

# Company

22 July 2010 | 8 pages

# Thermax (THMX.BO)

## Buy: Positive Momentum Continues ...

- Q1 revenues below expectations Thermax Q1FY11 standalone revs of Rs7.8bn (up 45% YoY) but below CIRA expectations of Rs9.4bn. Energy segment revs grew by 43% YoY and Environment segment revs grew by 75% YoY. EBITDA Margins declined by 52bps YoY; but were 15bps ahead of CIRA expectations. PAT came in at abt Rs662m; (up 42% YoY) but 17% below CIRA expectations of Rs798m.
- But broader story remains on track; OB is up 106% YoY & 17% QoQ The overall business environment remains good; Thermax is seeing increased traction from domestic clients; order inflows have grown in all divisions and credit availability is not an issue. However, recovery in international markets is still lagging. Thermax expects order inflow growth to be in "double digits" this year; commendable, given the high base inflows grew by ~60% last year. Orders from Power, Refineries, Ferrous metals, Paper and Pulp, and Cement form 80% of OB.
- Environment business doing well The water division is gaining momentum. Thermax has executed water treatment project for Delhi Metro. It has 80% market share for water treatment in the Commonwealth Games. Thermax is looking to improve profitability in the water division over next two years.
- Supercritical JV Thermax is looking to acquire land before the deadline for bidding for the 11x660MW orders. While the JV will definitely bid for the 9x800MW NTPC tender, it has yet to decide whether to bid for the 11x 660MW NTPC tender in August. Thermax is talking to domestic turbine manufacturers for consortium bidding. We believe possible large super-critical order wins hold key to stock-price performance.

Buy/Medium Risk	1M
Price (22 Jul 10)	Rs806.35
Target price	Rs787.00
Expected share price return	-2.4%
Expected dividend yield	0.6%
Expected total return	-1.8%
Market Cap	Rs96,082M
	US\$2,037M

#### Price Performance (RIC: THMX.BO, BB: TMX IN)



#### **Statistical Abstract**

Year to	Net Profit	Diluted EPS	EPS growth	P/E	P/B	ROE	Yield
31 Mar	(RsM)	(Rs)	(%)	(x)	(x)	(%)	(%)
2008A	2,787	23.39	39.9	34.5	12.7	41.4	0.7
2009A	3,554	29.82	27.5	27.0	9.7	40.7	0.6
2010E	2,510	21.06	-29.4	38.3	9.7	25.3	0.6
2011E	3,835	32.18	52.8	25.1	7.4	33.5	0.7
2012E	4,693	39.39	22.4	20.5	5.8	31.8	1.0

#### Deepal Delivala

+91-22-6631-9857 deepal.delivala@citi.com

#### Venkatesh Balasubramaniam

+91-22-6631-9864 venkatesh.balasubramaniam@citi.com

#### Atul Tiwari, CFA

+91-22-6631-9866 atul.tiwari@citi.com

See Appendix A-1 for Analyst Certification, Important Disclosures and non-US research analyst disclosures.

Citi Investment Research & Analysis 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.

# Equity 🗹

Fiscal year end 31-Mar	2008	2009	2010E	2011E	2012E
Valuation Ratios					
P/E adjusted (x)	34.5	27.0	38.3	25.1	20.5
EV/EBITDA adjusted (x)	22.0	17.7	24.3	15.9	12.4
P/BV (x)	12.7	9.7	9.7	7.4	5.8
Dividend yield (%)	0.7	0.6	0.6	0.7	1.0
Per Share Data (Rs)					
EPS adjusted	23.39	29.82	21.06	32.18	39.39
EPS reported	24.40	24.25	6.33	32.18	39.39
BVPS	63.41	83.28	83.53	108.69	138.72
DPS	6.00	5.00	5.00	6.00	8.00
Profit & Loss (RsM)					
Net sales	34,815	34,603	29,651	47,198	61,914
Operating expenses	-30,923	-29,791	-26,239	-41,770	-54,985
EBIT	3,893	4,812	3,412	5,428	6,929
Net interest expense	-17	-38	-18	-18	-18
Non-operating/exceptionals	439	404	408	400	200
Pre-tax profit	4,315	5,178	3,802	5,810	7,111
Tax	-1,528	-1,624	-1,293	-1,975	-2,418
Extraord./Min.Int./Pref.div.	121	-664	-1,755	0	0
Reported net income	2,907	2,889	755	3,835	4,693
Adjusted earnings	2,787	3,554	2,510	3,835	4,693
Adjusted EBITDA	4,125	5,163	3,825	5,900	7,431
Growth Rates (%)					
Sales	49.6	-0.6	-14.3	59.2	31.2
EBIT adjusted	44.5	23.6	-29.1	59.1	27.6
EBITDA adjusted	42.8	25.2	-25.9	54.2	25.9
EPS adjusted	39.9	27.5	-29.4	52.8	22.4
Cash Flow (RsM)					
Operating cash flow	2,667	1,393	-544	2,814	3,116
Depreciation/amortization	232	351	413	472	502
Net working capital	-538	-1,874	-1,712	-1,492	-2,078
Investing cash flow	-1,788	2,204	-1,000	-1,375	-1,375
Capital expenditure	-1,928	-1,954	-1,000	-500	-500
Acquisitions/disposals	140	4,158	0	-875	-875
Financing cash flow	-1,271	-481	-766	-836	-1,115
Borrowings	-22	41	-41	0	0
Dividends paid	-1,115	-697	-697	-836	-1,115
Change in cash	-392	3,116	-2,310	603	626
Balance Sheet (RsM)					
Total assets	20,278	23,847	19,996	26,876	32,871
Cash & cash equivalent	580	3,696	1,386	1,989	2,615
Accounts receivable	5,305	5,719	5,362	8,534	11,195
Net fixed assets	3,485	5,088	5,675	5,703	5,701
Total liabilities	12,722	13,924	10,043	13,925	16,342
Accounts payable	4,552	4,199	3,327	5,421	7,167
Total Debt	0	41	0	0	0
Shareholders' funds	7,556	9,923	9,953	12,951	16,529
Profitability/Solvency Ratios (%)					
EBITDA margin adjusted	11.8	14.9	12.9	12.5	12.0
ROE adjusted	41.4	40.7	25.3	33.5	31.8
ROIC adjusted	122.4	59.5	26.6	35.1	37.0
Net debt to equity	-7.7	-36.8	-13.9	-15.4	-15.8
Total debt to capital	0.0	0.4	0.0	0.0	0.0

For further data queries on Citi's full coverage universe please contact CIRA Data Services Asia Pacific at CIRADataServicesAsiaPacific@citi.com or +852-2501-2791

2

-



#### Figure 1. Thermax Q1 results

	1Q10	1Q11A	1Q11E Comments
Sales & Services (excluding Excise Duty)	5,228	7,788	
Other Income from Operations	213	110	
otal Income	5,441	7,898	9,440 16% below expectations
% Growth YoY		45%	
BITDA	689	960	1,133
BITDA margin%	12.67%	12.15%	12.00%
Depreciation	(95)	(106)	(118)
nterest	(5)	(6)	(5)
ther Income	103	140	200
PBT	692	988	1,210
Тах	(227)	(326)	(411)
Effective Tax rate %	33%	33%	34%
PAT bf Minority Interest	465	662	798 17% below expectations

Source: Company data, Citi Investment Research and Analysis estimates

# Thermax

## **Company description**

Thermax specializes in energy and environment engineering solutions. It offers products and services in heating, cooling, waste heat recovery, captive power, water treatment and recycling, waste management and performance chemicals

## Investment strategy

We have a Buy/Medium Risk rating on Thermax. Order inflow is strong; order book is up 36% YoY with 65-75% executable in FY11E. There is a strong pipeline of orders, with a reasonable chance of strong order wins in the near future. We expect OB to grow at 31%, revenues to grow at 45% and earnings to grow at 37% over FY10E-12E. We expect (unlevered) ROEs of 32-34%. Our estimates do not capture any upside from the foray into super-critical space.

## Valuation

3

Our Rs787 target price is based on PE of 22x Sept11E. We believe that 1) the structural change in the business, 2) the broader economic revival; 3) the strong outlook (compared to a year ago) should drive a re-rating. Our target multiple is 1) at a premium to Thermax's historical avg. PE (16x), given the strong outlook 2) at a discount to BHEL (23x) despite Thermax's superior earnings outlook and RoE (EPS CAGR of 37% vs 22% for BHEL, RoEs of 32-34% vs BHEL RoE's of 29-31%); given BHEL's larger size and market share. 3) the target multiple is also at a discount to ABB (24x) given ABB's superior earnings outlook (39% CAGR).

# Risks

4

We rate Thermax shares Medium Risk. We believe this is appropriate given that Thermax's business model is dependent on private sector capex. Key upside risks to our target price include higher-than-expected order inflow, further pick-up in private-sector capex and faster execution. Key downside risks that could impede the stock from reaching our target price include a slow down in private sector capex and slower-than-expected power capacity addition in India.

# Appendix A-1

# **Analyst Certification**

The research analyst(s) primarily 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. The 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**



Citigroup Global Markets Inc. or its affiliates beneficially owns 1% or more of any class of common equity securities of Thermax. This position reflects information available as of the prior business day.

Citigroup Global Markets Inc. or an affiliate received compensation for products and services other than investment banking services from Thermax in the past 12 months.

Citigroup Global Markets Inc. currently has, or had within the past 12 months, the following as clients, and the services provided were non-investment-banking, securitiesrelated: Thermax.

Citigroup Global Markets Inc. currently has, or had within the past 12 months, the following as clients, and the services provided were non-investment-banking, non-securities-related: Thermax.

Rohini Malkani has in the past worked with the India government or its divisions in her personal capacity.

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 investment banking revenues.

For important disclosures (including copies of historical disclosures) regarding the companies that are the subject of this Citi Investment Research & Analysis product ("the Product"), please contact Citi Investment Research & Analysis, 388 Greenwich Street, 28th 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. 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 & Analysis Ratings Distribution			
Data current as of 30 Jun 2010	Buy	Hold	Sell
Citi Investment Research & Analysis Global Fundamental Coverage	54%	35%	12%
% of companies in each rating category that are investment banking clients	47%	45%	40%

#### Guide to Citi Investment Research & Analysis (CIRA) Fundamental Research Investment Ratings:

CIRA'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).

5

Investment ratings are a function of CIRA'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, 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 Citi Investment Research & Analysis (CIRA) Corporate Bond Research Credit Opinions and Investment Ratings: CIRA'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 CIRA 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 CIRA will also include investment ratings on specific issues of companies under coverage which have been assigned fundamental credit opinions and risk rating. Investment ratings are a function of CIRA'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 https://fidirect.citigroup.com/ using the "Indexes" tab; Hold/Neutral Weight the bond is expected to perform in line with the relevant Citigroup bond market s

#### NON-US RESEARCH ANALYST DISCLOSURES

Non-US research analysts who have prepared this report (i.e., all research analysts listed below other than those identified as employed by Citigroup Global Markets Inc.) are not registered/qualified as research analysts with FINRA. 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. The legal entities employing the authors of this report are listed below:

Citigroup Global Markets India Private Limited Deepal Delivala, Venkatesh Balasubramaniam, Atul Tiwari, CFA

## **OTHER DISCLOSURES**

The subject company's share price set out on the front page of this Product is quoted as at 22 July 2010 10:24 AM on the issuer's primary market.

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 & Analysis (CIRA) does not set a predetermined frequency for publication, if the Product is a fundamental research report, it is the intention of CIRA 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 n

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.

Important Disclosures for Morgan Stanley Smith Barney LLC Customers: Morgan Stanley & Co. Incorporated (Morgan Stanley) research reports may be available about the companies that are the subject of this Citi Investment Research & Analysis (CIRA) research report. Ask your Financial Advisor or use smithbarney.com to view any available Morgan Stanley research reports in addition to CIRA research reports.

Important disclosure regarding the relationship between the companies that are the subject of this CIRA research report and Morgan Stanley Smith Barney LLC and its affiliates are available at the Morgan Stanley Smith Barney disclosure website at www.morganstanleysmithbarney.com/researchdisclosures.

The required disclosures provided by Morgan Stanley and Citigroup Global Markets, Inc. on Morgan Stanley and CIRA research relate in part to the separate businesses of Citigroup Global Markets, Inc. and Morgan Stanley that now form Morgan Stanley Smith Barney LLC, rather than to Morgan Stanley Smith Barney LLC in its entirety. For Morgan Stanley and Citigroup Global Markets, Inc. specific disclosures, you may refer to www.morganstanley.com/researchdisclosures and https://www.citigroupgeo.com/geopublic/Disclosures/index\_a.html.

This CIRA research report has been reviewed and approved on behalf of Morgan Stanley Smith Barney LLC. This review and approval was conducted by the same person who reviewed this research report on behalf of CIRA. This could create a conflict of interest.



**Citigroup Global Markets** 

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 through Citigroup Global Markets Australia Pty Ltd. (ABN 64 003 114 832 and AFSL No. 240992), participant 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 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, JI. 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 Israel through Citibank NA, regulated by the Bank of Israel and the Israeli Securities Authority. Citibank, N.A, Platinum Building, 21 Ha'arba'ah St, Tel Aviv, Israel. 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. The Product is made available in Japan by Citigroup Global Markets Japan Inc. ("CGMJ"), which 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. If the Product was distributed by Nikko Cordial Securities Inc. it is being so distributed under license. In the event that an error is found in an CGMJ research report, a revised version will be posted on the Firm'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 Services 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. Dom Maklerski Banku Handlowego S.A. ul. Chalubinskiego 8, 00-630 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 Gasheka 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. 1. Songzhi Road. Taipei 110, 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. In the U.A.E, these materials (the "Materials") are communicated by Citigroup Global Markets Limited, DIFC branch ("CGML"), an entity registered in the Dubai International Financial Center ("DIFC") and licensed and regulated by the Dubai Financial Services Authority ("DFSA" to Professional Clients and Market Counterparties only and should not be relied upon or distributed to Retail Clients. A distribution of the different CIRA ratings distribution, in percentage terms for Investments in each sector covered is made available on request. Financial products and/or services to which the Materials relate will only be made available to Professional Clients and Market Counterparties. 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 FINRA 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 CIRA'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

7

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.

© 2010 Citigroup Global Markets Inc. Citi Investment Research & Analysis 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. 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, redisseminated 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

8