



# **Vedanta Resources Plc**

# Barclays Fixed Income Conference

November 2016

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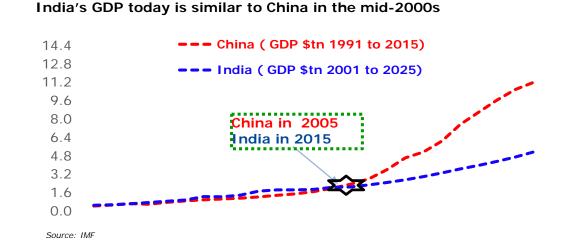
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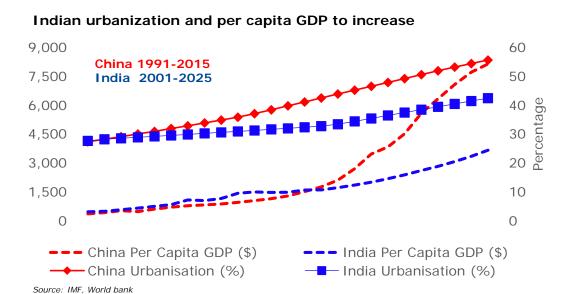
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# India's economic position today is similar to China in the mid 2000s



- Indian GDP today similar to China's in the mid-2000s
  - India's GDP reached US\$2tr in 2014 (vs China in 2005)
- FDI flows into India today now at levels seen in 'early take-off' China in mid-1990s (US\$30-40bn/yr)
- Indian urbanization and GDP per capita levels today similar to China in the 1990s, when Chinese economy 'took off'
  - Urbanization and growing GDP per capita are two key drivers of resources intensive consumption





As in China in the 1990s, India's key requirement in early stage growth will be resources

# India has the resource base to support its growth



India: Shared geology and mineral potential with Africa & Australia

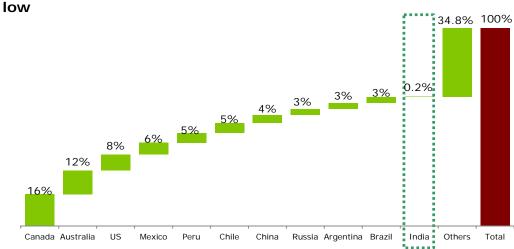


### India reserves ranking

Global Ranking<sup>1</sup> based on



India's share of global non-ferrous exploration spending very



### Aeromagnetic Studies done since 1990

India vs. Australia

	Australia	India
Area (mn km²)	7.7	3.3
Surveys (mn km²)	6.9	0.6
Coverage (%)	90	18
Data-Availability	Digital – Available	Hardcopy - Restricted

### Untapped opportunity in India- O&G reserves and resources

~130 billion barrels

- Resources in 'yet-to-establish' category

 $\sim 50\%$  of the sedimentary basins to be appraised

7 of 26 basins in production

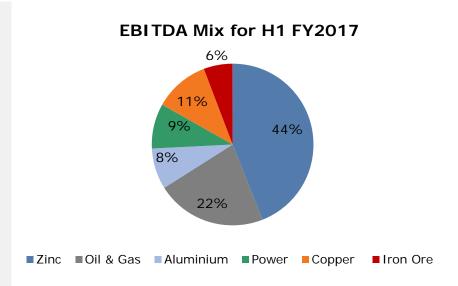
US\$7bn annual investments required through 2040 to meet O&G supplies

Source: SNL Metals Economics Group, Wood Mackenzie, GOI Ministry of Mines, BP Statistical Review June 2013, U.S. Geological Survey, Planning Commission, 12<sup>th</sup> Five Year Plan, <sup>1</sup>Ranking based on reserves <sup>2</sup>MoPNG presentation to Consultative Committee, December 2014, Putting India on the growth path: Unlocking the mining potential report by Mckinsey and Company, December 2014

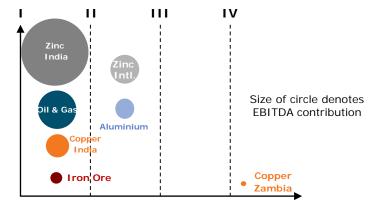
# **Vedanta: A Global Diversified Natural Resources Group**



- Portfolio of large, structurally low-cost, long-life Tier-I assets, that delivered strong free cash flow
  - Significant ramp-up at Aluminium, Power and Iron ore progressing well with minimal incremental capex
  - Delivered consistent EBITDA margin of 33%¹ for H1 FY2017
  - Delivered cumulative cost and marketing savings of c.US\$ 526mn over last six quarters; on course to deliver US\$1.3bn
  - Gross debt reduced by \$120mn in last twelve months to 30 Sep 2016
- Positively contributing to India and Africa
  - Contribution of \$3.2bn towards taxes and royalties in FY2016
  - Direct and Indirect employment of c.70,000
  - One of the largest employers in Zambia
  - Community investment of \$37mn benefiting 2.25mn people in India in FY2016



# >80% EBITDA from low cost assets providing resilience to market volatility

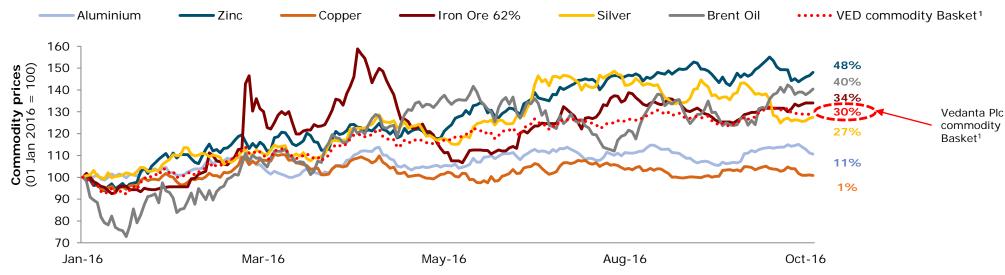


1 Excludes custom smelting

# Vedanta: Benefits of diversification and resilient margins

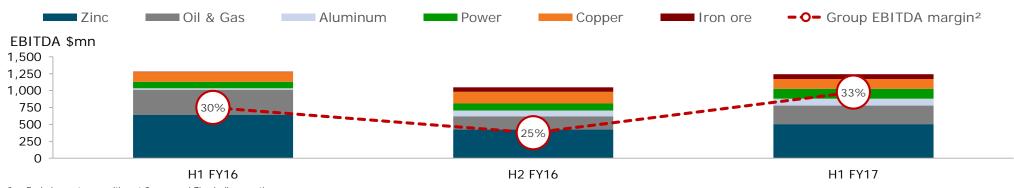


### Vedanta's diversified portfolio significantly reduces volatility



Source: Company filings, Bloomberg

### Strong margins through market volatility



2. Excludes custom smelting at Copper and Zinc India operations

<sup>1.</sup> Vedanta Plc commodity Basket is a weighted average of commodity prices, weights are based on actual FY2016 revenue mix. Copper India and Copper Zambia custom revenue based on realized Tc/Rc's. Excludes commercial power

# **Delivering on all fronts**



### Ramping up production as guided

- Focus on ramp-up at Aluminium, Power and Iron ore
- On track for higher production in H2 at Zinc India

### **Higher FCF driving deleveraging**

- Strong EBITDA margin at 33% in H1
- Continued focus on cost optimization and FCF generation
- Positive credit rating movements by Moody's and S&P

### Commodity prices have stabilized from lows of early 2016

Fundamentals have improved, though global macro uncertainties remain

### **Focus on Group Simplification**

 Vedanta Ltd - Cairn India merger approved by all sets of shareholders; expected to be completed in Q1 CY2017

### Low-capex organic growth being pursued

Production ramp-up's, Gamsberg zinc project, and next set of O&G opportunities at the Rajasthan block

### India is the fastest growing major economy in the world

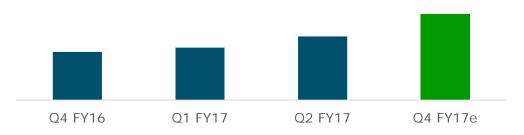
Vedanta is well-positioned to benefit from this growth

# Focused on creating long-term value for shareholders

# Aluminum, Power and Iron Ore ramping up





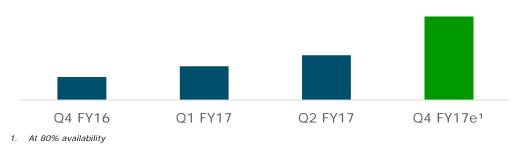


Aluminium production H1 exit run rate of 1.2mtpa

 Impacted by pot outages at Jharsuguda and BALCO, but no significant change in full year guidance



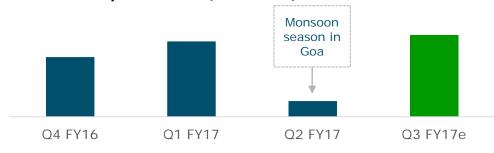




 TSPL 3rd unit capitalized, overall plant availability at 77% in O2



Goa Iron ore production (mn tonne)



- Goa iron ore production scaled to 40% of allocated capacity in Q1; mining and shipping restarted post monsoon in October
  - Expect to achieve full annual allocated capacity of 5.5mt at Goa in Q3
- On track to deliver significant EBITDA growth in FY2017

Ramp-up's are generating positive free cash flow and enabling deleveraging

# **Strategic Priorities Remain Unchanged**



### **Strategic Priorities**



Production growth and asset optimisation



De-lever the balance sheet



Simplification of the group structure



Protect and preserve our license to operate



Identify next generation of resources

#### Focus Areas for FY 2017

- Disciplined ramp-up of new capacities in Aluminium, Power and Iron Ore
- Zinc: Ramp-up volumes at Rampura Agucha U/G and develop Gamsberg
- O&G: Enhance gas production; EOR at other fields
- Reduce gross debt
- Continued optimisation of opex and capex
- · Continued discipline around working capital
- Vedanta Limited and Cairn India merger approved by all sets of shareholders
- Achieving Zero harm: reduce fatal, environment and social incidents
- To obtain local consent prior to accessing resources
- Resource Efficiency Improvement Water, Energy, Waste and Carbon
- Community need based development projects
  - Disciplined approach to exploration
- Continue to enhance our exploration capabilities: Dedicated exploration cell formed

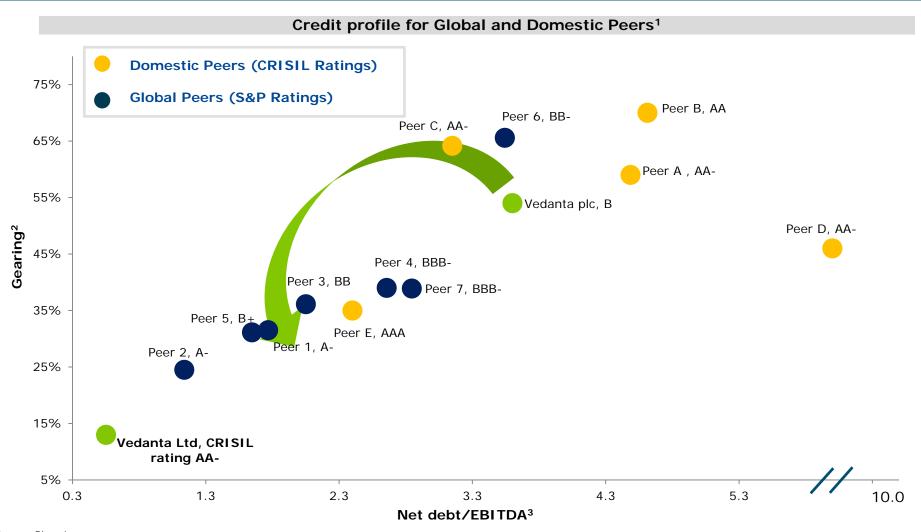




**Financial Update** 

# Vedanta has a Strong Balance Sheet





Source: Bloomberg

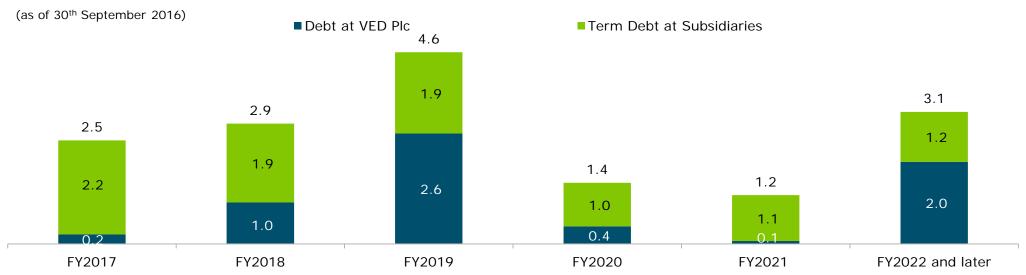
Note 1. International Peer companies include BHP, Rio, Anglo American, Glencore, Teck, Freeport, Vale. Long term corporate family Credit rating as assigned by S&P, Domestic Peer companies Hindalco, Tata Steel, JSW Steel, SAIL and RIL. Credit rating as assigned by CRISIL, ICRA or CARE rating

- 2. Gearing is calculated as Net debt divided by the sum of Net debt and Equity. These are based on reported numbers
- 3. Leverage is Net debt as latest reported net debt, while EBITDA is CY 2017 consensus estimate

# **Strong Financial Profile**







### **Vedanta plc Maturities:**

- \$0.4bn of intercompany loan to be repaid by Vedanta Limited in H2 FY2017
- \$1bn of FY2018 debt maturities comprises banks loans due in the second half; to be repaid or refinanced
- Continue to evaluate options to optimise balance sheet, extend maturity profile and reduce financing costs
- Positive credit rating movements:
  - Moody's upgraded issuer rating from B2 to B1
  - S&P changed outlook from Stable to Positive

# FY2017 Vedanta Ltd Maturities (combination of short term debt and term debt):

- Access to diversified sources of funds: c.\$0.23bn debt refinanced at reduced cost and for longer tenor through INR NCD's in Sept and Oct.
- Focus on deleveraging the balance sheet during the year through internal accruals and working capital release
- Vedanta Ltd has strong credit rating of AA- with Stable outlook from CRISIL, a subsidiary of S&P

Cash and liquid investments of \$8.2bn and undrawn committed lines of \$0.5bn as of 30 Sept 2016

Numbers may not foot due to rounding

1. Debt numbers shown at face value and exclude one-year rolling working capital facilities of \$0.6bn and short term borrowing of \$0.3bn at HZL due in FY2017

# Financial Priorities leading to a stronger Balance Sheet



Disciplined Capital Allocation: Optimising capex, focus on FCF

- Ramp-ups at Aluminium, Power and Iron ore to generate significant cash flows
- Continued optimization of Opex and Capex

Deleveraging; Strong Liquidity Focus

- Continued focus on reduction in debt
- Strong Liquidity Focus: Cash and Liquid Investments of c.\$8.2bn and undrawn committed facilities of \$0.5bn
- Recent upgrades from the credit rating agencies
- Debt being refinanced at longer maturities and lower interest cost

**Cost Savings** 

- Delivering on savings program
- Cost in 1<sup>st</sup>/2<sup>nd</sup> quartile of cost curve across all businesses

Long Term
Shareholder Value

- Group Simplification: Vedanta Ltd Cairn India merger to complete in Q1 CY 2017
- Vedanta Limited expected to announce its dividend policy this fiscal year, following completion of merger with Cairn India

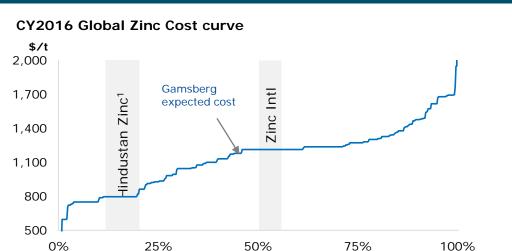




**Business Update** 

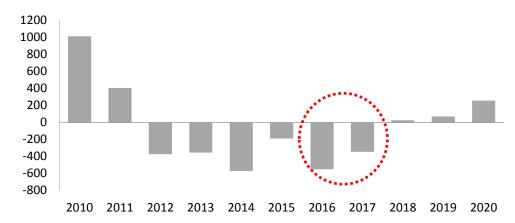
# Zinc: Fundamentals supporting performance





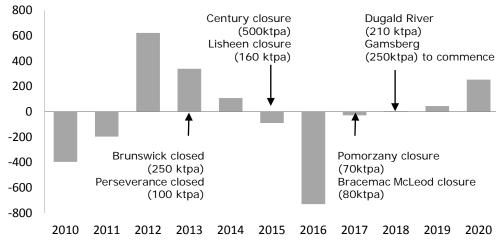
### Source: Wood Mackenzie 1. Hindustan Zinc cash cost is pre silver credit

### Global Refined Zinc in deficit (kt)



Source: Wood Mackenzie LTO Q4 2016

#### Global Zinc concentrate deficit supporting zinc prices (kt)



Source: Wood Mackenzie LTO Q4 2016

#### Refined Zinc inventory (mt) at 6 year low



Source: Bloomberg

# Zinc India: Well-positioned to reap benefits of strong fundamentals



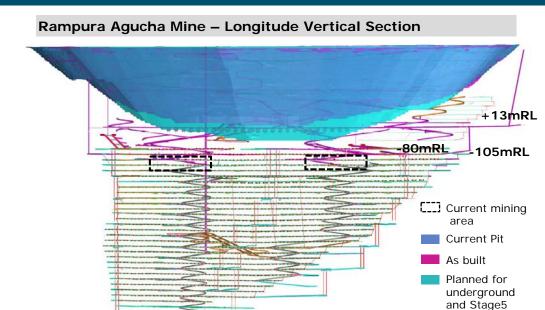
### **Projects**

- RAM open pit Stage V: Limiting incremental pit depth to 30 mtrs vs. earlier plan of 50 mtrs, to mitigate pit wall challenges and significantly reduce waste-ore ratio
  - Ore production is now being accelerated to complete by March 2018
- SK mine: On track to expand mine from 3.75mtpa to 4.5mtpa; head gear erection of main shaft commenced and development work is progressing well

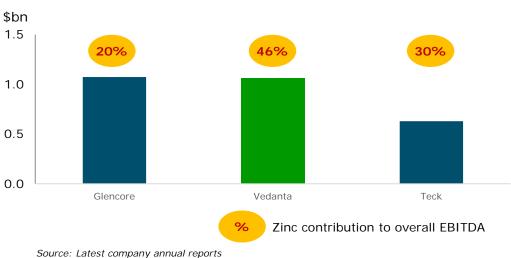
#### Outlook

- FY2017 mined metal production to be higher than previous year
- H2 to be substantially higher than H1; within H1, Q2 to be materially higher
- Zinc CoP for FY2017 to remain stable compared to last year

#### 2015A top 10 zinc producers globally 12% Zinc India 10% Reserves Zn grade 8% 6% 4% 2% Size of the bubbles indicates zinc reserve 0% Okt 300kt 600kt 1,200kt 1,500kt 900kt Zinc production (CY15) Source: Wood Mackenzie



#### Zinc EBITDA and contribution to overall EBITDA of diversifieds



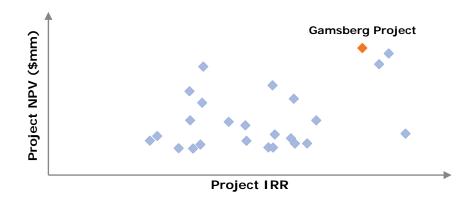
# Zinc International: First ore production in mid CY 2018 at Gamsberg



#### **Gamsberg Project update**

- Large, low-cost project with long mine life
  - Targeting zinc production of 250ktpa in Phase-1
  - Significant potential for further expansion at the Gamsberg North deposit
- Mining and milling capex reduced by \$200mn to c.\$400mn, mainly on engineering improvements and renegotiations
  - Significant boost to project returns
- Pre-stripping progressing in line with plan with 8mt of waste excavated
  - First ore production targeted by mid 2018 with 9-12 month rampup to full production
- Fundamentals of the zinc markets continue to be strong and supportive of the project

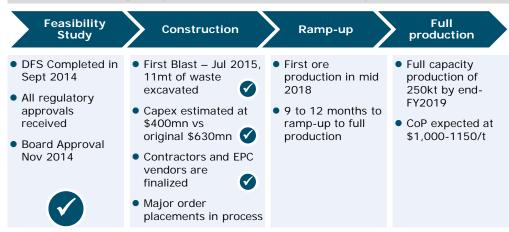
#### Gamsberg is a large, high return project...



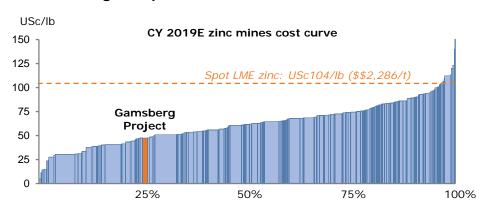
Source: Wood Mackenzie as of June 2016; zinc/lead projects with an NPV > \$400m (10% WACC)

#### **Project timeline**

250kt Gamsberg Project: First ore production by mid-CY2018



#### ...with strong cost position on the cost curve



Source: Wood Mackenzie as of August 2016; C1 composite cost curve

### Oil & Gas



#### **H1 Results**

- Mangala EOR, world's largest polymer program
  - H1 average EOR production at 47 kboepd (Q2 at 52 kboepd)
  - Rajasthan production stable at 168 kboepd in Q2
- RJ water-flood cost at \$4.2/boe in H1; \$3.9/boe in Q2, lowest in the last ten quarters

#### RDG Gas: Phased ramp-up

- Phase-1: 8 new wells brought online, post completion of the 15-well hydro-frac campaign
  - Q2 production of 33 mmscfd
  - 40-45 mmscfd by H1 CY2017
- Phase-2: Tendering for new gas processing terminal and rig underway
  - Gas production of 100 mmscfd and condensate production of 5kboed by H1 CY2019

### Progress on key oil projects

- Improved economics of Bhagyam and Aishwairya EOR
  - Aishwariya EOR: Total cost reduced by c.21%; FDP for 15 mmbbls to be submitted
  - Bhagyam EOR: Total cost reduced by c.17%; revised FDP for 45 mmbbls to be submitted to JV partner in H1 CY 2017
- Aishwarya Barmer Hill: 15-20% reduction in capex of \$300mn for 30 mmbbls, production from Phase-1 expected by the end of current fiscal year

#### Outlook

- Rajasthan FY2017 production expected broadly at FY2016 level
- Maintenance shutdown at MPT in Q3 FY2017
- FY2017 net capex of \$100mn (80% Development, 20% Exploration)
- FY2018 net capex estimated at \$100m with optionality of additional \$150mn for key projects



Rajasthan: Barmer Hill Drilling Activity



Rajasthan: Mangala Processing Terminal

### **Aluminium**

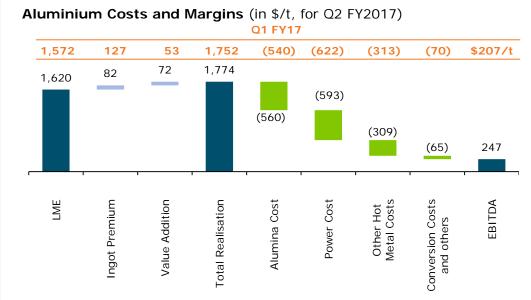


### Smelters continue to ramp-up, partially impacted by pot outages

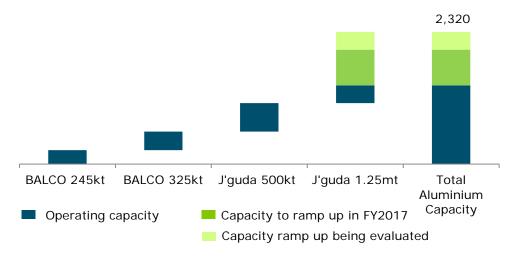
- Record half yearly production at 541kt
- Ramp-ups impacted by pot outages
  - Jharsuguda-II: 168 pots impacted, 26 pots re-started and balance being rectified
  - BALCO-II: 167 pots impacted, expected to restart by Q4
- Jharsuguda 1,800MW sales lower due to weak power market
- Lanjigarh refinery: 2nd stream commenced in Q1; H1 alumina production of 567kt
- Aluminium CoP at \$1,473 (\$1,462 in Q2), lower y-o-y due to lower alumina and coal costs, offset by Clean Energy cess and electricity duty
- MJP Ingot premium remained low in H1 at \$86; lower production of value added products

#### Outlook

- FY2017 production of c. 1.1mn tonnes (excl. trial run)
  - Exit run rate of 1.1mtpa in end-Sept 2016
  - 1.25mt Jharsuguda smelter (4x313kt): 2nd line ramp-up in progress; 3rd line ramp-up to commence in November; 4th line under evaluation
  - Lanjigarh refinery to progressively ramp-up to produce 1.4mt;
     exit run rate of 1.2mtpa in end-Sept 2016
- CoP estimated at below \$1,400 for H2 FY2017
  - Lanjigarh: Alumina CoP estimated at \$250/t for H2 FY2017
  - Power cost: Higher domestic coal availability provides flexibility on sourcing coal
- Working with the State Government on allocation of bauxite and commencement of laterite mining



### Roadmap to 2.3mtpa Aluminium Capacity



## Copper - Zambia



#### **Results**

- Integrated production in H1 FY2017 was lower as Nchanga underground operations (NUG) under care & maintenance
- TLP production lower by 3% due to lower feed from current tails
- Custom production at 36 kt in H1 FY2017, higher by 22%
- Planned biennial smelter shutdown taken, smelter has restarted in November. Throughput expected to improve to above 80tph

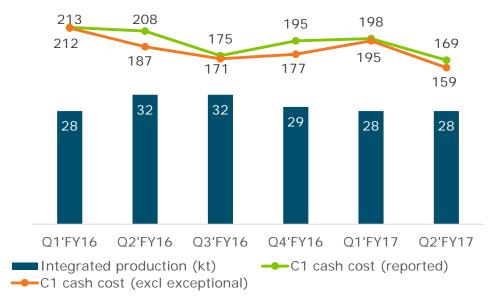
#### Cost and operational initiatives driving turnaround

- C1 cost at USc 177/lb before exceptional items in H1 FY2017 vs. USc 199/lb in H1 FY2016
- Continuous effort on cost saving initiatives yielding results
  - Fuel, chemicals and repair & maintenance costs reduced by 26%
  - Power usage reduced by 4-5%, targeting 10%
- Productivity improvement through mobile fleet availability continues to be a focus area
- Working on additional dewatering initiatives to improve long term production from Konkola to reach next level of resources below 950mtrs

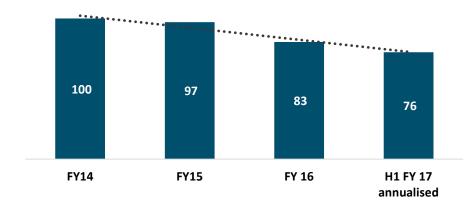
#### Harnessing Technology and Innovation

- Elevated temperature leaching for recovery improvement Currently under stabilisation stage. Positioned to improve post conclusion of smelter shutdown
- Heap Leaching Trials underway
- Refinery boiler project to reduce energy consumption by end Q3

#### Integrated volumes and C1 cash costs<sup>1</sup>



### Operational spend base<sup>2</sup>



<sup>1.</sup> Exceptional items primarily include Kwacha impact on VAT receivables & provisioning for higher power cost

<sup>2.</sup> Indexed. FY2014=100

# Copper - Zambia (contd.)



### **Regulatory Update**

- Mineral Royalty Tax linked to copper LME prices has been passed in the parliament and is now effective from 1 June 2016
- Power situation is challenging but improving
  - Government revised the tariff upwards by 29% for 70% of our power consumption in Jan 2016
  - Copperbelt Energy Corporation continues to import and provide remaining 30% power at 87% higher tariff
  - Water levels at Kariba dam currently at 22% vs. 15% last year
  - Engagement with CEC and government continues
  - Working on initiatives to reduce power consumption
- VAT refunds: KCM has complied with the ZRA requirements; engaging with government on past receivables

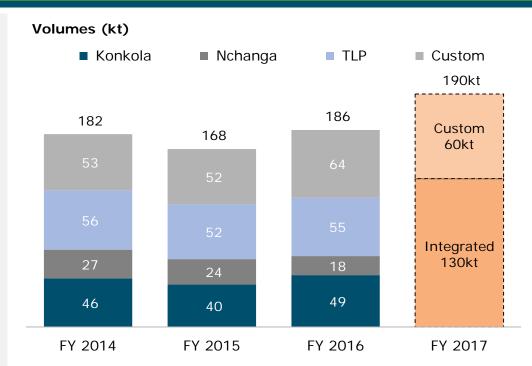
#### Outlook

- Vision of 50 years of mining at world-class asset
  - Turnaround well underway, work still to be done
- FY2017 expected volume and cost

Integrated production: 130ktCustom Production: 60kt

Integrated C1 cost: 150-170c/lb

- Focus areas
  - Konkola turnaround
  - Maximise custom smelting production
  - Stock piled refractory ores
  - Exploring means for mining Nchanga underground profitably



### **Power**



#### **Results**

- TSPL
  - Unit-III achieved COD in August and capitalized on 1st September
  - Plant availability of 77% in Q2 and 75% in H1
- BALCO 600MW IPP: 59% PLF in H1, impacted by weak power market

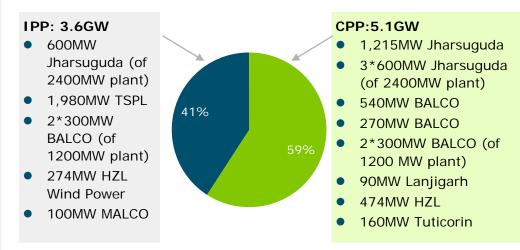
#### Outlook

- TSPL: Targeting availability of 80% in H2
- Jharsuguda 2400MW:
  - 1,800 MW moved to Aluminium segment from 1 April: surplus power will continue to be sold externally until fully utilized by Jharsuguda-II smelter
  - 600 MW unit continues to be in Power segment, PLF of 50% in Q2 (74% in Q1), lower due to evacuation constraints
- MALCO PLF remained low for the quarter due to lower demand

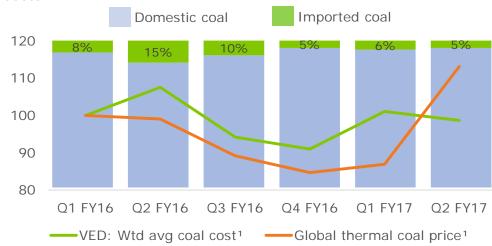
#### Coal outlook

- FY2017 coal requirement of 36mt for 9,000 MW power portfolio
- Higher production by Coal India has reduced reliance on imports
- Auctions of coal linkages in Q2
  - Secured coal linkages of 6mtpa for captive power plants through auctions
- Coal India offering forward auctions and special auctions for CPP's and IPP's and spot auctions for all consumers

#### Power Generation Capacity - c. 9GW



# Increased availability of domestic coal has enabled lower coal costs



Note: Above data is for CPP's and IPP's at Jharsuguda and BALCO 1. Indexed to 100

## **Iron Ore and Copper India**



#### **Iron Ore**

- Sales of 3.4mt in H1; mining and shipping at Goa resumed post monsoon at end of Q2
- Goa operations achieved over 40% of annual allocated mining capacity in Q1
- Karnataka sales of 1mt in H1
- Engaging with the respective state Government for higher volumes
- Maintained low cost of operations
- Pig iron: Strong production of 372kt, 16% higher y-o-y
  - Margins lower due to market prices

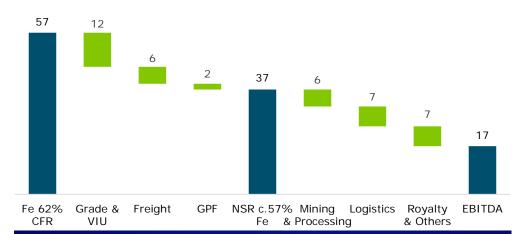
#### Outlook

 Goa and Karnataka production expected at 5.5mt and 2.3mt respectively in FY2017, further mining allocation being pursued

#### Copper India

- Higher production in H1: Production impacted by outage for 10 days in Q2 due to boiler leakage at smelter
- Acid prices lower
- FY2017 expected production at 400kt
- Tuticorin Power Plant:
  - PLF remained low due to weak offtake
  - Compensated at the rate of 20% of the realization for off-take below 85% of contracted quantity

### Goa iron ore costs and margin (H1 FY2017, \$/t)





**Tuticorin smelter** 





**Appendix** 

# **Vedanta Ltd.– Cairn India merger: Transaction timetable**



Key Event	Expected date
BSE, NSE and SEBI approvals sought	Completed
BSE, NSE and SEBI approvals	Completed
Application to High Court in India	Completed
Vedanta plc posting of UK Circular	Completed
Vedanta plc EGM	Completed
Vedanta Limited shareholder meeting	Completed
Cairn India Limited shareholder meeting	Completed
Reserve Bank of India approval	Q4 CY 2016
High Court approval	Q1 CY 2017
MoPNG approval	Q1 CY 2017
Transaction completion	Q1 CY 2017

# **Segment-wise summary**



Oil & Gas	H1 FY2016	H1 FY2017
Average Daily Gross Operated		
Production (boepd)	207,538	196,629
Rajasthan	170,164	167,323
Ravva	27,303	19,228
Cambay	10,071	10,078
Average Daily Working Interest		
Production (boepd)	129,286	125,484
Rajasthan	119,115	117,126
Ravva	6,143	4,326
Cambay	4,028	4,031
Average Brent (\$/bbl)	56	46
Average realizations Oil & gas (\$/boe)	50	40
EBITDA (\$mn)	374	274

Zinc-India	H1 FY2016	H1 FY2017
Mined Metal (kt)	472	318
Refined Zinc – Integrated (kt)	398	250
Refined Lead – Integrated (kt) <sup>1</sup>	67	55
Saleable Silver – Integrated (moz)	5.92	6.29
Average Zinc LME (\$/t)	2,013	2,089
Zinc CoP <sup>2</sup> (\$/t)	788	852
EBITDA (\$mn)	582	456

<sup>1.</sup> Excludes captive consumption of 1,921 tonnes in H1 FY2017 vs 3,697 tonnes in H1 FY2016

Excluding royalty. Revenues from silver not credited to CoP. With IFRIC adjustment. Without IFRIC adjustment, the COP was \$787 /t in H12016 and \$1013/t in H12017

Zinc-International	H1 FY2016	H1 FY2017
Mined Metal – Lisheen (kt)	60	0
Mined Metal -BMM (kt)	31	35
Refined Zinc – Skorpion (kt)	42	47
Total Zinc-Lead Metal (kt)	133	82
CoP (\$/t)	1,439	1,331
EBITDA (\$mn)	57	88

# Segment-wise summary (contd.)



Copper-Zambia	H1 FY2016	H1 FY2017
Mined Metal (kt)	62	58
Finished Metal – Total (kt)	90	92
Integrated (kt)	60	55
Custom Smelting (kt)	30	36
Copper LME (\$/t)	5,639	4,751
C1 Cash Cost – Integrated <sup>1</sup> (USc/lb)	210	184
Total Cash Cost- Integrated <sup>2</sup> (USc/lb)	274	240
EBITDA (\$mn)	(24)	17
PAT (\$mn)	(312)3	(59)

<sup>1.</sup> C1 cash cost, excludes royalty, logistics, depreciation, interest, sustaining capex

Copper-India/Australia	H1 FY2016	H1 FY2017	
Mined Metal – Australia (kt)			
Copper Cathodes- India (kt)	193	198	
Tuticorin Power Plant (mu)	293	90	
Average Copper LME (\$/t)	5,639	4,751	
Copper Tc/Rc	24.1	21.7	
Conversion cost – India (c/lb)	2.4	5.6	
EBITDA (\$mn)	170	126	

Aluminium	H1 FY2016	H1 FY2017
Aluminium Production (kt)	464	541
Jharsuguda I - 500kt	262	261
Jharsuguda II - 1,250kt¹	38	77
Korba-I 245kt	127	126
Korba-II 325kt²	37	77
Aluminium LME (\$/t)	1,675	1,596
Aluminium COP (\$/t)	1,639	1,473
BALCO	1,722	1,541
Jharsuguda-I	1,598	1,435
Alumina Production (kt)	541	567
Alumina COP (\$/t)	331	276
EBITDA (\$mn)	22	102

<sup>1.</sup> Includes trial run production of 29kt in H1 FY2017 vs 38kt in H1 FY2016

Total Cash Cost includes C1 cash cost, royalty, interest and sustaining capex
 Includes special items of \$(174)mn in H1FY2016

<sup>2.</sup> Includes trial run production of 28kt in H1 FY2017

# Segment-wise summary (contd.)



### **Power**

	H1 FY2016	H1 FY2017
Power Sales (million units)	5,789	6,039
Jharsuguda 2,400MW	3,820	1,497
BALCO 270MW	128	-
BALCO 600MW	158	1,156
MALCO	320	115
Talwandi Sabo	1,077	2,951
HZL Wind Power	286	320
Power - Realisation (Rs./unit) <sup>1</sup>	3.1	2.9
Power - Cost of generation (Rs./unit) <sup>1</sup>	2.2	2.0
Talwandi Sabo – Realisation (Rs./unit) <sup>2</sup>	3.1	3.5
Talwandi Sabo – Cost of generation (Rs./unit) <sup>2</sup>	2.3	2.5
EBITDA (\$mn)	93	108

### Iron Ore and Pig Iron

	H1 FY2016	H1 FY2017
Sales (mt)	1.2	3.4
Goa	-	2.4
Karnataka	1.2	1.0
Production	1.0	4.7
Goa	0.0	2.9
Karnataka	1.0	1.7
Average Net Sales Realizations (\$/t)	18.2	29.3
Pig iron - Production (kt)	320	372
EBITDA (\$mn)	7	72

<sup>1.</sup> Excludes Talwandi Sabo

<sup>2.</sup> Based on availability, generation would have been 4,364mu for H1 FY2017 and 1,911mu for H1 FY2016

# **Entity Wise Cash and Debt**



### Net Debt Summary (\$mn)

		30 Sept 2015		31 Mar 2016			30 Sep 2016		
Company	Debt	Cash & LI	Net Debt	Debt	Cash & LI	Net Debt	Debt	Cash & LI	Net Debt
Vedanta plc <sup>1</sup>	8,053	17	8,036	7,364	30	7,334	6,145	19	6,126
КСМ	728	38	690	659	33	626	642	1	641
Vedanta Ltd. Standalone	4,422	334	4,088	4,982	203	4,779	6,147	315	5,832
Zinc International	-	158	(158)	-	97	(97)	-	136	(136)
Zinc India	-	5,306	(5,306)	-	5,318	(5,318)	289	4,078	(3,789)
Cairn India	-	2,976	(2,976)	-	3,240	(3,240)	-	3,576	(3,576)
BALCO	769	12	757	770	2	768	828	3	825
Talwandi Sabo	1,032	30	1,002	1,094	6	1,088	1,147	8	1,139
Twin Star Mauritius Holdings Limited and Others <sup>2</sup>	1,447	46	1,401	1,394	7	1,387	1,135	31	1,104
Vedanta Ltd. Consolidated	7,670	8,862	(1,192)	8,240	8,873	(633)	9,546	8,147	1,399
Total (in \$mn)	16,451	8,917	7,536 <sup>3</sup>	16,263	8,937	7,3293	16,333	8,167	8,166

Debt numbers at Book Values. Since the table above shows only external debt, it excludes the inter-company loans
As on 30 Sept 2016 there was \$0.4bn receivable at Vedanta plc from TSMHL. This was \$2.6bn as of 30 Sep 2015 and \$1.9bn as of 31 March 2016

<sup>1.</sup> Includes Investment Companies

<sup>2.</sup> Others include: CMT, Fujairah Gold, MEL, VGCB, Sesa Resources Ltd, other Iron Ore companies, and Vedanta Ltd. Investment companies

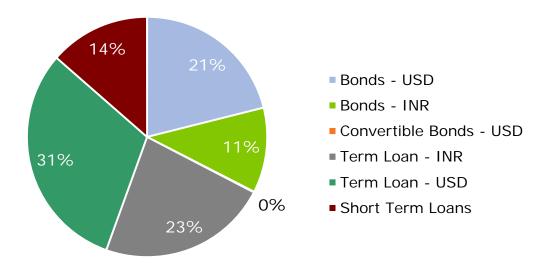
<sup>3.</sup> Includes \$2mn debt related derivative liability

### **Debt Profile**



### Diversified Funding Sources for Term Debt (\$15.6bn)

(as of 30 Sep 2016)



- 46% of the debt is fixed interest rate, 54% floating rate
- 52% of the debt is \$ denominated, 48% is INR-denominated

# **Inter-company Debt**



## **Debt Service Liability**

(in \$mn)

Vedanta Resources plc	31 Mar 2016	30 Sep 2016	H1 FY2017 Interest Cost
Gross External Debt	7,507	6,262	221
Intercompany Receivable at Plc from Vedanta Ltd	(1,867)	(389)	(28)
Debt Service Liability	5,640	5,873	193

Vedanta Ltd.	31 Mar 2016	30 Sep 2016	H1 FY2017 Interest Cost
Gross External Debt	8,279	9,586	390
Intercompany Payable to Vedanta plc	1,867	389	28
Intercompany Payable to Cairn India	1,250	1,250	30
Debt Service Liability	11,396	11,225	448

Cairn India Ltd.	31 Mar 2016	30 Sep 2016	H1 FY2017 Interest Cost
Intercompany Receivable at Cairn India from Vedanta Ltd	(1,250)	(1,250)	(30)

Note: Debt numbers at Face Values.

### **Credit Metrics**



	FY2016	LTM Sep'16	Covenant (Up to March 2017)
Net Debt/EBITDA	3.14x	3.58x	< 4.0x
EBITDA/Net Interest Expense <sup>1</sup>	3.86x	3.59x	> 2.5x
Net Assets/Debt	1.55x	1.50x	> 1.4x
Gearing <sup>2</sup>	52%	54%	
Gearing – pre-impairment <sup>2</sup>	33%	35%	

Several of our facilities have the covenants of Net Debt/EBITDA of <2.75x and EBITDA/Net Interest of >4.0x, as disclosed in previous periods. These have been waived by lenders until Sept 2016, and progressively revert to original levels by March 2019. The above table shows the strictest of the covenants.

<sup>1.</sup> Interest includes Capitalized Interest.

<sup>2.</sup> Gearing is calculated as Net Debt divided by the sum of Net Debt and Equity.

# **Currency and Commodity Sensitivities**



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### Foreign Currency - Impact of a 10% depreciation in FX Rate

Currency	H1 FY2017 Average FX rate	H1 FY2017 EBITDA (\$mn)	
INR/USD	66.9474	79.5	_

### Commodity prices – Impact of a 10% increase in Commodity Prices

Commodity	H1 FY2017 Average price	H1 FY2017 EBITDA (\$mn)		
Oil (\$/bbl)	46	36.4		
Zinc (\$/t)	2,089	62.1		
Aluminium (\$/t)	1,596	59		
Copper (\$/t)	4,751	28		
Lead (\$/t)	1,797	11.8		
Goa Iron ore (\$/dmt)	35	6.2		
Silver (\$/oz)	18	12.4		

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# **Project Capex**



Capex in Progress	Status	Capex (\$mn)	Spent up to March 2016	Spent in H1	Unspent as at 30 Sep 2016
Cairn India		1,378	1,278	21	79
Total Capex in Progress - Oil & Gas		1,378	1,278	21	79
Aluminium Sector					_
BALCO – Korba-II 325ktpa Smelter and 1200MW power plant(4x300MW) <sup>1</sup>	Smelter: 168 pots capitalized, further ramp up in progress Power – All 4 units operational	1,872	1,889	55	(72)
Jharsuguda 1.25mtpa smelter	168 pots capitalised, further ramp up in progress	2,920	2,568	110	242
Power Sector					_
Talwandi 1980MW IPP	All 3 units commissioned	2,150	2,054	63	33
Zinc Sector					
Zinc India (Mines Expansion)	Phase-wise by FY2019	1,500	790	105	605
Zinc International					
Gamsberg Mining Project	First production by mid 2018	400	21	12	367
Skorpion Pit Extension <sup>2</sup>	Commence in CY2017	120	-	-	120
Total Capex in Progress		10,340	8,600	366	1,446
Capex Flexibility					
Metals and Mining					
Lanjigarh Refinery (Phase II) – 4mtpa		1,570	812	8	750
Tuticorin Smelter 400ktpa	EC awaited	367	132	-	235
Skorpion Refinery	Currently deferred	156	11	-	145
Total Capex Flexibility		2,093	955	8	1,130

Cost overrun on account of changes in exchange rates. Total overrun expected to be \$120mn upto FY2018-19
 Current estimates, subject to final board approval

# **Group Structure**



