

JPM-pp1

Asia Pacific Equity Research

25 March 2015

Huaneng Power Int'l - H (902 HK)

Underweight

Price: HK\$9.26

24 Mar 2015

Price Target: HK\$7.00

PT End Date: 31 Dec 2015

FY14 results in line

- **FY14 results in line:** Huaneng announced FY14 results overnight. Stripping away the impairment loss of Rmb1.5B and disposal loss of Rmb890MM on fixed assets, core pre-tax profits (under GAAP) recorded a slight increase of 5% Y/Y to Rmb21B and were largely in line with consensus. The 8% Y/Y decline on unit fuel costs was offset by a 9% Y/Y thermal utilization decline and a tariff cut in 2H 2014.
- **Impairment loss** for the operation in China increased by Rmb1.0B to Rmb1.5B, mainly comprising impairment of goodwill arising from the acquisition of Diandong Energy and Diandong Yuwang and the asset impairment of Yingkou port.
- **FCF remained positive** at Rmb12.6B in 2014 (2013: Rmb20.3B). The company maintained its 50% payout ratio with DPS at Rmb0.38, equivalent to a ~5% yield.
- **Tuas power recorded a net profit of Rmb128MM in 2014 (+13.8% Y/Y).** The net profit in 4Q14 amounted to Rmb117MM (9M14/1H14: Rmb11MM and Rmb28MM).
- **2015 outlook:** Management expects power generation of 345B kWh (+17% Y/Y, thanks mainly to assets injected from the parent last year) and 4,460 utilization hours (down 2-3% Y/Y) with a controlled generation capacity of over 80GW (2014YE: 79GW).
- **Analyst briefing** will be held on 26 March 2015 (Thursday) at 10am. Venue: Ball Room B, Level 5, Island Shangri-La.

Table 1: Huaneng: Power generation in FY14 under IFRS

RMB MM	1H12	1H13	1H14	2H12	2H13	2H14	Y/Y	2012	2013	2014	Y/Y
Generation (TWh) Ex. Tuas	150	149	152	152	168	143	(15)	302	317	294	(7)
Revenue	66,862	63,541	64,117	66,433	69,248	60,358	(13)	133,295	132,789	124,474	(6)
Fuel	(43,272)	(35,677)	(34,570)	(39,084)	(38,131)	(30,193)	(21)	(82,355)	(73,808)	(64,763)	(12)
Maintenance	(1,309)	(1,433)	(1,534)	(1,537)	(2,424)	(2,196)	(9)	(2,847)	(3,857)	(3,730)	(3)
Labor	(2,192)	(2,410)	(2,581)	(2,920)	(3,353)	(3,678)	10	(5,112)	(5,763)	(6,260)	9
Service Fees to HIPDC	(70)	(70)	(70)	(70)	(70)	(70)	-	(141)	(141)	(141)	-
Purchase of electricity	(3,824)	(2,665)	(2,572)	(3,278)	(2,291)	(2,483)	8	(7,102)	(4,956)	(5,055)	2
Others	(3,070)	(3,365)	(2,578)	(4,677)	(5,496)	(5,027)	(9)	(7,748)	(8,860)	(7,605)	(14)
EBITDA	13,124	17,921	20,211	14,866	17,484	16,711	(4)	27,990	35,405	36,921	4
Depreciation	(5,613)	(5,606)	(5,793)	(5,420)	(5,688)	(5,854)	3	(11,033)	(11,294)	(11,647)	3
EBIT	7,511	12,315	14,418	9,446	11,796	10,857	(8)	16,957	24,111	25,275	5
Associates & JCE	291	319	728	332	296	588	99	622	615	1,316	114
Interest Income	77	84	81	98	87	79	(9)	175	171	160	(7)
Investment income	185	186	58	2	39	23	(42)	187	225	81	(64)
Interest expense	(4,616)	(3,863)	(3,778)	(4,448)	(3,830)	(4,046)	6	(9,064)	(7,693)	(7,824)	2
Other Income	(1)	7	4	(0)	(13)	38	(393)	(1)	(6)	43	(846)
EBT	3,447	9,049	11,511	5,430	8,374	7,539	(10)	8,877	17,423	19,050	9

TAX	(995)	(2,288)	(3,089)	(1,516)	(2,235)	(2,398)	7	(2,510)	(4,523)	(5,487)	21
EAT	2,452	6,761	8,421	3,914	6,139	5,141	(16)	6,366	12,900	13,562	5
Minority Interest	(330)	(1,138)	(1,613)	(524)	(1,336)	(1,192)	(11)	(854)	(2,474)	(2,805)	13
Net Profit	2,122	5,623	6,808	3,390	4,803	3,949	(18)	5,512	10,426	10,757	3
Basic EPS (Rmb)	0.15	0.40	0.48	0.24	0.34	0.28	(18)	0.39	0.74	0.76	3
Margins											
EBITDA	19.6%	28.2%	31.5%	22.4%	25.2%	27.7%	2.4	21.0%	26.7%	29.7%	3.0
EBIT	11.2%	19.4%	22.5%	14.2%	17.0%	18.0%	1.0	12.7%	18.2%	20.3%	2.1
EBT	5.2%	14.2%	18.0%	8.2%	12.1%	12.5%	0.4	6.7%	13.1%	15.3%	2.2
Net Profit	3.2%	8.8%	10.6%	5.1%	6.9%	6.5%	(0.4)	4.1%	7.9%	8.6%	0.8
Effective Tax Rate	28.9%	25.3%	26.8%	27.9%	26.7%	31.8%	5.1	28.3%	26.0%	28.8%	2.8

Source: Company data.

Table 2: Summary of quarterly results under PRC GAAP (Rmb MM)

	2Q12	3Q12	4Q12	1Q13	2Q13	3Q13	4Q13	1Q14	2Q14	3Q14	4Q14	Y/Y
Net Generation (bn KWh)	70	69	75	70	71	80	97	73	70	67	67	(30.9)
Turnover	32,765	32,779	33,654	31,884	31,657	34,888	34,360	32,579	31,538	29,801	30,556	(11.1)
COGS	(28,045)	(26,673)	(27,631)	(24,944)	(24,378)	(26,063)	(27,480)	(24,708)	(23,405)	(22,285)	(23,613)	(14.1)
Gross profit	4,720	6,106	6,022	6,940	7,279	8,825	6,881	7,871	8,133	7,516	6,944	0.9
Selling expenses	(1)	(1)	(1)	(5)	(1)	(1)	(1.3)	(1)	(1)	(1)	(1)	(15.6)
Administrative expenses	(701)	(743)	(934)	(774)	(724)	(889)	(1,046)	(769)	(765)	(870)	(1,184)	13.1
EBIT	4,018	5,362	5,087	6,161	6,553	7,934	5,833	7,101	7,366	6,646	5,759	(1.3)
Financial expenses	(2,237)	(2,204)	(2,145)	(1,934)	(1,845)	(1,887)	(1,856)	(1,847)	(1,850)	(1,854)	(2,113)	13.8
Income from associate/JV	138	189	159	98	208	172	149	208	516	392	226	52.3
Investment income	65	(1)	2	7	178	34	5	48	10	63	(40)	(829.5)
Other income/(loss)	(64)	(3)	(806)	(1)	(54)	(594)	(813)	7	(414)	(5)	(1,668)	105.1
Operating profit	1,920	3,343	2,298	4,332	5,040	5,659	3,317	5,516	5,629	5,242	2,165	(34.7)
Non-operating income/(loss)	47	57	117	34	6	(78)	(660)	550	(265)	66	(28)	(95.8)
EBT	1,966	3,400	2,415	4,366	5,046	5,580	2,657	6,066	5,364	5,308	2,137	(19.6)
Taxation	(540)	(991)	(558)	(1,076)	(1,229)	(1,538)	(702)	(1,502)	(1,605)	(1,291)	(1,113)	58.5
EAT	1,426	2,409	1,857	3,290	3,817	4,042	1,955	4,564	3,759	4,017	1,024	(47.6)
Minority interest	(137)	(422)	(183)	(737)	(476)	(750)	(621)	(881)	(740)	(724)	(474)	(23.7)
Net profit to shareholders	1,289	1,986	1,674	2,554	3,341	3,292	1,333	3,683	3,020	3,293	550	(58.7)
Margins												
Gross margin	14.4%	18.6%	17.9%	21.8%	23.0%	25.3%	20.0%	24.2%	25.8%	25.2%	22.7%	2.7
EBIT margin	12.3%	16.4%	15.1%	19.3%	20.7%	22.7%	17.0%	21.8%	23.4%	22.3%	18.8%	1.9
EBT margin	6.0%	10.4%	7.2%	13.7%	15.9%	16.0%	7.7%	18.6%	17.0%	17.8%	7.0%	-0.7
Net profit margin	3.9%	6.1%	5.0%	8.0%	10.6%	9.4%	3.9%	11.3%	9.6%	11.1%	1.8%	-2.1

Source: Company data.

Investment Thesis, Valuation and Risks

Huaneng Power Int'l - H (Underweight; Price Target: HK\$7.00)

Investment Thesis

Huaneng Power International and its subsidiaries develop, construct, operate and manage large power plants throughout China. As of the end of 2013, Huaneng manages consolidated capacity of >60 GW, making it one of the largest listed power producers in China. We remain UW due to company's high exposure to coastal regions and

potential tariff cut.

Valuation

Our Dec-15 PT of HK\$7.00 is based on a DCF model, which we believe is suitable for power companies such as Huaneng that operate in a relatively stable industry with predictable cash flows. Our PT is based on a 10-year DCF assuming a WACC of 7.9%. Our DCF assumes long-term average power demand growth of 3% pa.

Risks to Rating and Price Target

Upside risks include higher-than-expected thermal utilization in coastal regions and lower-than-expected coal price declines.

China power

AC

Boris Kan

(852) 2800-8573

boris.cw.kan@jpmorgan.com

Bloomberg JPMA KAN <GO>

Elaine Wu

(852) 2800-8575

elaine.wu@jpmorgan.com

J.P. Morgan Securities (Asia Pacific) Limited

www.jpmorganmarkets.com

Analyst Certification: The research analyst(s) denoted by an “AC” on the cover of this report certifies (or, where multiple research analysts are primarily responsible for this report, the research analyst denoted by an “AC” on the cover or within the document individually certifies, with respect to each security or issuer that the research analyst covers in this research) that: (1) all of the views expressed in this report accurately reflect his or her personal views about any and all of the subject securities or issuers; and (2) no part of any of the research analyst’s compensation was, is, or will be directly or indirectly related to the specific recommendations or views expressed by the research analyst(s) in this report. For all Korea-based research analysts listed on the front cover, they also certify, as per KOFIA requirements, that their analysis was made in good faith and that the views reflect their own opinion, without undue influence or intervention.

J.P. Morgan 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.

Important Disclosures

- **Beneficial Ownership (1% or more):** J.P. Morgan beneficially owns 1% or more of a class of common equity securities of Huaneng Power Int'l - H.
- **Client:** J.P. Morgan currently has, or had within the past 12 months, the following company(ies) as clients: Huaneng Power Int'l - H.

Company-Specific Disclosures: Important disclosures, including price charts and credit opinion history tables, are available for compendium reports and all J.P. Morgan–covered companies by visiting <https://jpm.com/research/disclosures>, calling 1-800-477-0406, or e-mailing research.disclosure.inquiries@jpmorgan.com with your request. J.P. Morgan’s Strategy, Technical, and Quantitative Research teams may screen companies not covered by J.P. Morgan. For important disclosures for these companies, please call 1-800-477-0406 or e-mail research.disclosure.inquiries@jpmorgan.com.

<http://gps-app.amer.jpmchase.net:6080/server/console/chart/?shareClassId=502092&shareClassServerId=4&chartDesignation=1&actionType=C>

Date	Rating	Share Price (HK\$)	Price Target (HK\$)
17-Nov-06	N	6.17	6.40
04-Apr-07	N	6.91	7.20
30-May-07	N	7.94	7.70
15-Aug-07	N	8.12	8.25
12-Dec-07	N	8.46	8.00
13-Mar-08	N	5.17	6.30
23-Apr-08	N	5.15	6.00
15-Jul-08	N	5.42	4.90
12-Aug-09	N	6.54	6.10
21-Oct-09	N	5.17	6.30
06-Aug-10	OW	4.56	5.40
21-Oct-10	N	4.72	4.70
15-Feb-11	N	4.25	4.40
11-Aug-11	N	3.30	3.70
22-Feb-12	N	5.07	5.21
21-Mar-12	N	4.62	4.80
20-May-12	OW	4.83	6.20
20-Aug-12	N	5.50	6.00
07-Feb-13	UW	7.73	6.70
20-Mar-13	UW	8.09	6.70
12-Jul-13	N	7.75	8.00
16-Oct-13	N	8.04	8.50
23-Apr-14	N	7.84	9.50
19-Dec-14	N	10.00	8.60
11-Feb-15	UW	9.29	7.00

The chart(s) show J.P. Morgan's continuing coverage of the stocks; the current analysts may or may not have covered it over the entire period.

J.P. Morgan ratings or designations: OW = Overweight, N= Neutral, UW = Underweight, NR = Not Rated

Explanation of Equity Research Ratings, Designations and Analyst(s) Coverage Universe:

J.P. Morgan uses the following rating system: Overweight [Over the next six to twelve months, we expect this stock will outperform the average total return of the stocks in the analyst's (or the analyst's team's) coverage universe.] Neutral [Over the next six to twelve months, we expect this stock will perform in line with the average total return of the stocks in the analyst's (or the analyst's team's) coverage universe.] Underweight [Over the next six to twelve months, we expect this stock will underperform the average total return of the stocks in the analyst's (or the analyst's team's) coverage universe.] Not Rated (NR): J.P. Morgan has removed the rating and, if applicable, the price target, for this stock because of either a lack of a sufficient fundamental basis or for legal, regulatory or policy reasons. The previous rating and, if applicable, the price target, no longer should be relied upon. An NR designation is not a recommendation or a rating. In our Asia (ex-Australia) and U.K. small- and mid-cap equity research, each stock's expected total return is compared to the expected total return of a benchmark country market index, not to those analysts' coverage universe. If it does not appear in the Important Disclosures section of this report, the certifying analyst's coverage universe can be found on J.P. Morgan's research website, www.jpmorganmarkets.com.

Coverage Universe: Kan, Boris: Beijing Enterprises Holdings Limited (0392.HK), CGN Meiya Power Holdings Co., Ltd. (1811.HK), CGN Power Co., Ltd. (1816.HK), China Gas Holdings Limited (0384.HK), China High Speed Transmission (0658.HK), China Longyuan Power Group Corp. (0916.HK), China Power International (2380.HK), China Resources Gas Group Limited (1193.HK), China Resources Power Holdings (0836.HK), Datang International - A (601991.SS), Datang International - H (0991.HK), Dongfang Electric Corporation Limited - A (600875.SS), Dongfang Electric Corporation Limited - H (1072.HK), ENN Energy Holdings Limited (2688.HK), GCL-Poly Energy Holdings Limited (3800.HK), Huaneng Power Int'l - A (600011.SS), Huaneng Power Int'l - H (0902.HK), JinkoSolar Holding Co., Ltd. (JKS), Kunlun Energy Company Limited (0135.HK), Shanghai Electric Group Company Limited - A (601727.SS), Shanghai Electric Group Company Limited - H (2727.HK), Towngas China Company Limited (1083.HK), Xinjiang Goldwind Science & Technology - A (002202.SZ), Xinjiang Goldwind Science & Technology - H (2208.HK)

J.P. Morgan Equity Research Ratings Distribution, as of January 1, 2015

	Overweight (buy)	Neutral (hold)	Underweight (sell)
J.P. Morgan Global Equity Research Coverage	45%	43%	12%
IB clients*	56%	49%	33%
JPMS Equity Research Coverage	45%	48%	7%
IB clients*	75%	67%	52%

*Percentage of investment banking clients in each rating category.

For purposes only of FINRA/NYSE ratings distribution rules, our Overweight rating falls into a buy rating category; our Neutral rating falls into a hold rating category; and our Underweight rating falls into a sell rating category. Please note that stocks with an NR designation are not included in the table above.

Equity Valuation and Risks: For valuation methodology and risks associated with covered companies or price targets for covered companies, please see the most recent company-specific research report at <http://www.jpmorganmarkets.com>, contact the primary analyst or your J.P. Morgan representative, or email research.disclosure.inquiries@jpmorgan.com.

Equity Analysts' Compensation: The equity research analysts responsible for the preparation of this report receive compensation based upon various factors, including the quality and accuracy of research, client feedback, competitive factors, and overall firm revenues.

Registration of non-US Analysts: Unless otherwise noted, the non-US analysts listed on the front of this report are employees of non-US affiliates of JPMS, are not registered/qualified as research analysts under NASD/NYSE rules, may not be associated persons of JPMS, and may not be subject to FINRA Rule 2711 and NYSE Rule 472 restrictions on communications with covered companies, public appearances, and trading securities held by a research analyst account.

Other Disclosures

J.P. Morgan ("JPM") is the global brand name for J.P. Morgan Securities LLC ("JPMS") and its affiliates worldwide. J.P. Morgan Cazenove is a marketing name for the U.K. investment banking businesses and EMEA cash equities and equity research businesses of JPMorgan Chase & Co. and its subsidiaries.

All research reports made available to clients are simultaneously available on our client website, J.P. Morgan Markets. Not all research content is redistributed, e-mailed or made available to third-party aggregators. For all research reports available on a particular stock, please contact your sales representative.

Legal Entities Disclosures

U.S.: JPMS is a member of NYSE, FINRA, SIPC and the NFA. JPMorgan Chase Bank, N.A. is a member of FDIC. **U.K.:** JPMorgan Chase N.A., London Branch, is authorised by the Prudential Regulation Authority and is subject to regulation by the Financial Conduct Authority and to limited regulation by the Prudential Regulation Authority. Details about the extent of our regulation by the Prudential Regulation Authority are available from J.P. Morgan on request. J.P. Morgan Securities plc (JPMS plc) is a member of the London Stock Exchange and is authorised by the Prudential Regulation Authority and regulated by the Financial Conduct Authority and the Prudential Regulation Authority. Registered in England & Wales No. 2711006. Registered Office 25 Bank Street, London, E14 5JP. **South Africa:** J.P. Morgan Equities South Africa Proprietary Limited is a member of the Johannesburg Securities Exchange and is regulated by the Financial Services Board. **Hong Kong:** J.P. Morgan Securities (Asia Pacific) Limited (CE number AAJ321) is regulated by the Hong Kong Monetary Authority and the Securities and Futures Commission in Hong Kong and/or J.P. Morgan Broking (Hong Kong) Limited (CE number AAB027) is regulated by the Securities and Futures Commission in Hong Kong. **Korea:** J.P. Morgan Securities (Far East) Ltd, Seoul Branch, is regulated by the Korea Financial Supervisory Service. **Australia:** J.P. Morgan Australia Limited (JPMAL) (ABN 52 002 888 011/AFS Licence No: 238188) is regulated by ASIC and J.P. Morgan Securities Australia Limited (JPMSAL) (ABN 61 003 245 234/AFS Licence No: 238066) is regulated by ASIC and is a Market, Clearing and Settlement Participant of ASX Limited and CHI-X. **Taiwan:** J.P.Morgan Securities (Taiwan) Limited is a participant of the Taiwan Stock Exchange (company-type) and regulated by the Taiwan Securities and Futures Bureau. **India:** J.P. Morgan India Private Limited (Corporate Identity Number - U67120MH1992FTC068724), having its registered office at J.P. Morgan Tower, Off. C.S.T. Road, Kalina, Santacruz - East, Mumbai – 400098, is a member of the National Stock Exchange of India Limited (SEBI Registration Number - INB 230675231/INF 230675231/INE 230675231) and Bombay Stock Exchange Limited (SEBI Registration Number - INB 010675237/INF 010675237) and is regulated by Securities and Exchange Board of India. Telephone: 91-22-6157 3000, Facsimile: 91-22-6157 3990 and Website: www.jpmpi.com. For non local research reports, this material is not distributed in India by J.P. Morgan India Private Limited. **Thailand:** This material is issued and distributed in Thailand by JPMorgan Securities (Thailand) Ltd., which is a member of the Stock Exchange of Thailand and is regulated by the Ministry of Finance and the Securities and Exchange Commission and its registered address is 3rd Floor, 20 North Sathorn Road, Silom, Bangrak, Bangkok 10500. **Indonesia:** PT J.P. Morgan Securities Indonesia is a member of the Indonesia Stock Exchange and is regulated by the OJK a.k.a. BAPEPAM LK. **Philippines:** J.P. Morgan Securities Philippines Inc. is a Trading Participant of the Philippine Stock Exchange and a member of the Securities Clearing Corporation of the Philippines and the Securities Investor Protection Fund. It is regulated by the Securities and Exchange Commission. **Brazil:** Banco J.P. Morgan S.A. is regulated by the Comissao de Valores Mobiliarios (CVM) and by the Central Bank of Brazil. **Mexico:** J.P. Morgan Casa de Bolsa, S.A. de C.V., J.P. Morgan Grupo Financiero is a member of the Mexican Stock Exchange and authorized to act as a broker dealer by the National Banking and Securities Exchange Commission. **Singapore:** This material is issued and distributed in Singapore by or through J.P. Morgan Securities Singapore Private Limited (JPMSS) [MCI (P) 199/03/2014 and Co. Reg. No.: 199405335R] which is a member of the Singapore Exchange Securities Trading Limited and is regulated by the Monetary Authority of Singapore (MAS) and/or JPMorgan Chase Bank, N.A., Singapore branch (JPMCB Singapore) which is regulated by the MAS. This material is provided in Singapore only to accredited investors, expert investors and institutional investors, as defined in Section 4A of the Securities and Futures Act, Cap. 289. Recipients of this document are to contact JPMSS or JPMCB Singapore in respect of any matters arising from, or in connection with, the document. **Japan:** JPMorgan Securities Japan Co., Ltd. is regulated by the Financial Services Agency in Japan. **Malaysia:** This material is issued and distributed in Malaysia by JPMorgan Securities (Malaysia) Sdn Bhd (18146-X) which is a Participating Organization of Bursa Malaysia Berhad and a holder of Capital Markets Services License issued by the Securities Commission in Malaysia. **Pakistan:** J. P. Morgan Pakistan Broking (Pvt.) Ltd is a member of the Karachi Stock Exchange and regulated by the Securities and Exchange Commission of Pakistan. **Saudi Arabia:** J.P. Morgan Saudi Arabia Ltd. is authorized by the Capital Market Authority of the Kingdom of Saudi Arabia (CMA) to carry out dealing as an agent, arranging, advising and custody, with respect to securities business under licence number 35-07079 and its registered address is at 8th Floor, Al-Faisaliyah Tower, King Fahad Road, P.O. Box 51907, Riyadh 11553, Kingdom of Saudi Arabia. **Dubai:** JPMorgan Chase Bank, N.A., Dubai Branch is regulated by the Dubai Financial Services Authority (DFSA) and its registered address is Dubai International Financial Centre - Building 3, Level 7, PO Box 506551, Dubai, UAE.

Country and Region Specific Disclosures

U.K. and European Economic Area (EEA): Unless specified to the contrary, issued and approved for distribution in the U.K. and the EEA by JPMS plc. Investment research issued by JPMS plc has been prepared in accordance with JPMS plc's policies for managing conflicts of interest arising as a result of publication and distribution of investment research. Many European regulators require a firm to establish, implement and maintain such a policy. This report has been issued in the U.K. only to persons of a kind described in Article 19 (5), 38, 47 and 49 of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005 (all such persons being referred to as "relevant persons"). This document must not be acted on or relied on by persons who are not relevant persons. Any investment or investment activity to which this document relates is only available to relevant persons and will be engaged in only with relevant persons. In other EEA countries, the report has been issued to persons regarded as professional investors (or equivalent) in their home jurisdiction. **Australia:** This material is issued and distributed by JPMSAL in Australia to "wholesale clients" only. This material does not take into account the specific investment objectives, financial situation or particular needs of the recipient. The recipient of this material must not distribute it to any third party or outside Australia without the prior written consent of JPMSAL. For the purposes of this paragraph the term "wholesale client" has the meaning given in section 761G of the Corporations Act 2001. **Germany:** This material is distributed in Germany by J.P. Morgan Securities plc, Frankfurt Branch and J.P.Morgan Chase Bank, N.A., Frankfurt Branch which are regulated by the Bundesanstalt für Finanzdienstleistungsaufsicht. **Hong Kong:** The 1% ownership disclosure as of the previous month end satisfies the requirements under Paragraph 16.5(a) of the Hong Kong Code of Conduct for Persons Licensed by or Registered with the Securities and Futures Commission. (For research published within the first ten days of the month, the disclosure may be based on the month end data from two months prior.) J.P. Morgan Broking (Hong Kong) Limited is the liquidity provider/market maker for

derivative warrants, callable bull bear contracts and stock options listed on the Stock Exchange of Hong Kong Limited. An updated list can be found on HKEx website: <http://www.hkex.com.hk>. **Japan:** There is a risk that a loss may occur due to a change in the price of the shares in the case of share trading, and that a loss may occur due to the exchange rate in the case of foreign share trading. In the case of share trading, JPMorgan Securities Japan Co., Ltd., will be receiving a brokerage fee and consumption tax (shouhizei) calculated by multiplying the executed price by the commission rate which was individually agreed between JPMorgan Securities Japan Co., Ltd., and the customer in advance. Financial Instruments Firms: JPMorgan Securities Japan Co., Ltd., Kanto Local Finance Bureau (kinsho) No. 82 Participating Association / Japan Securities Dealers Association, The Financial Futures Association of Japan, Type II Financial Instruments Firms Association and Japan Investment Advisers Association. **Korea:** This report may have been edited or contributed to from time to time by affiliates of J.P. Morgan Securities (Far East) Ltd, Seoul Branch. **Singapore:** JPMS and/or its affiliates may have a holding in any of the securities discussed in this report; for securities where the holding is 1% or greater, the specific holding is disclosed in the Important Disclosures section above. **Taiwan:** This material is issued and distributed in Taiwan by J.P. Morgan Securities (Taiwan Limited). **India:** For private circulation only, not for sale. **Pakistan:** For private circulation only, not for sale. **New Zealand:** This material is issued and distributed by JPMSAL in New Zealand only to persons whose principal business is the investment of money or who, in the course of and for the purposes of their business, habitually invest money. JPMSAL does not issue or distribute this material to members of "the public" as determined in accordance with section 3 of the Securities Act 1978. The recipient of this material must not distribute it to any third party or outside New Zealand without the prior written consent of JPMSAL. **Canada:** The information contained herein is not, and under no circumstances is to be construed as, a prospectus, an advertisement, a public offering, an offer to sell securities described herein, or solicitation of an offer to buy securities described herein, in Canada or any province or territory thereof. Any offer or sale of the securities described herein in Canada will be made only under an exemption from the requirements to file a prospectus with the relevant Canadian securities regulators and only by a dealer properly registered under applicable securities laws or, alternatively, pursuant to an exemption from the dealer registration requirement in the relevant province or territory of Canada in which such offer or sale is made. The information contained herein is under no circumstances to be construed as investment advice in any province or territory of Canada and is not tailored to the needs of the recipient. To the extent that the information contained herein references securities of an issuer incorporated, formed or created under the laws of Canada or a province or territory of Canada, any trades in such securities must be conducted through a dealer registered in Canada. No securities commission or similar regulatory authority in Canada has reviewed or in any way passed judgment upon these materials, the information contained herein or the merits of the securities described herein, and any representation to the contrary is an offence. **Dubai:** This report has been issued to persons regarded as professional clients as defined under the DFSA rules. **Brazil:** Ombudsman J.P. Morgan: 0800-7700847 / ouvidoria.jp.morgan@jpmorgan.com.

General: Additional information is available upon request. Information has been obtained from sources believed to be reliable but JPMorgan Chase & Co. or its affiliates and/or subsidiaries (collectively J.P. Morgan) do not warrant its completeness or accuracy except with respect to any disclosures relative to JPMS and/or its affiliates and the analyst's involvement with the issuer that is the subject of the research. All pricing is as of the close of market for the securities discussed, unless otherwise stated. Opinions and estimates constitute our judgment as of the date of this material and are subject to change without notice. Past performance is not indicative of future results. This material is not intended as an offer or solicitation for the purchase or sale of any financial instrument. The opinions and recommendations herein do not take into account individual client circumstances, objectives, or needs and are not intended as recommendations of particular securities, financial instruments or strategies to particular clients. The recipient of this report must make its own independent decisions regarding any securities or financial instruments mentioned herein. JPMS distributes in the U.S. research published by non-U.S. affiliates and accepts responsibility for its contents. Periodic updates may be provided on companies/industries based on company specific developments or announcements, market conditions or any other publicly available information. Clients should contact analysts and execute transactions through a J.P. Morgan subsidiary or affiliate in their home jurisdiction unless governing law permits otherwise.

"Other Disclosures" last revised November 29, 2014.

Copyright 2015 JPMorgan Chase & Co. All rights reserved. This report or any portion hereof may not be reprinted, sold or redistributed without the written consent of J.P. Morgan.