NTPC | BUY

Renewed thrust on thermal to sustain growth momentum; maintain BUY



Sudhanshu Bansal

sudhanshu.bansal@jmfl.com | Tel: (91 22) 66303128

In 3QFY24, NTPC Ltd (NTPC) reported net sales of INR 428bn (-4% YoY,-8% JMFe, -8% consensus), EBITDA of INR 114bn (-22%YoY, -12% JMFe), and adj. PAT of INR 52bn (+9% YoY, +4% JMFe, -2% consensus) during 3QFY24. There was a significant improvement in operations; gross generation/ plant load factor (PLF) increased to 89.5 BU (13.8% YoY)/ 76% (v/s 69% 3QFY23) which was overshadowed by the change in accounting method that has led to inflated sales during 3QFY23 (one-time adjustment of INR 30.97bn due to 'Net movement in regulatory deferral account balances (net of taxes) relating to reimbursement of ash transportation cost). Given the continued growth momentum in renewables and renewed thrust on margin-accretive thermal power, we revise our FY27 and beyond estimates upwards factoring the extended visibility of thermal power. We value the company's thermal business at 2x FY26E Regulated Equity and assign 12x multiple to FY26E EBITDA of its RE business. We maintain our BUY rating with a revised TP of INR 368.

New thermal capacity addition: The management has guided for 16.8 GW (9.6 GW standalone, 7.2 GW JV/subsidiary) of new thermal projects to be awarded in the short to medium term. These include 2x800 MW NTPC Singrauli-III; 1x800 MW NTPC Sipta-III; 1x800 MW NTPC Darlipali-II; 3x800 MW NTPC Meja-II; 3x660 MW NTPC Nabinagar TPS; 2x800 MW UPRVUNL, Obra-D TPS; 2x800 MW UPRVUNL, Anpara-D TPS; 3x800 MW NTPC Telangana Ph-II; 2x800MW Patratu St-II; 2x800MW Gadarwara St-II.

The company has targeted to order 5.6/6.4/4.8 GW of thermal projects during 1HFY25/2QFY26/3QFY27.

- Renewables' trajectory: NTPC has an installed RE capacity of 3.3GW with another 7.8GW under construction and 11.9GW under pipeline, which include a mix of ground-mounted solar, floating solar, wind and some small hydro. NTPC has a vision of 60GW of installed RE capacity by FY32.
- Capacity addition: The company expects commissioning of 3580MW of projects in FY24.
 Around 4GW/7GW of projects are likely to commission during FY25/FY26.
- Coal production: NTPC recorded 19.92MT of coal production during 9MFY24 (+45% YoY) from four captive mines i.e. Pakri-Barwadih, Dulanga, Talaipalli, and Chatti-Bariatu. It produced 23.2MT of coal during FY23 and has set an ambitious production target of 34 MT for FY24.
- Flue Gas Desulphurization (FGD): NTPC has awarded 65,200MW of FGD projects out of which 12,660 MW have been commissioned and 52,540 MW are under construction which are likely to commission in the next 3 years.
- Capex: The Company expects to incur a capex of INR 283.73bn during FY24 out of which INR 215.52bn is already incurred.
- Regulated equity: The regulated equity stands at INR 987bn/821bn on a group/ standalone basis.

Recommendation and Price Target						
Current Reco.	BUY					
Previous Reco.	BUY					
Current Price Target (12M)	368					
Upside/(Downside)	16.8%					
Previous Price Target	270					
Change	36.4%					

Key Data – NTPC IN	
Current Market Price	INR315
Market cap (bn)	INR3,058.8/US\$36.8
Free Float	43%
Shares in issue (mn)	9,696.7
Diluted share (mn)	9,696.7
3-mon avg daily val (mn)	INR4,661.3/US\$56.1
52-week range	326/163
Sensex/Nifty	71,140/21,522
INR/US\$	83.1

Price Performance			
%	1M	6M	12M
Absolute	1.4	50.2	86.8
Relative*	3.0	39.7	56.3
* T 1 DCC C			

* To the BSE Sensex

Financial Summary					(INR mn)
Y/E March	FY22A	FY23A	FY24E	FY25E	FY26E
Net Sales	1,326,693	1,762,069	1,854,863	2,095,760	2,201,161
Sales Growth (%)	19.0	32.8	5.3	13.0	5.0
EBITDA	402,796	477,289	541,959	636,628	670,478
EBITDA Margin (%)	30.4	27.1	29.2	30.4	30.5
Adjusted Net Profit	169,603	171,214	227,701	277,952	277,883
Diluted EPS (INR)	17.5	17.7	23.5	28.7	28.7
Diluted EPS Growth (%)	2.9	0.9	33.0	22.1	0.0
ROIC (%)	6.7	7.4	8.5	9.5	9.0
ROE (%)	13.0	12.1	14.7	16.2	14.7
P/E (x)	18.0	17.8	13.4	11.0	11.0
P/B (x)	2.3	2.1	1.9	1.7	1.6
EV/EBITDA (x)	12.1	10.4	9.2	8.0	7.7
Dividend Yield (%)	2.3	2.4	3.1	3.8	3.8

JM Financial Research is also available on: Bloomberg - JMFR <GO>, Thomson Publisher & Reuters, S&P Capital IQ, FactSet and Visible Alpha

Please see Appendix I at the end of this report for Important Disclosures and Disclaimers and Research Analyst Certification.

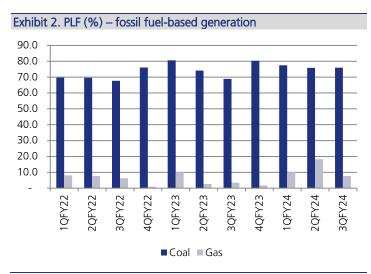
3QFY24 Results Summary

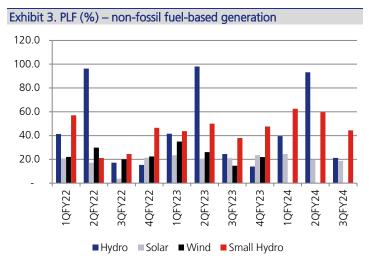
Exhibit 1. 3QFY24 consolidated earnings								
Y/E March (INR mn)	3QFY24	3QFY23	%YoY	2QFY24	%QoQ	JMFe	% Var	
Generation (BUs)	89.5	78.6	14%	90.3	-1%	88.9	1%	
Net Sales	428,204	446,018	-4%	449,834	-5%	466,840	-8%	
Expenditure	314,582	301,243	4%	323,032	-3%	338,237	-7%	
EBITDA	113,622	144,776	-22%	126,802	-10%	128,604	-12%	
EBITDA (%)	26.5	32.5	-593bps	28.2	-165bps	27.5	- 101bps	
Depreciation	40,739	37,151	10%	40,377	1%	40,951	•	
EBIT	72,882	107,625	-32%	86,425	-16%	87,653	-17%	
Other income	7,543	3,874	95%	4,013	88%	3,750	101%	
Interest	32,501	31,682	3%	29,205	11%	29,985		
Share of income in Asso.	3,420	3,601	-5%	4,031	-15%	2,550	34%	
PBT	51,344	83,418	-38%	65,264	-21%	63,968	-20%	
Tax	13,618	18,288	-26%	20,197	-33%	17,528		
Tax rate (%)	27	22	460bps	31	-442bps	27		
Reg def (net of tax)	14,362	-16,587	-187%	2,196	554%	3,716	286%	
Reported PAT	52,089	48,544	7%	47,264	10%	50,156	4%	
PAT (adjusted) JMFe	52,089	48,024	8.46%	47,264	10%	50,156	4%	
EPS (Rs)	5.4	5.0	7%	4.9	10%	5.2		

Cost-break up	3QFY24	3QFY23	%YoY	2QFY24	%QoQ	JMFe	
Raw material Costs	248,127	232,211	7%	269,296	-8%	280,104	-11%
% of sales	58%	52%	588bps	60%	-192bps	60%	- 205bps
RM/MU	2.8	3.0	-6%	3.0	-7%	3.2	
Staff Costs	16,185	17,171	-6%	15,280	6%	18,119	
% of sales	4%	4%	-7bps	3%	38bps	4%	-10bps
Other Expenses	50,270	51,861	-3%	38,455	31%	40,013	
% of sales	12%	12%	11bps	9%	319bps	9%	317bps

Source: Company, JM Financial

Key Charts





Source: Company, JM Financial

Source: Company, JM Financial

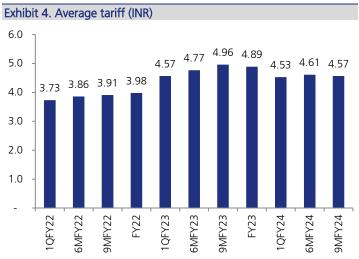


Exhibit 5. Standalone regulated equity (INR bn) 900 800 700 600 500 400 300 200 100

Source: Company, JM Financial

749 754 776 776 658 678 705 709 709 2QFY22 3QFY22 4QFY22 1QFY23 2QFY23 3QFY23 4QFY23 1QFY24 2QFY24 3QFY24 1QFY22 Source: Company, JM Financial

Exhibit 6. Operational performance	, quarterly				
Capacity (MW)	3QFY24	3QFY23	YoY%	2QFY24	QoQ%
Coal PLF (%)	75.95	68.85	+710 bps	75.83	+12 bps
Coal PAF (%)	86.24	92.67	-643 bps	90.12	-388 bps
Generation (BU)					
Gross Generation (BU)	89.5	78.6	14%	90.3	-1%
Commercial Generation (BU)	89.5	78.6	14%	89.9	0%
Energy Sent out (BU)	83.9	72.9	15%	83.8	0%
Coal Data (MMT)					
Coal Supply Position					
Domestic	60.2	52.5	15%	54.2	11%
Imported	2.2	1.6	37%	1.3	72%
Total	62.4	54.0	15.5%	55.4	12.6%
Captive mines – comm. coal production	8.1	5.4	51%	5.6	45%

Source: Company, JM Financial

815 821

Valuation

Exhibit 7. SOTP Table							
Particulars	Rationale	Multiple (x)	Equity Value (INR mn)	Value per Share			
Thermal	FY 26E Consolidated Regulated Equity	2	2,557,629	264			
Renewable	FY 26E EV/EBITDA	12	669,060	69			
CWIP	FY 26E BV	1	187,231	19			
Cash & Cash Equivalent	FY25 BV	1	158,072	16			
Total			3,571,992	368			

Source: Company, JM Financial

Valuation Bands





Source: Company, JM Financial

Source: Company, JM Financial

Financial Tables (Consolidated)

Income Statement					(INR mn)
Y/E March	FY22A	FY23A	FY24E	FY25E	FY26E
Net Sales	1,326,693	1,762,069	1,854,863	2,095,760	2,201,161
Sales Growth	19.0%	32.8%	5.3%	13.0%	5.0%
Other Operating Income	0	0	0	0	0
Total Revenue	1,326,693	1,762,069	1,854,863	2,095,760	2,201,161
Cost of Goods Sold/Op. Exp	753,377	1,059,807	1,083,826	1,211,880	1,269,494
Personnel Cost	63,101	65,283	69,025	73,158	76,450
Other Expenses	107,420	159,690	160,053	174,093	184,739
EBITDA	402,796	477,289	541,959	636,628	670,478
EBITDA Margin	30.4%	27.1%	29.2%	30.4%	30.5%
EBITDA Growth	18.6%	18.5%	13.5%	17.5%	5.3%
Depn. & Amort.	137,878	147,923	148,912	167,034	191,946
EBIT	264,917	329,366	393,047	469,594	478,532
Other Income	23,250	17,702	15,000	18,000	18,000
Finance Cost	93,160	111,561	119,941	128,854	137,888
PBT before Excep. & Forex	195,008	235,508	288,106	358,740	358,644
Excep. & Forex Inc./Loss(-)	14,865	-4,131	7,432	7,432	7,432
PBT	209,873	231,377	295,538	366,172	366,076
Taxes	50,471	67,961	83,139	103,522	103,495
Extraordinary Inc./Loss(-)	0	0	0	0	0
Assoc. Profit/Min. Int.(-)	13,045	9,886	17,390	17,390	17,390
Reported Net Profit	166,759	169,126	225,613	275,864	275,795
Adjusted Net Profit	169,603	171,214	227,701	277,952	277,883
Net Margin	12.8%	9.7%	12.3%	13.3%	12.6%
Diluted Share Cap. (mn)	9,696.7	9,696.7	9,696.7	9,696.7	9,696.7
Diluted EPS (INR)	17.5	17.7	23.5	28.7	28.7
Diluted EPS Growth	2.9%	0.9%	33.0%	22.1%	0.0%
Total Dividend + Tax	71,069	71,910	95,634	116,740	116,711
Dividend Per Share (INR)	7.3	7.4	9.9	12.0	12.0

Balance Sheet					(INR mn)
Y/E March	FY22A	FY23A	FY24E	FY25E	FY26E
Shareholders' Fund	1,353,737	1,470,232	1,626,023	1,808,340	1,969,484
Share Capital	96,967	96,967	96,967	96,967	96,967
Reserves & Surplus	1,256,771	1,373,265	1,529,056	1,711,374	1,872,517
Preference Share Capital	0	0	0	0	0
Minority Interest	37,604	39,305	39,305	39,305	39,305
Total Loans	1,829,185	1,897,044	1,999,013	2,147,567	2,298,139
Def. Tax Liab. / Assets (-)	109,517	126,900	126,900	126,900	126,900
Total - Equity & Liab.	3,330,043	3,533,480	3,791,241	4,122,112	4,433,827
Net Fixed Assets	3,153,690	3,297,243	3,459,841	3,683,005	3,901,824
Gross Fixed Assets	3,081,252	3,384,360	3,796,228	4,362,407	4,764,518
Intangible Assets	0	0	0	0	0
Less: Depn. & Amort.	837,814	978,907	1,127,818	1,294,852	1,486,798
Capital WIP	910,252	891,790	791,431	615,450	624,104
Investments	113,066	138,848	138,848	138,848	138,848
Current Assets	898,412	1,024,123	1,121,124	1,241,784	1,345,564
Inventories	101,393	142,404	147,373	166,512	174,887
Sundry Debtors	273,421	288,252	330,318	373,217	391,988
Cash & Bank Balances	44,581	49,485	99,451	158,072	234,708
Loans & Advances	0	0	0	0	0
Other Current Assets	479,018	543,982	543,982	543,982	543,982
Current Liab. & Prov.	835,124	926,735	929,937	942,675	950,472
Current Liabilities	159,190	192,271	195,474	208,212	216,009
Provisions & Others	675,934	734,464	734,464	734,464	734,464
Net Current Assets	63,288	97,389	191,187	299,109	395,092
Total – Assets	3,330,043	3,533,480	3,789,876	4,120,961	4,435,764

Source: Company, JM Financial

Source: Company, JM Financial

Cash Flow Statement					(INR mn)
Y/E March	FY22A	FY23A	FY24E	FY25E	FY26E
Profit before Tax	223,114	238,248	297,062	367,696	367,600
Depn. & Amort.	137,878	147,923	148,912	167,034	191,946
Net Interest Exp. / Inc. (-)	79,466	110,921	119,941	128,854	137,888
Inc (-) / Dec in WCap.	19,141	-66,450	7,305	3,797	15,489
Others	-20,986	10,630	-15,000	-18,000	-18,000
Taxes Paid	-20,731	-40,757	-83,139	-103,522	-103,495
Operating Cash Flow	417,882	400,516	475,080	545,858	591,429
Capex	-243,309	-247,202	-311,510	-390,198	-410,765
Free Cash Flow	174,573	153,313	163,571	155,661	180,664
Inc (-) / Dec in Investments	5,000	-8,573	0	0	0
Others	9,927	-5,297	0	0	0
Investing Cash Flow	-228,382	-261,072	-311,510	-390,198	-410,765
Inc / Dec (-) in Capital	0	0	0	0	0
Dividend + Tax thereon	-71,069	-72,479	-95,634	-116,740	-116,711
Inc / Dec (-) in Loans	7,234	81,458	101,970	148,554	150,571
Others	-127,880	-150,524	-119,940	-128,854	-137,888
Financing Cash Flow	-191,716	-141,545	-113,605	-97,040	-104,028
Inc / Dec (-) in Cash	-2,216	-2,101	49,966	58,621	76,636
Opening Cash Balance	46,797	51,587	49,485	99,451	158,072
Closing Cash Balance	44,581	49,485	99,451	158,072	234,708

Dupont Analysis								
Y/E March	FY22A	FY23A	FY24E	FY25E	FY26E			
Net Margin	12.8%	9.7%	12.3%	13.3%	12.6%			
Asset Turnover (x)	0.3	0.4	0.4	0.4	0.4			
Leverage Factor (x)	3.1	3.1	3.0	2.8	2.8			
RoE	13.0%	12.1%	14.7%	16.2%	14.7%			

Key Ratios					
Y/E March	FY22A	FY23A	FY24E	FY25E	FY26E
BV/Share (INR)	139.6	151.6	167.7	186.5	203.1
ROIC	6.7%	7.4%	8.5%	9.5%	9.0%
ROE	13.0%	12.1%	14.7%	16.2%	14.7%
Net Debt/Equity (x)	1.3	1.3	1.2	1.1	1.0
P/E (x)	18.0	17.8	13.4	11.0	11.0
P/B (x)	2.3	2.1	1.9	1.7	1.6
EV/EBITDA (x)	12.1	10.4	9.2	8.0	7.7
EV/Sales (x)	3.7	2.8	2.7	2.4	2.3
Debtor days	75	60	65	65	65
Inventory days	28	29	29	29	29
Creditor days	45	40	40	39	39

Source: Company, JM Financial

Source: Company, JM Financial

History of Recommendation and Target Price					
Date	Recommendation	Target Price	% Chg.		
14-Dec-22	Buy	205			
11-Jan-23	Buy	205	-0.2		
29-Jan-23	Buy	205	0.2		
20-May-23	Buy	205	-0.1		
31-Jul-23	Buy	240	17.4		
29-Oct-23	Buy	270	12.2		

NTPC 340 290 240 190 Jan-21 Jul-21 Jan-22 Jul-22 Jan-23 Jul-23 Jan-24

Target Price

APPENDIX I

JM Financial Institutional Securities Limited

Corporate Identity Number: U67100MH2017PLC296081

Member of BSE Ltd. and National Stock Exchange of India Ltd.

SEBI Registration Nos.: Stock Broker - INZ000163434, Research Analyst - INH000000610

Registered Office: 7th Floor, Cnergy, Appasaheb Marathe Marg, Prabhadevi, Mumbai 400 025, India.

Board: +91 22 6630 3030 | Fax: +91 22 6630 3488 | Email: jmfinancial.research@jmfl.com | www.jmfl.com Compliance Officer: Mr. Sahil Salastekar | Tel: +91 22 6224 1073 | Email: sahil.salastekar@jmfl.com Grievance officer: Mr. Sahil Salastekar | Tel: +91 22 6224 1073 | Email: instcompliance@jmfl.com

Investment in securities market are subject to market risks. Read all the related documents carefully before investing.

Definition of	Definition of ratings				
Rating	Meaning				
Buy	Total expected returns of more than 10% for stocks with market capitalisation in excess of INR 200 billion and REITs* and more than 15% for all other stocks, over the next twelve months. Total expected return includes dividend yields.				
Hold	Price expected to move in the range of 10% downside to 10% upside from the current market price for stocks with market capitalisation in excess of INR 200 billion and REITs* and in the range of 10% downside to 15% upside from the current market price for all other stocks, over the next twelve months.				
Sell	Price expected to move downwards by more than 10% from the current market price over the next twelve months.				

^{*} REITs refers to Real Estate Investment Trusts.

Research Analyst(s) Certification

The Research Analyst(s), with respect to each issuer and its securities covered by them in this research report, certify that:

All of the views expressed in this research report accurately reflect his or her or their personal views about all of the issuers and their securities; and

No part of his or her or their compensation was, is, or will be directly or indirectly related to the specific recommendations or views expressed in this research
report.

Important Disclosures

This research report has been prepared by JM Financial Institutional Securities Limited (JM Financial Institutional Securities) to provide information about the company(ies) and sector(s), if any, covered in the report and may be distributed by it and/or its associates solely for the purpose of information of the select recipient of this report. This report and/or any part thereof, may not be duplicated in any form and/or reproduced or redistributed without the prior written consent of JM Financial Institutional Securities. This report has been prepared independent of the companies covered herein.

JM Financial Institutional Securities is registered with the Securities and Exchange Board of India (SEBI) as a Research Analyst and a Stock Broker having trading memberships of the BSE Ltd. (BSE) and National Stock Exchange of India Ltd. (NSE). No material disciplinary action has been taken by SEBI against JM Financial Institutional Securities in the past two financial years which may impact the investment decision making of the investor. Registration granted by SEBI and certification from the National Institute of Securities Market (NISM) in no way guarantee performance of JM Financial Institutional Securities or provide any assurance of returns to investors.

JM Financial Institutional Securities renders stock broking services primarily to institutional investors and provides the research services to its institutional clients/investors. JM Financial Institutional Securities and its associates are part of a multi-service, integrated investment banking, investment management, brokerage and financing group. JM Financial Institutional Securities and/or its associates might have provided or may provide services in respect of managing offerings of securities, corporate finance, investment banking, mergers & acquisitions, broking, financing or any other advisory services to the company(ies) covered herein. JM Financial Institutional Securities and/or its associates might have received during the past twelve months or may receive compensation from the company(ies) mentioned in this report for rendering any of the above services.

JM Financial Institutional Securities and/or its associates, their directors and employees may; (a) from time to time, have a long or short position in, and buy or sell the securities of the company(ies) mentioned herein or (b) be engaged in any other transaction involving such securities and earn brokerage or other compensation or act as a market maker in the financial instruments of the company(ies) covered under this report or (c) act as an advisor or lender/borrower to, or may have any financial interest in, such company(ies) or (d) considering the nature of business/activities that JM Financial Institutional Securities is engaged in, it may have potential conflict of interest at the time of publication of this report on the subject company(ies).

Neither JM Financial Institutional Securities nor its associates or the Research Analyst(s) named in this report or his/her relatives individually own one per cent or more securities of the company(ies) covered under this report, at the relevant date as specified in the SEBI (Research Analysts) Regulations, 2014.

The Research Analyst(s) principally responsible for the preparation of this research report and their immediate relatives are prohibited from buying or selling debt or equity securities, including but not limited to any option, right, warrant, future, long or short position issued by company(ies) covered under this report. The Research Analyst(s) principally responsible for the preparation of this research report or their immediate relatives (as defined under SEBI (Research Analysts) Regulations, 2014); (a) do not have any financial interest in the company(ies) covered under this report or (b) did not receive any compensation from the company(ies) covered under this report, or from any third party, in connection with this report or (c) do not have any other material conflict of interest at the time of publication of this report. Research Analyst(s) are not serving as an officer, director or employee of the company(ies) covered under this report.

While reasonable care has been taken in the preparation of this report, it does not purport to be a complete description of the securities, markets or developments referred to herein, and JM Financial Institutional Securities does not warrant its accuracy or completeness. JM Financial Institutional Securities may not be in any way responsible for any loss or damage that may arise to any person from any inadvertent error in the information contained in this report. This report is provided for information only and is not an investment advice and must not alone be taken as the basis for an investment decision.

This research report is based on the fundamental research/analysis conducted by the Research Analyst(s) named herein. Accordingly, this report has been prepared by studying/focusing on the fundamentals of the company(ies) covered in this report and other macro-economic factors. JM Financial Institutional Securities may have also issued or may issue, research reports and/or recommendations based on the technical/quantitative analysis of the company(ies) covered in this report by studying and using charts of the stock's price movement, trading volume and/or other volatility parameters. As a result, the views/recommendations expressed in such technical research reports could be inconsistent or even contrary to the views contained in this report.

The investment discussed or views expressed or recommendations/opinions given herein may not be suitable for all investors. The user assumes the entire risk of any use made of this information. The information contained herein may be changed without notice and JM Financial Institutional Securities reserves the right to make modifications and alterations to this statement as they may deem fit from time to time.

This report is neither an offer nor solicitation of an offer to buy and/or sell any securities mentioned herein and/or not an official confirmation of any transaction.

This report is not directed or intended for distribution to, or use by any person or entity who is a citizen or resident of or located in any locality, state, country or other jurisdiction, where such distribution, publication, availability or use would be contrary to law, regulation or which would subject JM Financial Institutional Securities and/or its affiliated company(ies) to any registration or licensing requirement within such jurisdiction. The securities described herein may or may not be eligible for sale in all jurisdictions or to a certain category of investors. Persons in whose possession this report may come, are required to inform themselves of and to observe such restrictions.

Additional disclosure only for U.S. persons: JM Financial Institutional Securities has entered into an agreement with JM Financial Securities, Inc. ("JM Financial Securities"), a U.S. registered broker-dealer and member of the Financial Industry Regulatory Authority ("FINRA") in order to conduct certain business in the United States in reliance on the exemption from U.S. broker-dealer registration provided by Rule 15a-6, promulgated under the U.S. Securities Exchange Act of 1934 (the "Exchange Act"), as amended, and as interpreted by the staff of the U.S. Securities and Exchange Commission ("SEC") (together "Rule 15a-6").

This research report is distributed in the United States by JM Financial Securities in compliance with Rule 15a-6, and as a "third party research report" for purposes of FINRA Rule 2241. In compliance with Rule 15a-6(a)(3) this research report is distributed only to "major U.S. institutional investors" as defined in Rule 15a-6 and is not intended for use by any person or entity that is not a major U.S. institutional investor. If you have received a copy of this research report and are not a major U.S. institutional investor, you are instructed not to read, rely on, or reproduce the contents hereof, and to destroy this research or return it to JM Financial Institutional Securities or to JM Financial Securities.

This research report is a product of JM Financial Institutional Securities, which is the employer of the research analyst(s) solely responsible for its content. The research analyst(s) preparing this research report is/are resident outside the United States and are not associated persons or employees of any U.S. registered broker-dealer. Therefore, the analyst(s) are not subject to supervision by a U.S. broker-dealer, or otherwise required to satisfy the regulatory licensing requirements of FINRA and may not be subject to the Rule 2241 restrictions on communications with a subject company, public appearances and trading securities held by a research analyst account.

Any U.S. person who is recipient of this report that wishes further information regarding, or to effect any transaction in, any of the securities discussed in this report, must contact, and deal directly through a U.S. registered representative affiliated with a broker-dealer registered with the SEC and a member of FINRA. In the U.S., JM Financial Institutional Securities has an affiliate, JM Financial Securities, Inc. located at 1325 Avenue of the Americas, 28th Floor, Office No. 2821, New York, New York 10019. Telephone +1 (332) 900 4958 which is registered with the SEC and is a member of FINRA and SIPC.

Additional disclosure only for U.K. persons: Neither JM Financial Institutional Securities nor any of its affiliates is authorised in the United Kingdom (U.K.) by the Financial Conduct Authority. As a result, this report is for distribution only to persons who (i) have professional experience in matters relating to investments falling within Article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005 (as amended, the "Financial Promotion Order"), (ii) are persons falling within Article 49(2)(a) to (d) ("high net worth companies, unincorporated associations etc.") of the Financial Promotion Order, (iii) are outside the United Kingdom, or (iv) are persons to whom an invitation or inducement to engage in investment activity (within the meaning of section 21 of the Financial Services and Markets Act 2000) in connection with the matters to which this report relates may otherwise lawfully be communicated or caused to be communicated (all such persons together being referred to as "relevant persons"). This report is directed only at relevant persons and must not be acted on or relied on by persons who are not relevant persons. Any investment or investment activity to which this report relates is available only to relevant persons and will be engaged in only with relevant persons.

Additional disclosure only for Canadian persons: This report is not, and under no circumstances is to be construed as, an advertisement or a public offering of the securities described herein in Canada or any province or territory thereof. Under no circumstances is this report to be construed as an offer to sell securities or as a solicitation of an offer to buy securities in any jurisdiction of Canada. 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 registration requirement in the relevant province or territory of Canada in which such offer or sale is made. This report is not, and under no circumstances is it to be construed as, a prospectus or an offering memorandum. No securities commission or similar regulatory authority in Canada has reviewed or in any way passed upon these materials, the information contained herein or the merits of the securities described herein and any representation to the contrary is an offence. If you are located in Canada, this report has been made available to you based on your representation that you are an "accredited investor" as such term is defined in National Instrument 45-106 Prospectus Exemptions and a "permitted client" as such term is defined in National Instrument 31-103 Registration Requirements, Exemptions and Ongoing Registrant Obligations. Under no circumstances is the information contained herein to be construed as investment advice in any province or territory of Canada nor should it be construed as being tailored to the needs of the recipient. Canadian recipients are advised that JM Financial Securities, Inc., JM Financial Institutional Securities Limited, their affiliates and authorized agents are not responsible for, nor do they accept, any liability whatsoever for any direct or consequential lo