product is not an offer of securities in Indonesia. The securities referred to in this Product have not been registered with the Capital Market and Financial Institutions Supervisory Agency (BAPEPAM-LK) pursuant to relevant capital market laws and regulations, and may not be offered or sold within the territory of the Republic of Indonesia or to Indonesian citizens through a public offering or in circumstances which constitute an offer within the meaning of the Indonesian capital market laws and regulations. The Product is made available in Italy by Citigroup Global Markets Limited, which is authorised and regulated by Financial Services Authority. Foro Buonaparte 16, Milan, 20121, Italy. If the Product was prepared by Citi Investment Research and distributed in Japan by Nikko Citigroup Limited ("NCL"), it is being so distributed under license. If the Product was prepared by NCL and distributed by Nikko Cordial Securities Inc. or Citigroup Global Markets Inc. it is being so distributed under license. NCL is regulated by Financial Services Agency, Securities and Exchange Surveillance Commission, Japan Securities Dealers Association, Tokyo Stock Exchange and Osaka Securities Exchange. Shin-Marunouchi Building, 1-5-1 Marunouchi, Chiyoda-ku, Tokyo 100-6520 Japan. In the event that an error is found in an NCL research report, a revised version will be posted on Citi Investment Research's Global Equities Online (GEO) website. If you have questions regarding GEO, please call (81 3) 6270-3019 for help. The Product is made available in Korea by Citigroup Global Markets Korea Securities Ltd., which is regulated by Financial Supervisory Commission and the Financial Supervisory Service. Hungkuk Life Insurance Building, 226 Shinmunno 1-GA, Jongno-Gu, Seoul, 110-061. The Product is made available in Malaysia by Citigroup Global Markets Malaysia Sdn Bhd, which is regulated by Malaysia Securities Commission. Menara Citibank, 165 Jalan Ampang, Kuala Lumpur, 50450. The Product is made available in Mexico by Acciones y Valores Banamex, S.A. De C. V., Casa de Bolsa, Integrante del Grupo Financiero Banamex ("Accival") which is a wholly owned subsidiary of Citigroup Inc. and is regulated by Comision Nacional Bancaria y de Valores. Reforma 398, Col. Juarez, 06600 Mexico, D.F. In New Zealand the Product is made available through Citigroup Global Markets New Zealand Ltd. (Company Number 604457), a Participant of the New Zealand Exchange Limited and regulated by the New Zealand Securities Commission. Level 19, Mobile on the Park, 157 Lambton Quay, Wellington. The Product is made available in Pakistan by Citibank N.A. Pakistan branch, which is regulated by the State Bank of Pakistan and Securities Exchange Commission, Pakistan. AWT Plaza, 1.1. Chundrigar Road, P.O. Box 4889, Karachi-74200. The Product is made available in Poland by Dom Maklerski Banku Handlowego SA an indirect subsidiary of Citigroup Inc., which is regulated by Komisja Nadzoru Finansowego. Bank Handlowy w Warszawie S.A. ul. Senatorska 16, 00-923 Warszawa. The Product is made available in the Russian Federation through ZAO Citibank, which is licensed to carry out banking activities in the Russian Federation in accordance with the general banking license issued by the Central Bank of the Russian Federation and brokerage activities in accordance with the license issued by the Federal Service for Financial Markets. Neither the Product nor any information contained in the Product shall be considered as advertising the securities mentioned in this report within the territory of the Russian Federation or outside the Russian Federation. The Product does not constitute an appraisal within the meaning of the Federal Law of the Russian Federation of 29 July 1998 No. 135-FZ (as amended) On Appraisal Activities in the Russian Federation. 8-10 Gashka Street, 125047 Moscow. The Product is made available in Singapore through Citigroup Global Markets Singapore Pte. Ltd., a Capital Markets Services Licence holder, and regulated by Monetary Authority of Singapore. 1 Temasek Avenue, #39-02 Millenia Tower, Singapore 039192. The Product is made available by The Citigroup Private Bank in Singapore through Citibank, N.A., Singapore branch, a licensed bank in Singapore that is regulated by Monetary Authority of Singapore. Citigroup Global Markets (Pty) Ltd. is incorporated in the Republic of South Africa (company registration number 2000/025866/07) and its registered office is at 145 West Street, Sandton,

2196, Saxonwold. Citigroup Global Markets (Pty) Ltd. is regulated by JSE Securities Exchange South Africa, South African Reserve Bank and the Financial Services Board. The investments and services contained herein are not available to private customers in South Africa. The Product is made available in Spain by Citigroup Global Markets Limited, which is authorised and regulated by Financial Services Authority. 29 Jose Ortega Y Gassef, 4th Floor, Madrid, 28006, Spain. The Product is made available in Taiwan through Citigroup Global Markets Taiwan Securities Company Ltd., which is regulated by Securities & Futures Bureau. No portion of the report may be reproduced or quoted in Taiwan by the press or any other person. No. 8 Manhattan Building, Hsin Yi Road, Section 5, Taipei 100, Taiwan. The Product is made available in Thailand through Citicorp Securities (Thailand) Ltd., which is regulated by the Securities and Exchange Commission of Thailand. 18/F, 22/F and 29/F, 82 North Sathorn Road, Silom, Bangrak, Bangkok 10500, Thailand. The Product is made available in Turkey through Citibank AS which is regulated by Capital Markets Board. Tekfen Tower, Eski Buyukdere Caddesi # 209 Kat 2B, 23294 Levent, Istanbul, Turkey. The Product is made available in U.A.E. by Citigroup Global Markets Limited, which is authorised and regulated by the Dubai Financial Services Authority. DIFC, Bldg 2, Level 7, PO Box 506560, Dubai, UAE. The Product is made available in United Kingdom by Citigroup Global Markets Limited, which is authorised and regulated by Financial Services Authority. This material may relate to investments or services of a person outside of the UK or to other matters which are not regulated by the FSA and further details as to where this may be the case are available upon request in respect of this material. Citigroup Centre, Canada Square, Canary Wharf, London, E14 5LB. The Product is made available in United States by Citigroup Global Markets Inc, which is regulated by NASD, NYSE and the US Securities and Exchange Commission. 388 Greenwich Street, New York, NY 10013. Unless specified to the contrary, within EU Member States, the Product is made available by Citigroup Global Markets Limited, which is regulated by Financial Services Authority. Many European regulators require that a firm must establish, implement and make available a policy for managing conflicts of interest arising as a result of publication or distribution of investment research. The policy applicable to Citi Investment Research's Products can be found at www.citigroupgeo.com. Compensation of equity research analysts is determined by equity research management and Citigroup's senior management and is not linked to specific transactions or recommendations. The Product may have been distributed simultaneously, in multiple formats, to the Firm's worldwide institutional and retail customers. The Product is not to be construed as providing investment services in any jurisdiction where the provision of such services would not be permitted. Subject to the nature and contents of the Product, the investments described therein are subject to fluctuations in price and/or value and investors may get back less than originally invested. Certain high-volatility investments can be subject to sudden and large falls in value that could equal or exceed the amount invested. Certain investments contained in the Product may have tax implications for private customers whereby levels and basis of taxation may be subject to change. If in doubt, investors should seek advice from a tax adviser. The Product does not purport to identify the nature of the specific market or other risks associated with a particular transaction. Advice in the Product is general and should not be construed as personal advice given it has been prepared without taking account of the objectives, financial situation or needs of any particular investor. Accordingly, investors should, before acting on the advice, consider the appropriateness of the advice, having regard to their objectives, financial situation and needs. Prior to acquiring any financial product, it is the client's responsibility to obtain the relevant offer document for the product and consider it before making a decision as to whether to purchase the product.

© 2009 Citigroup Global Markets Inc. (© Nikko Citigroup Limited, if this Product was prepared by it). Citi Investment Research is a division and service mark of Citigroup Global Markets Inc. and its affiliates and is used and registered throughout the world. Citi and Citi with Arc Design are trademarks and service marks of Citigroup Inc and its affiliates and are used and registered throughout the world. Nikko is a registered trademark of Nikko Cordial Corporation. All rights reserved. Any unauthorized use, duplication, redistribution or disclosure is prohibited by law and will result in prosecution. Where included in this report, MSCI sourced information is the exclusive property of Morgan Stanley Capital International Inc. (MSCI). Without prior written permission of MSCI, this information and any other MSCI intellectual property may not be reproduced, disseminated or used to create any financial products, including any indices. This information is provided on an "as is" basis. The user assumes the entire risk of any use made of this information. MSCI, its affiliates and any third party involved in, or related to, computing or compiling the information hereby expressly disclaim all warranties of originality, accuracy, completeness, merchantability or fitness for a particular purpose with respect to any of this information. Without limiting any of the foregoing, in no event shall MSCI, any of its affiliates or any third party involved in, or related to, computing or compiling the information have any liability for any damages of any kind. MSCI, Morgan Stanley Capital International and the MSCI indexes are services marks of MSCI and its affiliates. The information contained in the Product is intended solely for the recipient and may not be further distributed by the recipient. The Firm accepts no liability whatsoever for the actions of third parties. The Product may provide the addresses of, or contain hyperlinks to, websites. Except to the extent to which the Product refers to website material of the Firm, the Firm has not reviewed the linked site. Equally, except to the extent to which the Product refers to website material of the Firm, the Firm takes no responsibility for, and makes no representations or warranties whatsoever as to, the data and information contained therein. Such address or hyperlink (including addresses or hyperlinks to website material of the Firm) is provided solely for your convenience and information and the content of the linked site does not in anyway form part of this document. Accessing such website or following such link through the Product or the website of the Firm shall be at your own risk and the Firm shall have no liability arising out of, or in connection with, any such referenced website.

ADDITIONAL INFORMATION IS AVAILABLE UPON REQUEST
