



# **Vedanta Resources Plc Standard Chartered South Asia Credit Conference**

**September 2016** 

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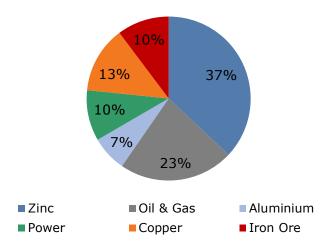
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## **Vedanta: A Global Diversified Natural Resources Group**

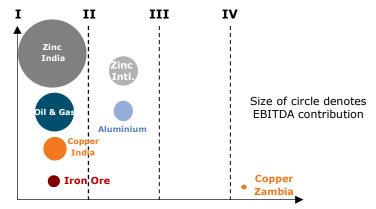


- Portfolio of large, structurally low-cost, long-life Tier-I assets, that delivered strong free cash flow
  - Significant ramp-up at Aluminium, Power and Iron ore progressing well with minimal incremental capex
  - Delivered consistent EBITDA margin of 28%¹ for Q1 FY2017 and FY2016
  - Delivered cumulative cost and marketing savings of c.US\$ 340mn over last five quarters; on course to deliver US\$1.3bn
  - Gross debt reduced by \$700mn in last 5 quarters to 30 June
     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

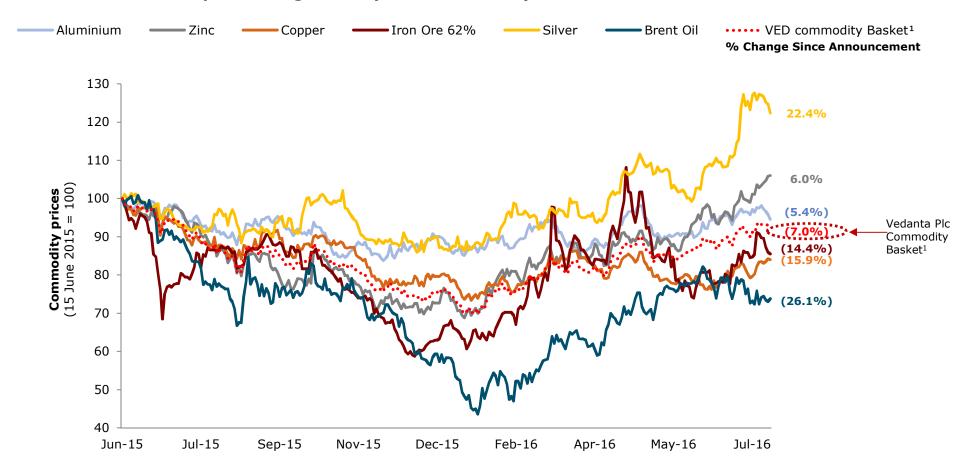


1 Excludes custom smelting

#### **Benefits of a Diversified Portfolio**



#### Vedanta's diversified portfolio significantly reduces volatility

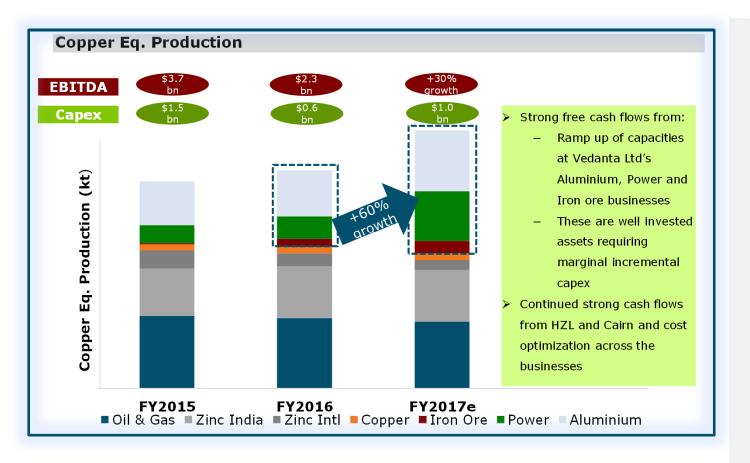


Source: Company filings, Bloomberg

<sup>1.</sup> Vedanta Commodity Basket is a weighted average of commodity prices, weights are based on actual FY2016 revenue mix. Copper India revenues based on realized Tc/Rc's.

## Continued Focus on Strong FCF Generation Through Disciplined Ramp-up vedanta





#### **Progress in FY2017**

- Ramp-up of BALCO-II smelter completed, rolled product facility re-started;
   Jharsuguda-II: 1<sup>st</sup> line ramp-up impacted by power outage, 3<sup>rd</sup> line start-up moved forward from Q4 to Q2
- Goa iron ore
   production scaled to
   40% of allocated
   capacity in Q1
- Ramp-up of power volumes at BALCO and TSPL; 3<sup>rd</sup> unit of TSPL to be capitalized in Q2
- On track to deliver significant EBITDA growth in FY2017

Ramp-up will generate higher free cash flow and enable de-leveraging

## **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

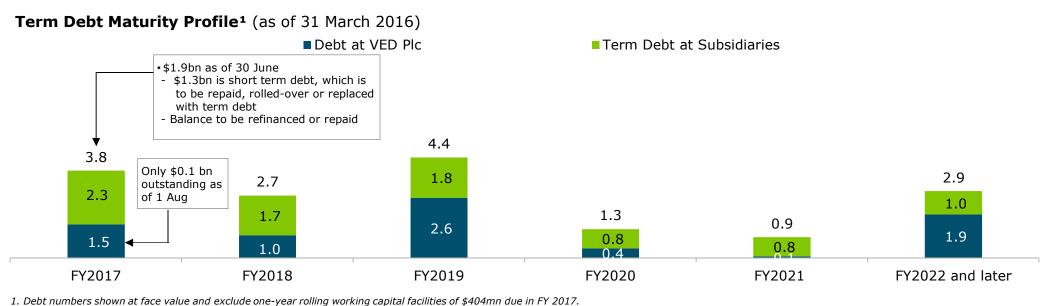
#### Focus Areas for FY 2017

- 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 Profile**

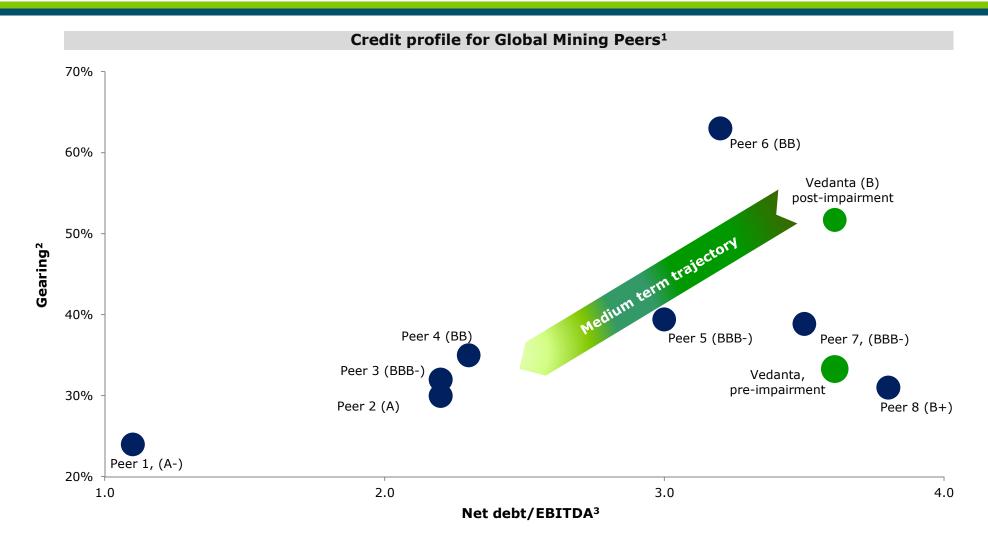


- Strong liquidity with cash of \$7.7bn, and undrawn committed facilities of \$1.1bn as of 30 June 2016
- FY2017 bond maturities at Vedanta Plc paid; focused on future maturities
- > HZL paid special dividend of \$1.8 billion in April
- Gross Debt reduced by \$700mn in last 5 quarters
- > Vedanta Limited- Cairn India merger provides greater financial flexibility and capital efficiency



## Production ramp ups to drive deleveraging and stronger credit metrics





Source: Bloomberg

Note 1. Peer companies include BHP, Rio, Anglo American, Glencore, Teck, Freeport, Vale and Alcoa. Long term corporate family Credit rating as assigned by S&P

- 2. Gearing is calculated as Net debt divided by the sum of Net debt and Equity. These are reported numbers for last year
- 3. Leverage is Net debt as latest reported net debt, while EBITDA is latest full year reported EBITDA





**Appendix** 

## Large, low cost and diversified asset base

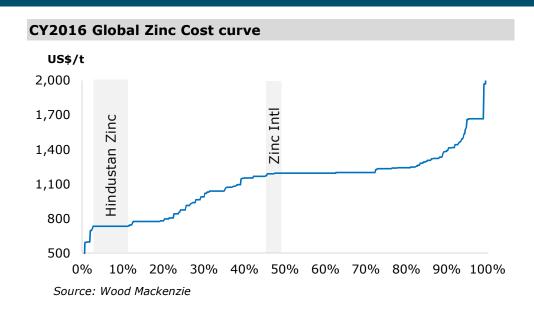


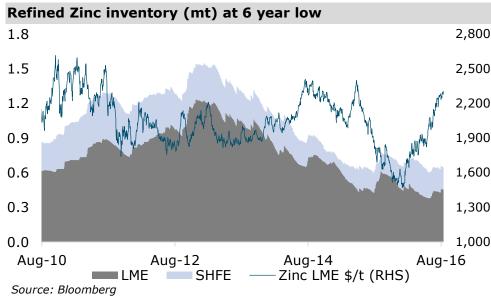
	FY2016					
	R&R Life (years)	Production	EBITDA (\$mn)	Key highlights		
		46.0		India's largest private-sector crude oil producer		
O&G Oil & Gas	15+	46.9 mmboe <sup>1</sup>	570	<ul> <li>Strong FCF generation even at low oil prices with opex of \$6.5/bbl</li> </ul>		
		Zn - 759kt <sup>2</sup>		<ul> <li>Positioned on the 1<sup>st</sup> decile of the cost curve</li> </ul>		
Zinc – India	25+	Ag - 14moz	995	<ul> <li>Rampura Agucha is the largest zinc-lead mine globally; significant production of silver from SK mine</li> </ul>		
		_		Gamsberg is one of the world's largest undeveloped zinc deposits		
Zinc Intl.	20+	226kt <sup>3</sup>	68	<ul> <li>Developing Gamsberg with a modular and flexible approach to maximise value</li> </ul>		
Cu Copper - India	NA	384kt	337	<ul> <li>One of the world's most efficient custom smelters, operating consistently above 90% utilisation rate</li> </ul>		
Sopper Linear		33		<ul> <li>Strongly positioned on the 1<sup>st</sup> quartile of the cost curve</li> </ul>		
	N/A	4471.4	(10)	One of the world's highest grade copper mines		
Cu Copper - Zambia	NA	117kt <sup>4</sup>	(18)	Ramp-up at Konkola mines to deliver higher volumes		
		_		Goa operation on 1 <sup>st</sup> quartile of the cost curve		
Fe Iron Ore	20+	5.2dmt <sup>5</sup>	73	<ul> <li>Largest iron ore exporter in India pre-ban, significant ramp-up in FY2017</li> </ul>		
Alini	NIA	923kt <sup>6</sup>	107	Significant ramp up of capacities in FY 2017		
Aluminium	NA	923Kt	107	Integrated capacity with captive power		
Pwr Power	NA	12,121MU <sup>7</sup>	196	<ul> <li>9,000 MW fully operational, of which 3,600 MW commercial power</li> </ul>		
				Poised to benefit from structural power shortage in India		

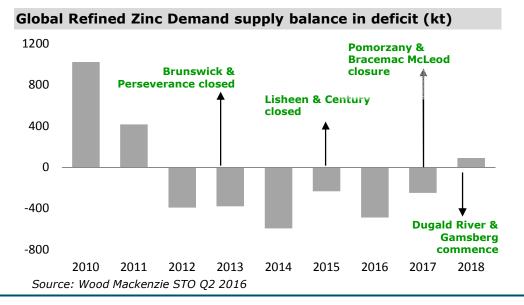
<sup>1.</sup> Vedanta Ltd working interest 2. Refined zinc total production (does not include 145kt refined lead) 3. Refined zinc from Skorpion (82kt) and mined metal from BMM and Lisheen (63kt and 81kt, respectively) 4. Integrated production 5. Production of saleable ore 6. Total aluminum production (does not include Lanjigarh 971kt of Alumina) 7. Total power sales

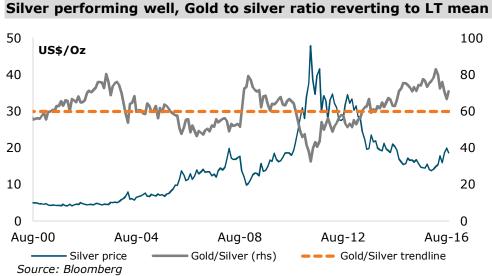
## Zinc and Silver: Fundamentals supporting performance











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



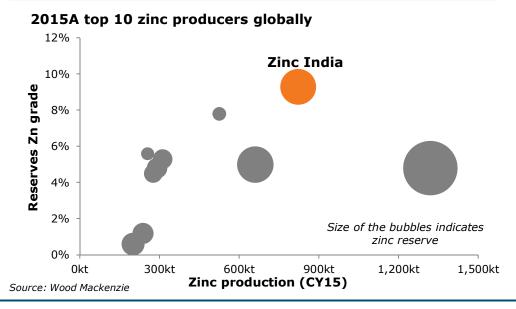
#### Zinc India

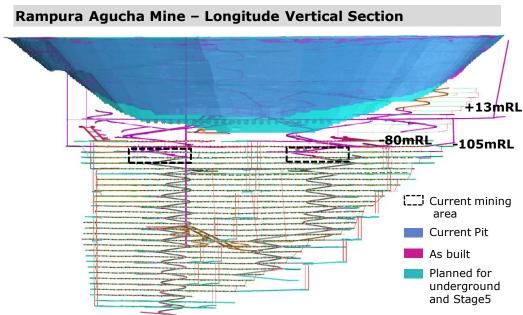
#### **Projects**

- RAM U/G main shaft crossed 900mtrs against the final depth of 950mtrs; winder erection work commenced during the quarter
- Extension of RAM open pit: Pre-stripping progressing as per plan
- SK mine: Off shaft development work continues to be ahead of schedule; further expanding mine from 3.75mtpa to 4.5mtpa
- Kayad mine: Project is nearing completion with capacity of 1mtpa

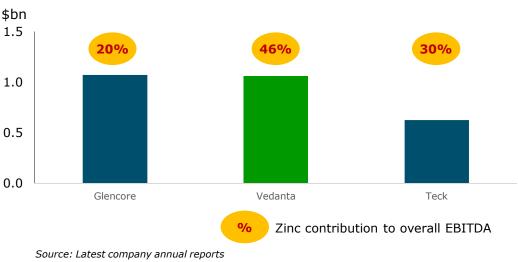
#### Outlook

- 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





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



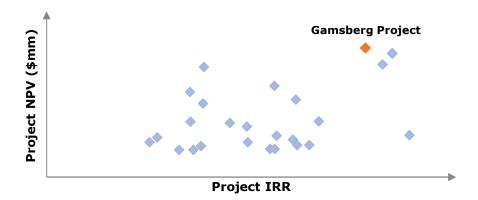
## Zinc International: First ore production in early CY 2018 at Gamsberg



#### **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 2018 with 9-12 month ramp-up to full production
- Fundamentals of the zinc markets continue to be strong and supportive of the project

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

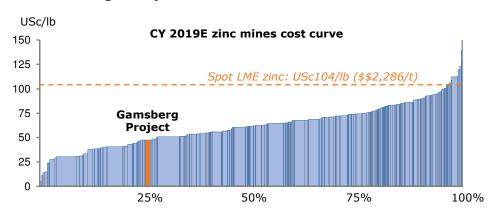


Source: Wood Mackenzie as of June 2016; zinc/lead projects with an NPV > \$400m (10% WACC)

#### **Project timeline**



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



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

## Oil & Gas: Low-cost producer with growth optionality



#### **Q1 FY2017 Results**

- Mangala EOR, world's largest polymer program yielding results
  - EOR production reached 42 kboepd, 31% higher q-o-q
  - Rajasthan production stable at 167 kboepd in Q1
- Rajasthan water flood opex further reduced to \$4.4/boe; blended cost at \$6.4/boe, better than earlier expectation of high single digits

#### RDG Gas: Phased ramp-up

- Phase-1: Successfully completed fraccing at 15 wells; 25% increase in estimated total recovery of gas till 2030
  - 40-45 mmscfd by H1 CY2017
- Phase-2: Tendering for new gas processing terminal and rig underway
  - 100 mmscfd by H1 CY2019

#### **Progress on key optionality projects**

- Improved economics of Bhagyam and Aishwairya EOR
  - Aishwariya EOR: Opex reduced by c.30%; FDP for 15 mmbbls to be submitted in current quarter
  - Bhagyam EOR: Reduced development and operating cost by c.25%; revised FDP for 45 mmbbls to be submitted to JV partner in H1 CY 2017
- Aishwarya Barmer Hill: Development in phases with total EUR of 20-30 mmbbls, production from Phase-1 expected in the current fiscal

#### **Outlook**

- Rajasthan FY2017 production expected broadly at FY2016 level
- Maintenance shutdown at MPT in Sept 2016
- FY2017 net capex of \$100m
  - 80% on Development including RDG and Mangala EOR projects
  - 20% on Exploration

Source: IEA, BP statistical review of world energy



Rajasthan: Crude Oil Processing Facility



**Rajasthan: Captive Power Plant - Steam Generation** 

## **Aluminium: Strong ramp-up underway**

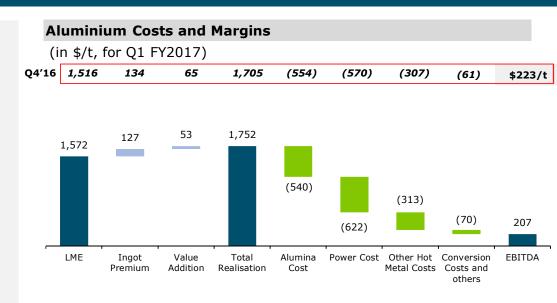


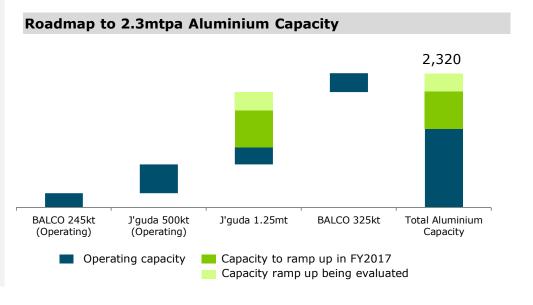
#### Q1 FY2017 Results

- Record quarterly production at 244kt
- Ramp-up at BALCO II 325kt smelter completed
- Jharsuguda-II: 1<sup>st</sup> line ramp-up impacted by a power outage in August; impact to be mitigated by start-up of 3<sup>rd</sup> line preponed from Q4 to September 2016
- Lanjigarh refinery: 2<sup>nd</sup> stream recommenced operations, alumina production of 1.4mt for FY 2017
- Aluminium CoP at \$1,476, marginally higher q-o-q due to high power cost
- Auction of coal linkages by Coal India in August 2016: Secured c.6mtpa at a competitive price for CPP's

#### Outlook

- Current production run-rate at 1.0mtpa, progressing to achieve full year production of 1.2mt
- CoP estimated at below \$1,400 for FY 2017
  - Lanjigarh: Alumina CoP estimated at \$250/t
  - Laterite mining to commence production in Q3 FY2017





## **Power: 9GW portfolio operational**



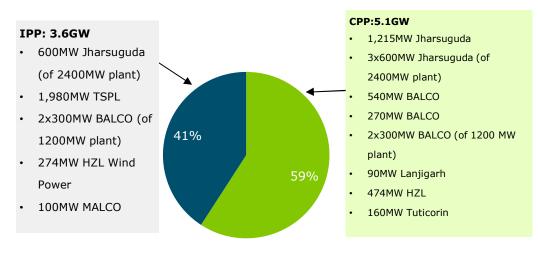
#### Q1 FY2017 Results

- 1980 MW TSPL: Unit-I and Unit-II operated at an availability of 72% in Q1
  - Unit-III put to commercial production in August and to be capitalised in Sept
- 600MW BALCO IPP: 2<sup>nd</sup> unit of 300MW capitalized in Q1

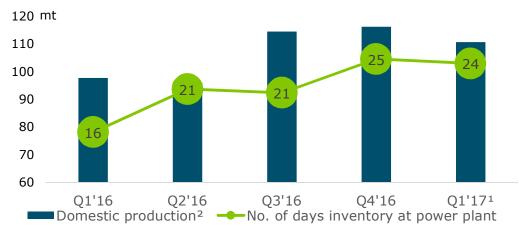
#### Outlook

- TSPL: Targeting availability of 80% post capitalization of all operating units
- 2400MW Jharsuguda plant: One unit will supply to Gridco, remaining 3 units will be utilized by smelter
- FY2017 coal requirement of 36mt for 9,000 MW power portfolio
- Higher production by Coal India has reduced reliance on imports
  - 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



#### Coal availability at power plants in India improving:



Source: Coal ministry

1. Q1 derived based on April and May actual numbers 2. Includes production from Coal India and Singrauli coal mine

## **Iron Ore and Copper: Strong cost positions**



#### Iron ore: Steady production at Goa

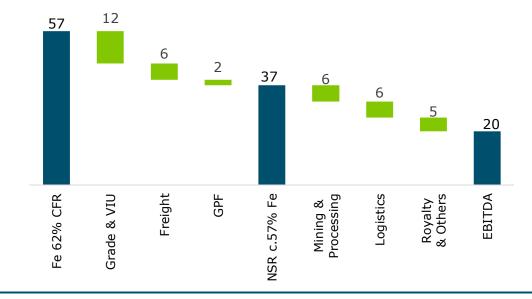
- Goa production ramped up in Q1, run rate of 0.8 mt per month
- Karnataka 0.8 mt production
- Engaging with the respective state Government for higher volumes
- Maintained low cost of operations
- Pig iron:
  - Strong production of 181kt, EBITDA contribution of Rs.47 crore

#### **Outlook**

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

#### respectively in FY2017, further mining allocation being pursued

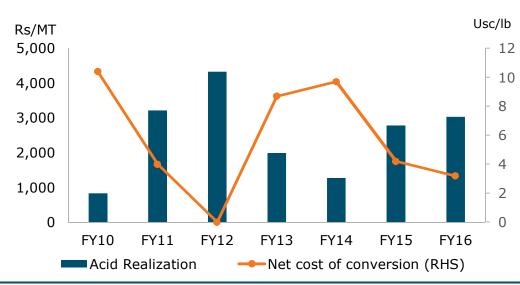
Goa iron ore costs and Margin (Q1 FY2017, US\$/t)



#### **Copper Cathodes:**

- Strong performance in Q1, spot Tc/Rc remains robust
- FY2017 expected production at 400kt
  - Planned maintenance shutdown for three days in Q2
- Tuticorin Power Plant:
  - PLF at 60% due to lower demand
  - Compensated at the rate of 20% of the realization for off-take below 85% of contracted quantity

#### Acid realization improves net cost of conversion



## **Copper – Zambia: Turnaround underway**



#### Q1 FY2017 Results

- Integrated production in line with guidance
- 23% increase in production at Konkola in FY2016
  - Shaft 1 & 4 rehabilitation completed in Q1 & Q4 FY2016 respectively
  - Equipment availability at Konkola has increased by 10% in Q1
- Loss-making Nchanga underground operations (NUG) were put under managed care & maintenance during Q3 FY2016
- TLP production increased by 5% in Q1

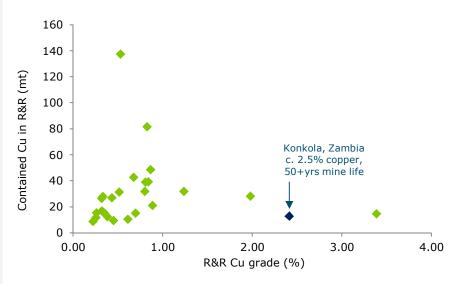
#### **Cost Reduction Initiatives driving turnaround**

- Continuous effort on cost saving initiatives yielding results
  - Fuel, chemicals and repair & maintenance costs reduced by 23% in FY2016
  - Power usage reduced by 6%, targeting 10% in FY2016
- Realized c.\$80mn savings in FY2016 compared to FY2015
- Dedicated team working on identified initiatives
- C1 cost at USc 195/lb before exceptional items in Q1FY2017 (reported C1 cost of USc 198/lb)

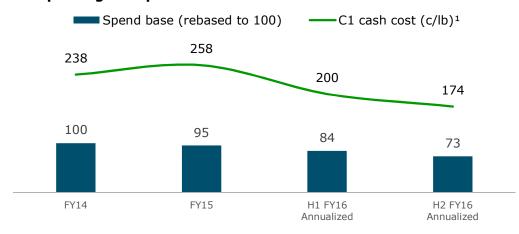
#### **Harnessing Technology and Innovation**

- Elevated temperature leaching for recovery improvement
- Heap Leaching Trials underway
- Refinery boiler project to reduce energy consumption

#### Top 25 producing copper mines by contained copper (mt)



#### Improving cost performance



<sup>1.</sup> Excluding exceptional items, primarily comprising Kwacha impact on VAT receivables and provisioning for higher power cost in H2

## **Copper - Zambia (contd.)**



#### **Regulatory Update**

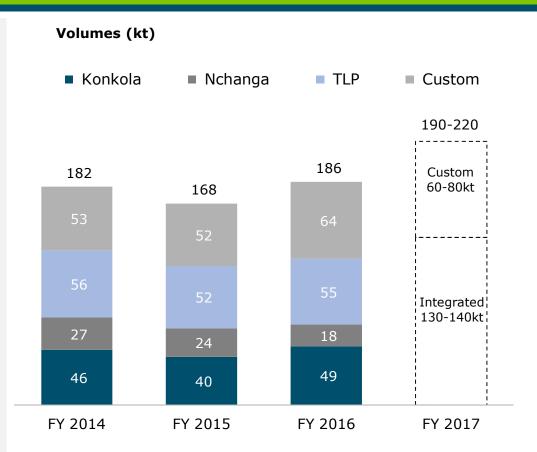
- Mineral Royalty Tax linked to copper LME prices formalised and effective from 1 June 2016
- Power crisis continues in Zambia
  - Government revised the tariff upwards by 29% for 70% power consumption in Jan 2016
  - Copperbelt Energy Corporation continues to import and provide remaining 30% power at 87% higher tariff
  - Water levels at Kariba dam improving
  - Engagement with CEC and government continues
  - New technical intervention to put oil-fired boilers as an alternate to power for electrolyte heating and ramping up refinery capacity
- 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
- FY 2017 expected volume and cost

Integrated production: 130-140kt
 Custom Production: 60-80kt
 Integrated C1 cost: 150-170c/lb

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



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



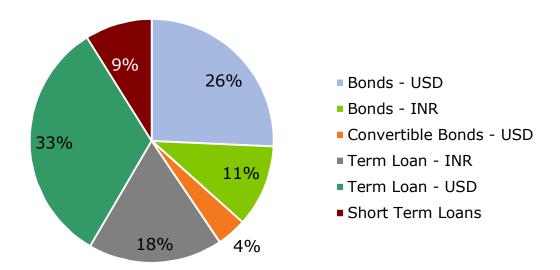
Key Event	Expected date
BSE, NSE and SEBI approvals sought	Completed
BSE, NSE and SEBI approvals	Completed
Application to High Court in India	Completed
Vedanta plc posting of UK Circular	Completed
Vedanta plc EGM	Completed
Vedanta Limited shareholder meeting	Completed
Cairn India Limited shareholder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

#### **Debt Profile**



#### **Diversified Funding Sources for Term Debt**

(as of 31 March 2016)



- 48% of the debt is fixed interest rate, 52% floating rate
- 63% of the debt is USD-denominated, 37% is INR-denominated

Note: Numbers based on face value of debt

## **Segment-wise summary**



Oil & Gas	FY2015	FY2016
Average Daily Gross Operated		
Production (boepd)	211,671	203,703
Rajasthan	175,144	169,609
Ravva	25,989	23,845
Cambay	10,538	10,249
Average Daily Working Interest		
Production (boepd)	132,663	128,191
Rajasthan	122,601	118,726
Ravva	5,847	5,365
Cambay	4,215	4,100
Average Brent (US\$/bbl)	85.4	47.5
Average realizations Oil & gas (US\$/boe)	76.0	40.9
EBITDA (\$mn)	1,477	570

Zinc-India	FY2015	FY2016
Mined Metal (kt)	887	889
Refined Zinc – Integrated (kt)	721	759
Refined Lead – Integrated (kt) <sup>1</sup>	105	140
Saleable Silver – Integrated (moz)	8.56	13.56
Average Zinc LME (\$/t)	2,177	1,829
Zinc CoP <sup>2</sup> (\$/t)	868	804
EBITDA (\$mn)	1,193	995

<sup>1.</sup> Excludes captive consumption

<sup>2.</sup> Excluding royalty. Revenues from silver not credited to CoP. With IFRIC adjustment. Without IFRIC adjustment, the COP was \$870/t in FY2015 and \$804/t in FY2016

Zinc-International	FY2015	FY2016
Mined Metal – Lisheen & BMM (kt)	209	144
Refined Zinc - Skorpion (kt)	102	82
Total Zinc-Lead Metal (kt)	312	226
CoP (\$/t)	1,393	1,431
EBITDA (\$mn)	181	68

## **Segment-wise summary (contd.)**



Copper-Zambia	FY 2015	FY 2016
Mined Metal (kt)	116	123
Finished Metal – Total (kt)	169	182
Integrated (kt)	117	117
Custom Smelting (kt)	52	64
Copper LME (\$/t)	6,558	5,211
C1 Cash Cost - Integrated¹ (USc/lb)	258	198
Total Cash Cost- Integrated <sup>2</sup> (USc/lb)	329	261
EBITDA (\$mn)	(4)	(18)
PAT (\$mn) <sup>3</sup>	(191)	(373)

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

<sup>3.</sup> Includes special items of \$(174)mn in FY2016 & \$61mn in FY2015

Copper-India/Australia	FY2015	FY2016
Mined Metal – Australia (kt)	-	-
Copper Cathodes- India (kt)	362	384
Tuticorin Power Plant (mu)	641	402
Average Copper LME (\$/t)	6,558	5,211
Copper Tc/Rc	21.4	24.1
Conversion cost – India (c/lb)	4.2	3.2
EBITDA (\$mn)	281	337

Aluminium	FY2015	FY2016
Aluminium Production (kt)	877	923
Jharsuguda I - 500kt	534	516
Jharsuguda II - 1,250kt¹	19	76
Korba-I 245kt	253	257
Korba-II 325kt²	71	75
Aluminium LME (\$/t)	1,890	1,590
Aluminium COP (\$/t)	1,755	1572
BALCO	1,961	1,659
Jharsuguda-I	1,630	1519
Alumina Production (kt)	977	971
Alumina COP (\$/t)	356	315
EBITDA (\$mn)	415	107

<sup>1.</sup> Includes trial run production of 51kt in FY2016 vs 19kt in FY 2015

<sup>2.</sup> Total Cash Cost includes C1 cash cost, royalty, interest and sustaining capex

<sup>2.</sup> Includes trial run production of 24kt in FY2015

## **Segment-wise summary (contd.)**



Power	FY2015	FY2016	Iron Or
Power Sales (million units)	9,859	12,121	Sales (m
Jharsuguda 2,400MW	7,206	7,319	Goa¹
BALCO 270MW	89	169	Karnat
BALCO 600MW	10	1,025	Producti
MALCO	897	402	Goa
Talwandi Sabo	1,213	2,792	Karnat
HZL Wind Power	444	414	Average
Power - Realisation (Rs./unit)¹	3.25	2.91	Pig iron
Power - Cost of generation (Rs./unit) <sup>1</sup>	2.14	2.15	Met coke
Talwandi Sabo – Realisation (Rs./unit)²	4.37	4.34	EBITDA
Talwandi Sabo – Cost of generation (Rs./unit) <sup>2</sup>	3.91	3.50	1. Includes - 0.6mt ii
EBITDA (\$mn)	154	196	- 0.8mt ii - 1.4mt ii

Iron Ore and Pig Iron	FY2015	FY2016
Sales (mt)	1.2	5.3
Goa¹	-	2.2
Karnataka	1.2	3.1
Production	0.6	5.2
Goa	-	2.2
Karnataka	0.6	3.0
Average Net Sales Realizations (\$/t)	28.0	20.6
Pig iron - Production (kt)	611	654
Met coke – Production (kt)	500	485
EBITDA (\$mn)	31	73

<sup>.</sup> Includes ore purchased from auction:

<sup>- 0.6</sup>mt in Q3FY2016

<sup>- 0.8</sup>mt in Q4FY2016, and

<sup>- 1.4</sup>mt in FY2016

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

<sup>2.</sup> Based on availability, generation would have been 1,897mu for FY2015 and 5,751mu for FY2016.

## **Entity Wise Cash and Debt**



#### **Net Debt Summary (\$mn)**

		31 Mar 2015			30 Sept 2015	5		31 Mar 2016	
Company	Debt	Cash & LI	Net Debt	Debt	Cash & LI	Net Debt	Debt	Cash & LI	Net Debt
Vedanta plc¹	7,707	34	7,673	8,053	17	8,036	7,364	30	7,334
КСМ	802	65	738	728	38	690	659	33	626
Vedanta Ltd. Standalone	4,574	135	4,439	4,422	334	4,088	4,982	203	4,779
Zinc International	-	137	(137)	-	158	(158)	-	97	(97)
Zinc India	-	4,937	(4,937)	-	5,306	(5,306)	-	5,318	(5,318)
Cairn India	-	2,857	(2,857)	-	2,976	(2,976)	-	3,240	(3,240)
BALCO	767	0	766	769	12	757	770	2	768
Talwandi Sabo	1,037	24	1,013	1,032	30	1,002	1,094	6	1,088
Twin Star Mauritius Holdings Limited and Others <sup>2</sup>	1,781	21	1,760	1,447	46	1,401	1,394	7	1,387
Vedanta Ltd. Consolidated	8,159	8,111	48	7,670	8,862	(1,192)	8,240	8,873	(633)
Total (in \$mn)	16,668	8,210	8,460	16,451	8,917	7,536	16,263	8,937	7,329³

#### Notes:

Debt numbers at Book Values. Since the table above shows only external debt, it excludes the inter-company loans. As on 31 March 2016 there was \$1.9bn receivable at Vedanta plc from TSMHL.

<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.

## **Inter-company Debt**



#### **Debt Service Liability**

(in \$mn)

Vedanta Resources plc	30 Sept 2015	31 Mar 2016	FY2016 Interest Cost
Gross External Debt	8,216	7,507	505
Intercompany Receivable at Plc from Vedanta Ltd	(2,611)	(1,867)	(177)
Debt Service Liability	5,605	5,640	328

Vedanta Ltd.	30 Sept 2015	31 Mar 2016	FY2016 Interest Cost
Gross External Debt	7,711	7,972	555
Intercompany Payable to Vedanta plc	2,611	1,867	177
Intercompany Payable to Cairn India	1,250	1,250	43
Debt Service Liability	11,572	11,089	775

Cairn India Ltd.	30 Sept 2015	31 Mar 2016	FY2016 Interest Cost
Intercompany Receivable at Cairn India from Vedanta Ltd	(1,250)	(1,250)	(43)

Note: Debt numbers at Face Values.

#### **Credit Metrics**



	FY2015	FY2016	Covenant (Up to March 2017)
Net Debt/EBITDA	2.27x	3.14x	< 4.0x
EBITDA/Net Interest Expense <sup>1</sup>	6.78x	3.86x	> 2.5x
Net Assets/Debt	1.91x	1.55x	> 1.4x
Gearing <sup>2</sup>	40.8%	51.7%	
Gearing – pre-impairment <sup>2</sup>	33.5%	33.3%	

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**



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

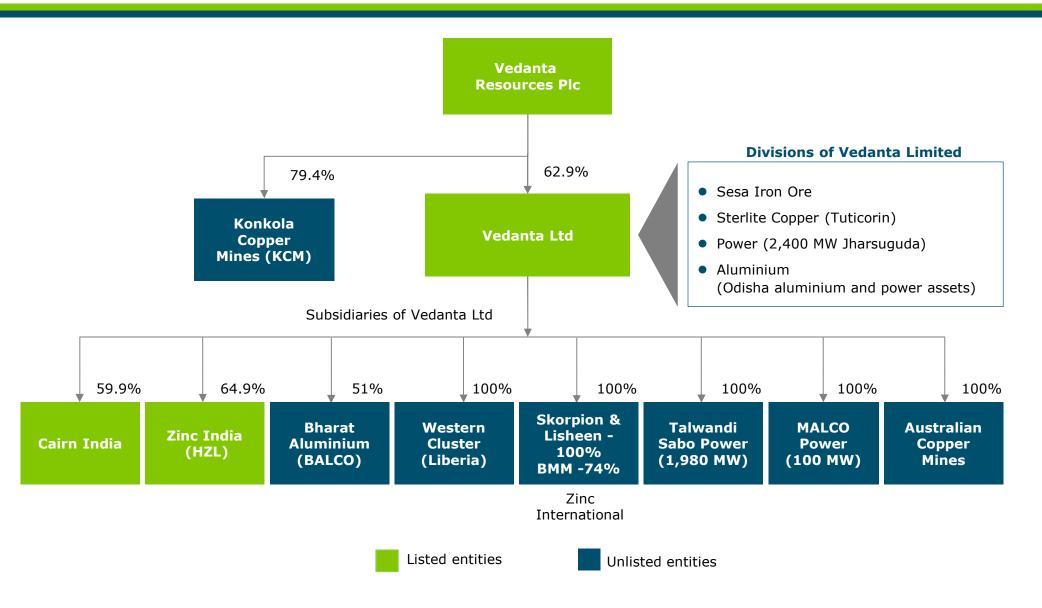
Currency	FY2016 Average FX rate	FY2016 EBITDA (\$mn)
INR/USD	65.4611	207.6

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

Commodity	FY2016 Average price	FY2016 EBITDA (\$mn)
Oil (\$/bbl)	47	96.2
Zinc (\$/t)	1,829	158.0
Aluminium (\$/t)	1,590	119.2
Copper (\$/t)	5,211	96.7
Lead (\$/t)	1,768	28.3
Iron ore (\$/dmt)	20.6	8.2
Silver (\$/oz)	15.22	21.8

## **Group Structure**





Note: Shareholding based on basic shares outstanding as on 31 March 2016