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24 December 2019

Vedanta Resources Limited (formerly Vedanta Resources Plc) Interim results for the six months ended 30 September 2019.

Financial highlights

- Revenue decreased by 5% to US$ 6.1 billion (H1 FY2019: US$ 6.5 billion), mainly driven by lower commodity prices, partially offset by additional volumes from commencement of Gamsberg operations and higher sales at Iron Ore Karnataka & Electrosteel
- EBITDA at US$ 1.4 billion, down 19% y-o-y (H1 FY2019: US$ 1.7 billion)
- Operating Profit before special items at US$ 0.7 billion, down 35% y-o-y (H1 FY2019: US$ 1.1 billion) mainly driven by lower commodity price environment and higher depreciation charge partially offset by higher volumes, softening of input commodity prices and favourable currency movement
- Adjusted EBITDA margin◊ of 26% (H1 FY2019: 30%)
- ROCE◊ at 9.4.% in H1 FY2020 (H1 FY2019: 13.8%)
- Impairment of assets at Avanstrate Inc c. US$ 72 million
- Profit after tax from continuing operation at US$ 310 million (H1 FY2019: US$ 58 million) primarily driven by deferred tax credit of US $ 331 million and higher investment income partially offset by lower EBITDA, higher depreciation charge.
- Pursuant to introduction of Section 115BAA in Indian Income Tax Act 1961, the Group has re-measured its deferred tax balances leading to a deferred tax credit of US$ 331 million. [For more information, refer note 3(a)(v) of financial statements]
- Profit after tax from discontinued operation at US$ 521 million (includes US$ 598 million gain on deconsolidation for KCM) pursuant to an ex-parte order received from the High Court of Zambia appointing a provisional liquidator (PL) for KCM w.e.f 21 May 2019 obtained by minority shareholder ZCCM [For more information, refer note 3(b)(iii) of financial statements]
- Free cash flow (FCF)◊ post-capex of US$ 814 million (H1 FY2019: US$ (125) million) driven by continued focus on cost savings, working capital initiatives including power debtor's realisation at TSPL, disciplined capex outflow and tax refunds
- Gross debt decreased to US$ 14.7 billion and net debt◊ to US$ 9.5 billion (FY2019: US$ 16.0 billion and US$ 10.3 billion), primarily due to the repayment of borrowings and free cash flow generated during the period
- Proactive management of average debt maturity, maintained at c. three years for the entire debt portfolio
- Strong liquidity position with cash and liquid investments of US$ 5.1 billion (H1 2019: US$ 5.5 billion)

Business highlights

Zinc India

- Ore Production at c. 7.0 million tonnes, up 6% y-o-y
- Mined metal production at 432kt, lower 3% y-o-y
- Refined metal production at 429kt, up 1% y-o-y
- Silver production at 9.4 million ounces, down 5% y-o-y

- Entering H2 with last phase of expansion projects getting completed enabling 1.2 mtpa capacity

Zinc International

- Total production at 123kt, higher on account of new production from Gamsberg operations and higher production from Skorpion
- Gamsberg production at 47kt, ramp up in progress

Oil & Gas

- Average gross production of 180kboepd, down 6% y-o-y owing to natural decline partially offset by volume driven by growth projects
- Rajasthan gas production stood at 85.7 mmscfd, up by 83% y-o-y
- 9 development drilling rigs; 166 wells drilled, and 63 wells hooked as at 30 September 2019 in Rajasthan
- Revenue sharing contract signed for 10 OALP blocks allotted under Round II and III
- Petroleum Exploration Licences (PEL) awarded for 22 blocks, under OALP 1

Aluminium

- Record alumina production from Lanjigarh refinery at 856 kt, up 27% y-o-y
- Aluminium production at 947 Kt, down 3% y-o-y
- Hot metal production cost stood at $ 1,810/t, down by 9% y-o-y
- OMC Bauxite meeting over 1/3rd of total bauxite requirement

Power

- The 1,980MW Talwandi Sabo power plant achieved 93% availability in H1 FY2020.
- The 600MW Jharsuguda IPP operated at a lower plant load factor (PLF) of 3% in H1 FY2020 (H1 FY2019: 0%).
- The 300MW BALCO IPP operated at a higher PLF of 72% in H1 FY2020 (H1 FY2019: 51%)

Iron Ore

- Iron ore sales at 2.6 million tonnes in H1 FY2020, up 48% y-o-y with highest ever quarterly sales in Q2 FY2020
- Continuously engaging with State and Central governments for the resumption of mining in Goa
- Acquired Metcoke plant of 120ktpa capacity for increasing footprints in Metcoke market.

Steel

- Hot metal production 645kt, up 15% y-o-y

Copper India

- Due legal process being followed to achieve a sustainable restart of operations

Copper Zambia

- KCM business treated as discontinued operations with effect from 21 May 2019

Health, Safety & Environment

- We are deeply saddened by the loss of four lives at our businesses during H1 FY2020. In order to mitigate the risk, company has doubled the efforts on monitoring of our safety culture and have taken various initiatives for HSE across businesses
- Zinc India ranked 1st globally in Asia Pacific for environment reporting and human capital development aspects.
- Raageshwari Gas Terminal, CB/OS-2, Radhanpur, Viramgam and Bhogat Terminals, our Oil & Gas business certified in '5S' category from Quality Circle Forum of India (QCFI).
- Our flagship CSR initiative, 'Project Nand Ghar' on track with 1,038 Nand Ghars built so far and 536 under construction in FY2020; help support 41,000 children and 31,000 women.

Consolidated Group results

(US$ million, unless stated)

	Six months to 30 September 2019	Six months to 30 September 2018	% change	Year ended 31 March 2019
Revenue[1]	6,132	6,477	(5%)	13,006
EBITDA[1]◊	1,395	1,730	(19%)	3,456
EBITDA margin◊	23%	27%	-	27%
Adjusted EBITDA margin [2]◊	26%	30%	-	30%
Operating profit before special items[1]	684	1,051	(35%)	2,076
Profit/(loss) attributable to equity holders of the parent	503	(327)	-	(237)
Underlying attributable profit/(loss)◊	(9)	(126)	-	38
ROCE %◊	9.4%	13.8%	-	9.6%

1. Excludes Copper Zambia as its operations have been discontinued & deconsolidated in books w.e.f. 21 May 2019

2. Excludes custom smelting at Copper India, and Zinc India Operations.

3. Previous period figures have been regrouped or re-arranged wherever necessary to conform to current period's presentation except ROCE

Vedanta Resources Limited will host its interim results call on Tuesday, 31 December 2019 at 2:00 PM IST (8:30 AM UK). In order to participate in the call, please pre-register using the link below before 30 December 2019 11:59 PM UKT:

https://services.choruscall.in/DiamondPassRegistration/register?confirmationNumber=104965&linkSecurityString=33857ed7

Kindly note that pre-registration is mandatory to participate in the call.

For 7 day replay:

UK toll free: 0 800 756 3427

India: +91 22 71945757

Access code: **91366#**

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About Vedanta Resources

Vedanta Resources Limited ("Vedanta") is a diversified global natural resources company. The group produces aluminium, copper, zinc, lead, silver, iron ore, oil & gas and commercial energy. Vedanta has operations in India, Zambia, Namibia, South Africa, and Australia. With an empowered talent pool globally, Vedanta places strong emphasis on partnering with all its stakeholders based on the core values of trust, sustainability, growth, entrepreneurship, integrity, respect and care. Good governance and sustainable development are at the core of Vedanta's strategy, with a strong focus on health, safety and environment, and on enhancing the lives of local communities. To access the Vedanta Sustainable Development Report 2019, please visit https://www.vedantaresources.com/VedantaDocuments/VedantaSDR2018-19.pdf For more information on Vedanta Resources, please visit www.vedantaresources.com

Disclaimer

This press release contains "forward-looking statements" – that is, statements related to future, not past, events. In this context, forward-looking statements often address our expected future business and financial performance, and often contain words such as "expects," "anticipates," "intends," "plans," "believes," "seeks," "should" or "will." Forward–looking statements by their nature address matters that are, to different degrees, uncertain. For us, uncertainties arise from the behaviour of financial and metals markets including the London Metal Exchange, fluctuations in interest and/or exchange rates and metal prices; from future integration of acquired businesses; and from numerous other matters of national, regional and global scale, including those of a political, economic, business, competitive or regulatory nature. These uncertainties may cause our actual future results to be materially different that those expressed in our forward-looking statements. We do not undertake to update our forward-looking statements.

STRATEGIC OVERVIEW

Over the last few years, our strategic priorities have remained consistent with a focus on delivering growth and long-term value to our stakeholders while upholding operational excellence and sustainable development through our diversified portfolio.

In FY2019, we invested in the next phase of growth and announced expansion projects in our Oil & Gas and Zinc business. We continued with these investments in H1 FY2020. These projects in addition to the ramp-ups are already underway in other businesses, which will provide Vedanta with significant growth in its production capacities. At the same time, we continually strive to improve our operations to achieve benchmark performance, optimise costs and improve realisations. We are committed to achieve our objective of zero harm, zero wastage and discharge, thus creating sustainable value for all our stakeholders. The success of our existing operations and future projects are in part dependent on broad support and a healthy relationship with our respective local communities. Our BU teams are proactively engaging with communities and stakeholders through a proper and structured engagement plan, with the objective of working with them as partners.

Summary of strategic priorities:

Operational excellence:

We are focused on all-round operational excellence to achieve benchmark performance across our businesses by debottlenecking our assets, adopting technology and digitalisation, strengthening people-practices, enhancing vendor and customer bases, optimising the spend base and improving realisations.

Preserve our licence to operate:

We operate as a responsible business, focusing on achieving zero harm, zero wastage and zero discharge. We also promote social inclusion across our operations. We put management systems and processes in place to ensure our operations create sustainable value for our stakeholders.

Optimise capital allocation and maintain a strong balance sheet:

Our focus is on generating strong business cash flows, capital discipline, proactive liability management and maintaining a strong balance sheet. We review all investments (organic and inorganic) based on our strict capital allocation framework, with a view to maximising returns to shareholders.

Delivering on growth opportunities:

We have enviable growth projects in pipe-line and ramping up our growth projects in the correct sequence, on time, within budget with a proper stage-gating process, will remain a focus area.

Augment our reserves & resources (R&R) base:

We are looking at ways to expand our R&R base through targeted and disciplined exploration programmes. Our exploration teams aim to discover mineral and oil deposits in a safe and responsible way, to replenish the resources that support our future growth.

FINANCE REVIEW

Executive summary

We continued strong operational performance in H1 FY2020 despite of the challenging operating environment of low commodity prices. The company continues to focus on controllable factors such as cost optimisation, marketing initiatives & volume.

The first half of FY2020 saw a 19% decline in EBITDA (H1 FY2020: US$ 1.4 billion) with an EBITDA margin◊ of 26% (H1 FY2019: US$ 1.7 billion, EBITDA margin◊ 30%).

As demonstrated in the consolidated operating profit variance analysis, higher volumes contributed positively to EBITDA by US$ 79 million, driven by additional volumes from Zinc International due to higher volumes at Skorpion refinery, commencement of Gamsberg operations, higher sales at Iron ore Karnataka (IOK) and additional volumes from Electrosteel (ESL). This was partially offset by lower volume at Oil & Gas business due to natural decline.

Adverse Market & Regulatory factors resulted in a decline in EBITDA by US$ 399 million compared to H1 FY2019. The decline was primarily driven by a downturn in the commodity prices across Vedanta's businesses partially offset by subdued input commodity prices (mostly alumina, coal and carbon) and favourable currency movements.

The adjusted EBITDA margin for H1 FY2020 was lower at 26% mainly on account of a change in profit mix across businesses.

In light of the volatile commodity prices, the Group has focused on maximising volumes through operational efficiencies, commissioning of new facilities, cost optimisation and rationalising capex, in order to maximise cash flows and de-lever the balance sheet. This has resulted in a US$ 1.3 billion reduction in gross debt and US$ 0.8 billion in net debt in H1 FY2020. Gross debt stood at US$ 14.7 billion as on 30 September 2019 (FY2019: US$ 16 billion) and Net Debt stood at US$ 9.5 billion as on 30 September 2019 (FY2019: US$ 10.3 billion).

At a Group level, we have been proactively managing our debt maturities by refinancing at Vedanta Resources Limited (formerly Vedanta Resources Plc) and the various operating entities and have been able to maintain the average maturity period of c. three years for the entire debt portfolio.

The balance sheet of Vedanta Limited, the Indian-listed subsidiary of Vedanta Resources, continues to remain strong with cash and liquid investments of c.US$ 5.1 billion and net debt to EBITDA ratio at 0.9x. (H1 FY2019 1.0x)

Consolidated operating profit before special items

Operating profit before special items decreased by US$ 367 million to US$ 684 million in H1 FY2020. This was primarily driven by lower commodity price environment and higher depreciation charge partially offset by higher volumes, softening of input commodity prices and favourable currency movement.

Consolidated operating profit summary before special items

(US$ million, unless stated)

Consolidated operating profit before special items[1]	H1 FY2020	H1 FY2019	% change	FY2019
Zinc	479	598	(20%)	1,287
-India	480	605	(21%)	1,248
-International	(1)	(7)	(79%)	39
Oil & Gas	249	244	2%	489
Aluminium	(109)	118	-	76
Power	74	72	1%	133
Iron Ore	26	24	7%	55
Steel	14	19	(26%)	85
Copper India/Australia	(34)	(24)	37%	(57)
Others	(15)	-	-	8
Total Group operating profit before special items	**684**	**1,051**	**(35%)**	**2,076**

[1]Excludes Copper Zambia as its operations have been discontinued & deconsolidated in books w.e.f. 21 May 2019.

Consolidated operating profit bridge before special items

(US$ million)

Operating profit before special items for H1 FY2019[1]		**1,051**
Market and regulatory: US$ (399) million		
a)	Prices, premium/discount	(581)
b)	Direct raw material inflation	178
c)	Foreign exchange movement	26
d)	Profit petroleum to GOI at Oil & Gas	37
e)	Regulatory changes	(59)
Operational: US$ 91 million		
f)	Volume	79
g)	Cost & Marketing	12
Others		(27)
Depreciation and amortisation		**(32)**
Operating profit before special items for H1 FY2020[1]		**684**

1.Excludes Copper Zambia as its operations have been discontinued & deconsolidated in books w.e.f. 21 May 2019.

a) Prices

Operating profit before special items has been significantly impacted by subdued commodity price across Vedanta's businesses. These negative impacts totalled US$ 581 million.

Aluminium: Average aluminium LME prices were down 18% y-o-y to US$ 1,777 per tonne in H1 FY2020, combined with lower premia reduced operating profit by US$ 359 million.

Zinc, Lead & Silver: Average Zinc LME prices were down 10% y-o-y to US$ 2,549 per tonne in H1 FY2020. Lead LME prices were down 13% y-o-y to US$ 1,958 per tonne, and silver was up 1% y-o-y. Together these reduced operating profits by US$ 127 million.

Oil & Gas: Average Brent price for H1 FY2020 was US$ 65 per barrel, lower by 13% y-o-y. This was partially offset by lower discount on Brent during the period (H1 FY2020: 5.6%; H1 FY2019: 9.2%). Together, this negatively impacted operating profit by US$ 53 million.

b) Direct raw material inflation

Prices of key raw materials such as alumina, thermal coal, carbon were favourable during the H1 FY2020, which contributed US$ 178 million to operating profit.

c) Foreign exchange fluctuation

Most of our operating currencies depreciated against the US dollar during H1 FY2020. Stronger dollar is favourable to the Group, given the local cost base. This resulted in a positive impact on operating profit of US$ 26 million.

Key exchange rates against the US dollar:

	Avg. half- year ended 30 September 2019	Avg. half-year ended 30 September 2018	% change	As at 30 September 2019	As at 30 September 2018	As at 31 March 2019
Indian rupee	69.97	68.51	2%	70.50	72.55	69.17
South African rand	14.53	13.36	9%	15.16	14.14	14.48

d) Profit petroleum to GOI at Oil & Gas

The profit petroleum outflow to the Government of India (GOI), as per the production sharing contract (PSC), decreased by US$ 37 million. The reduction was primarily due to the higher capital expenditure over the previous period.

e) Regulatory

Regulatory levies such as renewable power obligation and others impacted operating profit adversely by US$ 59 million in H1 FY2020.

f) Volumes

Higher volumes contributed to operating profit by US$ 79 million, generated by these key Group businesses:

Zinc International (positive US$ 53 million):

The production stood at 123kt, higher by 130% y-o-y driven by higher ore treated & better grades at Skorpion and commencement of Gamsberg. This had a cumulative positive impact on operating profit of US$ 53 million.

Iron Ore (positive US$ 39 million):

Higher sales volumes at Iron ore Karnataka due to fair participations in e-auctions in H1 FY2020 contributed US$ 39 million to operating profit.

Steel (positive US$ 20 million):

Additional volume from ESL post acquisition in June 2018, driven by higher Blast Furnace, Coke oven & Sinter capacity utilisation which positively contributed US$ 20 million to operating profit.

Cairn (negative US$ 32 million):

The oil & gas production stood at 180 kboepd, lower 6% y-o-y due to natural decline partially offset by additional volume from growth project which negatively impacted operating profit by US$ 32 million.

g) Cost & Marketing

During H1 FY2020, improved costs & premia primarily at Aluminium and ESL contributed US$12 million to operating Profit.

Depreciation and amortisation

Depreciation and amortisation increased by US$ 32 million against the previous period. This was driven by higher charge at Zinc India due to additional capitalisation, higher ore production and at Zinc international owing to higher ore production at Skorpion and Gamsberg capitalisation in Q4 FY2019, partially offset by lower charge at Oil & Gas business.

Income statement[1]

(US$ million, unless stated)

	H1 FY2020	H1 FY2019	% change	FY 2019
Revenue	6,132	6,477	(5%)	13,006
EBITDA◊	1,395	1,730	(19%)	3,456
EBITDA margin (%)◊	23%	27%	-	27%
Adjusted EBITDA margin (%)◊	26%	30%	-	30%
Special items (Impairment reversal/charge - Net)	(72)	38	-	38
Depreciation and Amortisation	(711)	(679)	5%	(1,380)
Operating profit	612	1,089	(44%)	2,114
Operating profit without special items	684	1,051	(35%)	2,076
Net interest expense	(408)	(489)	(17%)	(680)
Interest income-related special items	12	9	36%	9
-Other gains /(losses)	(41)	(74)	(45%)	(75)
Profit before taxation	175	535	(67%)	1,368
Profit before taxation without special items	235	488	(52%)	1,321
Income tax (expense)/credit	127	(461)	-	(595)
Income tax (expense)/credit (special items)	8	(16)	-	(16)
Effective tax rate (%)	(77.1%)	89.2%	-	44.6%
Profit for the year from continuing operations	310	58	-	757
Profit for the period/year from continuing operations before special items	362	27	-	726
Profit for the year from discontinuing operations[1]	521	(229)	-	(333)
Profit for the period /year	831	(171)	-	424
Profit for the period /year without special items	362	27	-	726
Non-controlling interest	328	156	-	661
Non-controlling interest without special items	385	188	98%	715
Attributable profit/(loss)	503	(327)	-	(237)
Attributable profit/loss without special items	(23)	(161)	-	11
Underlying attributable profit/(loss) ◊	(9)	(126)	-	38

1. It excludes Copper Zambia as its operations have been discontinued & deconsolidated in books w.e.f. 21 May 2019. [for more information, refer note set out in notes [3 (b)(iii)] of the financial statement].

2. Previous period figures have been regrouped or re-arranged wherever necessary to conform to current period's presentation

Consolidated revenue

Revenue for the period decreased by 5% to US$ 6,132 million (H1 FY2019: US$ 6,477 million). This was mainly driven by lower commodity prices partially offset by additional volumes from commencement of Gamsberg, higher sales at Iron Ore Karnataka and additional volume from ESL.

(US$ million, unless stated)

Consolidated revenue[2]	H1 FY2020	H1 FY2019	Net revenue % change	FY 2019
Zinc	1,569	1,599	(2%)	3,347
- India	1,324	1,436	(8%)	2955
- International	245	163	51%	392
Oil & Gas	904	978	(8%)	1,892
Aluminium	1,917	2,201	(13%)	4,183
Power	479	483	(1%)	934
Iron Ore	222	203	9%	416
Steel	299	207	44%	600
Copper India/Australia	709	755	(6%)	1,537
Others [1]	33	51	(36%)	97
Revenue	6,132	6,477	(5)%	13,006

1. Includes port business and eliminations of inter-segment sales.

2. Excludes Copper Zambia as its operations have been discontinued & deconsolidated in books w.e.f. 21 May 2019.

Consolidated EBITDA[1]

The consolidated EBITDA◊ by segment is set out below:

(US$ million, unless stated)

	H1 FY2020	H1 FY2019	% change	FY 2019	Key drivers	EBITDA margin % H1 FY2020	EBITDA margin % H1 FY2019
Zinc	690	742	(7%)	1,616			
-India	642	727	(12%)	1,516	Lower Zinc, Lead LME	49%	51%
-International	48	15	-	100	Higher volumes & lower cost	20%	9%
Oil & Gas	525	572	(8%)	1,100	Lower Brent price & lower volume	58%	58%
Aluminium	9	225	(96%)	316	Lower Aluminium LME offset by lower cost	-	10%
Power	116	117	(1%)	219		24%	24%
Iron Ore	45	42	6%	90	Higher sales at Karnataka	20%	21%
Steel	31	30	2%	113	Higher steel volume offset by Lower steel prices	10%	14%
Copper India/Australia	(23)	(13)	71%	(36)		(3%)	(2%)
Others [1]	2	15	(85%)	38			
Total	1,395	1,730	(19%)	3,456	EBITDA margin	23%	27%
					Adjusted EBITDA margin◊	26%	30%

1. Includes port business and elimination of inter-segment sales.
2. Excludes Copper Zambia as its operations have been discontinued & deconsolidated in books w.e.f. 21 May 2019.

EBITDA◊ and EBITDA margin◊

EBITDA◊ for H1 FY2020 decreased to US$ 1,395 million, lower by 19% y-o-y primarily driven by lower commodity price environment partially offset by higher volumes, softening of input commodity prices and favourable currency movement. (See 'Operating profit variance' for more details.

The adjusted EBITDA margin was lower at 26% mainly on account of change in profit mix across businesses.

Special items - Continued operations (included interest income related and others)

In H1 FY2020 special items stood at negative US$ 60 million which includes: -

- Impairment of assets at ASI: Overall global economy slowed down in 2019 and there is continued distress in panel market across Taiwan, Korea & China resulting in downward correction of prices and volumes and consequently the profitability of ASI has reduced in the current year. The company has carried out the detailed assessment of estimated future cash flows. The recoverable value is found to be less than the carrying value of PPE and booked an impairment of US$ 72 million [for more information, refer note set out in notes 3(b)(iv) of the financial statement].
- Accrued Interest on power dues at TSPL of c. US$ 12 million pertaining to period prior to H1 FY2020 based on positive Supreme Court Order.

Further analysis of special items is set out in notes [5] of the financial statement.

Special items - Discontinued operations

On 21 May 2019, ZCCM Investments Holdings Plc (ZCCM), a company majority owned by the Government of Zambia, which owns 20.6% of the shares in Konkola Copper Mines Plc (KCM), filed a petition in the High Court of Zambia to wind up KCM (Petition) on "just and equitable" grounds. ZCCM also obtained an ex parte order from the High Court of Zambia appointing a Provisional Liquidator (PL) of KCM pending the hearing of the Petition. Since all the significant decision-making powers, including carrying on the business of KCM and taking control over all the assets of KCM, rests with the PL, the Group believes that the appointment of PL has caused loss of its control over KCM as per IFRS 10. Accordingly, the Group has deconsolidated KCM with effect from 21 May 2019 and has presented the same in the income statement as a discontinued operation.

The profit/ loss for the comparative period and till 21 May 2019 of the current period along with net gain/ loss on de-consolidation of US$ 521 million has been accounted as special item during H1 FY2020.

Following the filing of the Petition, Vedanta Resources Holdings Limited (VRHL) and Vedanta Resources Limited (VRL or Company) commenced the dispute resolution procedures prescribed by the KCM Shareholders' Agreement, and have initiated arbitration consistent with their position that ZCCM is in breach of the KCM Shareholders' Agreement by reason of its actions in seeking to wind up KCM before the Zambian High Court and applying for the appointment of the PL [for more information, refer note set out in notes 3(b)(iii) of the financial statement].

Net interest

Finance costs (excluding special items) were lower 3 % y-o-y at US$ 615 million in H1 FY2020 (H1 FY2019: US$ 631 million). This was primarily due to repayment of borrowings, interest capitalisation during the period and rupee depreciation partially offset by increase in borrowing cost in line with change in borrowing mix across businesses.

The average borrowing cost increased to 7.6% in H1 FY2020 from 7.4% in H1 FY2019 on account of replacement of low-cost borrowing with bond issue at Vedanta Resources Limited.

Investment revenue in H1 FY2020 increased to US$ 207 million (H1 FY2019: US$ 142 million). This was mainly due to higher return on investments due to a sharp decline in G-Sec (Government Security) yields partially offset by decline in investment corpus as compared to previous period and rupee depreciation.

The average post-tax return on the Group's investments during the first half was 8.0% (H1 FY2019: 4.1%), and the average pre-tax return was 12% (H1 FY2019: 5.3%).

This combination of lower finance costs and higher investment revenues led to decrease of US$ 81 million in net interest expense (excluding interest cost-related special items) during the period.

Other gains/(losses) excluding special items

Other gains/(losses) excluding special items for H1 FY2020 amounted to US$ (41) million, compared to US$ (74) million in H1 FY2019 on account of rupee depreciation.

Taxation

Pursuant to the introduction of Section 115BAA of the Indian Income Tax Act, 1961 by the Taxation Laws (Amendment) Ordinance, 2019 which is effective 01 April 2019, companies in India have the option to pay corporate income tax at the rate of 22% plus applicable surcharge and cess as against the earlier rate of 30% plus applicable surcharge and cess, subject to certain conditions like, the company has to forego all benefits like tax holidays, brought forward losses generated through tax incentives/additional depreciation and outstanding MAT credit. Considering all the provisions under Section 115BAA and based on the expected timing of exercising the option by the respective Indian entities, the Group has re-measured its deferred tax balances as at 31 March 2019 and accordingly a deferred tax credit of US$ 331 million has been recognized in the current period.

Effective tax rate for H1 FY2020 excluding the above was 112% as compared to 89% in H1 FY 2019. The tax rate was higher primarily on account of change in profit mix across businesses.

Attributable profit/(loss)

The attributable profit before special items for the period was US$ (23) million (H1 FY2019: US$ (161) million). This was mainly driven by recognition of Deferred tax assets in books as per section 115BAA of Income Tax Act partially offset by lower EBITDA and higher depreciation charge.

Fund flow post-capex

The free cash flow (FCF)◊ post-capex for the period was US$ 814 million (H1 FY2019: US $ (125) million). This was driven by continued focus on cost savings, working capital initiatives including power debtors realisation at TSPL, disciplined capex outflows and tax refunds.

Fund flow and movement in net debt◊

Fund flow and movement in net debt in H1 FY2020 are set out below.

(US$ million, unless stated)

Details	H1 FY2020	H1 FY2019	FY 2019
EBITDA[2]◊	1,395	1,730	3,456
Operating exceptional items	-	-	-
Working capital movements	475	(793)	278
Changes in non-cash items	13	16	34
Sustaining capital expenditure	(245)	(196)	(399)
Movements in capital creditors	50	71	107
Sale of property, plant and equipment	6	1	18
Net interest (including interest cost-related special items)	(406)	(300)	(697)
Tax paid	(30)	(150)	(386)
Expansion capital expenditure	(444)	(504)	(1,081)
Free cash flow (FCF) ◊ post capex	**814**	**(125)**	**1,330**
Dividend paid to equity shareholders	(125)	(113)	(113)
Dividend paid to non-controlling interests	-	(21)	(1,028)
Tax on dividend from Group companies	-	-	(161)
Acquisition of subsidiary	(5)	(707)	(707)
Discontinued operations of Copper Zambia[2,3]	50	(49)	(139)
Other movements[1]	52	407	114
Movement in net debt	**786**	**(608)**	**(704)**

1. *Includes foreign exchange movements.*
2. *Copper Zambia operations have been discontinued & deconsolidated in books w.e.f. 21 May 2019*
3. *It includes $149 million reduction in net debt arising pursuant to deconsolidation of KCM.*

Debt, maturity profile and refinancing

In H1 FY2020, gross debt decreased to US$ 14.7 billion compared with US$ 16 billion as at 31 March 2019. This was mainly due to repayment of temporary borrowing at HZL, repayment of debt at Vedanta Standalone and TSPL.

Similarly, during H1 FY2020, net debt decreased from US$ 10.3 billion as at 31 March 2019 to US$ 9.5 billion as at 30 September 2019, on account of free cash flow generated during the period.

Our total gross debt of US$ 14.7 billion comprises:

- US$ 12.1 billion as term debt (March 2019: US$ 12.6 billion);
- US$ 1.7 billion of short-term borrowings (March 2019: US$ 2.9 billion);
- US$ 0.9 billion of working capital loans (March 2019: US$ 0.5 billion).

The Group has been proactively managing its debt maturities by refinancing at Vedanta Resources Limited (formerly Vedanta Resources Plc) and the various operating entities and has been able to maintain the average maturity period of c. three years for the entire debt portfolio.

The maturity profile of term debt of the Group (totalling US$ 12.1 billion) is summarised below:

Particulars	As at 31 March 2019	As at 30 September 2019	FY2020	FY2021	FY2022	FY2023	FY2024	Beyond FY2024
Debt at Vedanta Resources Limited	6.3	6.6	0.1	0.3	1.5	1.8	1.0	1.9
Debt at subsidiaries	6.3	5.5	0.4	1.2	1.6	0.6	0.5	1.3
Total term debt	**12.6**	**12.1**	**0.5**	**1.5**	**3.1**	**2.4**	**1.5**	**3.1**

Term debt at our subsidiaries was US$ 5.5 billion, with the balance at Vedanta Resources Limited (formerly Vedanta Resources Plc). The total undrawn working capital limits of c.US$ 1.5 billion as at 30 September 2019.

Cash and liquid investments stood at US$ 5.1 billion at 30 September 2019 (31 March 2019: US$ 5.5 billion). The portfolio continues to be conservatively invested in debt mutual funds, and in cash and fixed deposits with banks.

Going Concern

The Group has prepared the consolidated financial half year results on a going concern basis. The Directors' have considered a number of factors in concluding on the going concern.

The Group's principal activity and principal risks and uncertainties are set out in pages 46 and 47.

The Group routinely forecasts future cash flows, financial position and headroom on compliance with debt covenants. The key assumptions for these forecasts include production, capital expenditure, commodity prices and financing activities. Sensitivities are run to reflect different adverse scenarios including, but not limited to, possible reductions in commodity prices, reductions in forecast production or the inability to obtain financing.

The Board has also considered a conservative case to include sensitivities such as significant falls in the commodity prices or material production shortfalls. In the Group's forecasts, no breaches in debt covenants are anticipated.

In particular, the Group plans to make continued investment in capital expenditure and to the extent such expenditure is discretionary and could be reduced, without a short-term impact on trading, the relevant ratio would improve. Further potential mitigating actions include reduction of dividends, cost reduction, working capital management and asset portfolio management.

In the ordinary course of business, financing arrangements are proactively reviewed and in the event of any projected potential covenant breach, the Group would engage with lenders. The Group has a positive track record of debt refinancing and has previously obtained waivers of covenants including for the situation arising from the appointment of a provisional liquidator at KCM.

The Directors consider that the expected operating cash flows of the Group combined with the current finance facilities which are in place give them confidence that the Group has adequate resources to continue as a going concern.

Covenants

The Group is in compliance with its covenants relating to all facilities for the testing period ending 30 September 2019.

Credit rating

Moody's revised the outlook on ratings for Vedanta Resources Limited to Negative from Stable while affirming the corporate family rating at Ba3 in February 2019. This was on account of expectation of weaker earnings on account of downside risk to commodity prices and increased risk of movement of funds outside Vedanta Resources Limited Group.

S&P has downgraded VRL's credit rating to B/ Stable in November 2019, the ratings were put on Negative Outlook in March 2019 due to subdued zinc prices and muted profitability in aluminium which shall keep the metrics lower than rating thresh holds for next one to two years.

Balance sheet

(US$ million, unless stated)

Balance Sheet	Six months to 30 September 2019	Six months to 30 September 2018	For Year Ended 31 March 2019
Goodwill	12	12	12
Intangible Assets	109	107	108
Property, Plant and Equipment	15,572	14,575	17,322
Exploration and Evaluation Assets	423	2,477	404
Other Non - Current Assets[1]	4,138	2,080	2,671
Cash and liquid investments	5,144	5,492	5,686
Other Current Assets	2,444	3,488	3,576
Total Assets	**27,842**	**28,232**	**29,781**
Gross Debt	(14,650)	(15,687)	(15,980)
Other Current Liabilities	(6,165)	(5,719)	(7,060)
Other Non-Current Liabilities	(1,207)	(1,469)	(1,488)
Net Assets	**5,819**	**5,357**	**5,253**
Shareholders' equity/(deficit)	(669)	(1,092)	(928)
Non- controlling interests	6,488	6,449	6,181
Total equity	**5,819**	**5,357**	**5,253**

1. *Includes US$ 1,934 million recoverable from KCM in form of loans, receivables, investments and amounts relating to the guarantees issued by VRL [For more information, refer note 3(b)(iii) of financial statements].*

Shareholders' (deficit)/equity was US$ (669) million at 30 September 2019 compared with US$ (928) million at 31 March 2019. This mainly reflects deconsolidation of KCM partially offset by FCTR movement due to rupee depreciation and attributable profit for H1 FY2020.

Non-controlling interests increased to US$ 6,488 million at 30 September 2019 (from US$ 6,181 million at 31 March 2019) mainly driven by the profit for the period, deconsolidation of KCM partially offset by FCTR movement due to rupee depreciation.

Property, plant and equipment (PPE)

During H1 FY2020, PPE stood at US$ 15,572 million (March 31, 2019: US$ 17,322 million). The decrease of US$ 1,750 million was primarily driven by deconsolidation of KCM, depreciation charge and the restatement of rupee-denominated assets caused by rupee depreciation. This was partially offset by investment of US$ 444 million on expansion projects and US$ 245 million on sustaining capital expenditure during the period.

Refer note 3(b)(iii) of Financial Statements for detailed treatment of KCM deconsolidation.

Project capex

(US$ million)

Capex in progress	Status	Total capex approved[3]	Cumulative spend up to March 2019[4]	Spent in H1 FY2020[4]	Unspent as at 30 September 2019[5]
Oil & Gas (a)[1]					
Mangala Infill, Liquid handling, Bhagyam & Aishwariya EOR, Tight Oil & Gas etc	On - going	2,452	651	282	1,519
Aluminium					
Jharsuguda 1.25mtpa smelter	Line 3: Fully capitalised Line 4: Fully Capitalised Line 5: Six Section capitalised	2,920	2,915	10	-
Zinc India					
1.2mtpa mine expansion	Phase-wise by FY2020	2,076	1,569	99	408
Others		261	124	16	121
Zinc International					
Gamsberg mining project[2]	Completed Capitalisation	400	364	10	26
Copper India					
Tuticorin smelter 400ktpa	Project under Force Majeure	717	198	-	519
Avanstrate Inc (ASI)					
Furnace Expansion and Cold Repair	Completed	48	41	5	3
Capex flexibility					
Metals and Mining					
Lanjigarh Refinery (Phase II) – 5mtpa	Under evaluation	1,570	857	27	686
Zinc India (1.2mtpa to 1.35mtpa mine expansion)	Subject to Board approval	698	1	-	697
Skorpion refinery conversion	Currently deferred till Pit 112 extension	156	14	-	142

1 *Capex approved for Cairn represents Net Capex; Gross capex US$ 3.2 billion.*
2 *Capital approved US$ 400 million excludes interest during construction (IDC).*
3 *Based on exchange rate prevailing at the time of approval.*
4 *Based on exchange rate prevailing at the time of incurrence.*
5 *Unspent capex represents the difference between total projected capex and cumulative spend as at 30 September 2019.*

OPERATIONAL REVIEW

ZINC INDIA

Summary

During H1 FY2020, our Zinc India business continued robust performance with ore production from underground mines up by 6% y-o-y. We delivered 429kt of refined metal and 9.4 million ounces silver. Zinc India was ranked 1st globally in Materiality, Environment Reporting and Human Capital Development aspects and 1st in Asia Pacific region for overall ranking in metals & mining sector by Dow Jones Sustainability Index Ranking.

We are entering H2 with the last phase of expansion projects getting completed, enabling 1.2 mtpa capacity. With rapid development initiatives leading to opening of newer mining blocks and increasing shaft haulage, we expect to deliver better performance in H2.

Production performance

Production (kt)	H1 FY2020	H1 FY2019	% change	FY 2019
Total mined metal	432	444	(3%)	936
Refinery metal production	429	425	1%	894
- Refined zinc – integrated	338	334	1%	696
- Refined lead – integrated[1]	91	91	0%	198
Production – silver (million ounces)[2]	9.4	10.0	(5%)	21.8

1. Excluding captive consumption of 3396 tonnes in H1 FY2020 vs. 3,577 tonnes in H1 FY2019
2.Excluding captive consumption of 566 thousand ounces in H1 FY2020 vs. 598 thousand ounces in H1 FY2019

Operations

In H1 FY2020, ore production was up 6% to 7.0 million tonnes on account of higher production at Rampura Agucha, Zawar and Rajpura Dariba mines, partly offset by decline at Kayad and Sindesar Khurd mines.

Mined metal production in H1 FY2020 was 432,000 tonnes, lower by 3% y-o-y. This was on account of transient lower grades at Sindesar Khurd mine, partly offset by higher ore production.

Integrated metal production increased marginally by 1% to 429,000 tonnes. Integrated zinc production was 338,000 tonnes higher y-o-y by 1% in line with mined metal production and integrated lead production stood unchanged at 91,000 tonnes due to production issues at Dariba lead smelters leading to higher WIP.

Integrated silver production was 9.4 million ounces, 5% lower y-o-y, in line with lead production and lower silver grades from Sindesar Khurd mine.

Prices

	H1 FY2020	H1 FY2019	% change	FY 2019
Average zinc LME cash settlement prices US$/t	2,549	2,820	(10)%	2,743
Average lead LME cash settlement prices US$/t	1,958	2,244	(13)%	2,121
Average silver prices US$/ounce	16.0	15.8	1%	15.4

Zinc price continued to slide down in H1 after touching highs of US$ 3,000 per tonne in April 2019 on negative market sentiment and concerns of global economic slowdown. The demand remains sluggish as the global economy with the automobile sector, has decelerated in recent months.

Zinc fundamentals remain robust with global zinc stocks are at 140 kt which articulates to 4 days of global consumption. The global refined zinc market continues to remain in a deficit.

Lead declined by 13% during H1 FY2020, though it averaged US$ 2,029 per tonne in Q2 FY2020 as compared to US$ 1885 per tonne in Q1 FY2020. The relatively better performance of lead is on account of concerns about refined metal availability in the short-term and supply disruptions from continued outage at a major smelter and two mines.

The silver price in H1 FY2020 remained flat from a year ago, though it averaged 16.98 US$/troy ounce in Q2 FY2020 increasing by 14% from Q1 FY2020 due to uncertain macro - economic factors. While the overall industrial demand for silver has weakened, it is important to note that photovoltaic usages saw dramatic increases in silver demand during the same period but not enough to offset the losses in other industries.

Unit costs

	H1 FY2020	H1 FY2019	% change	FY 2019
Unit costs (US$ per tonne)				
- Zinc (including royalty)	1,400	1,408	(1)%	1,381
- Zinc (excluding royalty)	1,057	1,039	2%	1,008

For the six-month period, zinc Cost of production (COP)excluding royalty was US$ 1,057 per tonne higher by 2% y-o-y. The COP benefited from lower power costs due to decline in imported coal prices and higher linkage ratio, as well as lower fuel prices. This was offset by lower grades, higher mine development expense, higher cement prices and lower acid credits. The COP was impacted by US$ 12 per tonne in Q2 due to electricity duty on captive power plants increased from Rs. 0.40 to Rs. 0.60 per unit starting July 2019. Including royalties, the total cost of zinc production decreased to US$ 1,400 per tonne, lower by 1% y-o-y.

Of this figure, government levies amounted to US$ 386 per tonne (H1 FY2019: US$ 412 per tonne), comprised mainly of royalty payments, the Clean Energy Cess, electricity duty and other taxes.

Financial performance

(US$ million, unless stated)

	H1 FY2020	H1 FY2019	% change	FY 2019
Revenue	1,324	1,436	(8%)	2,955
EBITDA◊	642	727	(12%)	1,516
EBITDA margin (%)	49%	51%	-	51%
Depreciation and amortisation	162	122	32%	268
Operating profit before special items	480	605	(21%)	1,248
Share in Group EBITDA (%)	46%	42%	-	45%
Capital expenditure	245	256	(5)%	520
Sustaining	130	83	57%	155
Growth	115	174	(34%)	365

The revenue for H1 FY2020 stood at US$ 1,324, down 8% y-o-y, and EBITDA was US$ 642 million, down 12% y-o-y. The decrease in revenue was primarily driven by decline in zinc and lead LME prices. The decline in EBITDA was on account of lower revenue, partly offset by lower exploration expense. In accordance with IFRS 6 'Exploration for and Evaluation of Mineral Resources', the Company has capitalised exploration expense of c. US$ 7 million for H1 FY2020 based on commercial viability of the exploration activity.

Projects

The mining projects are progressing on track to reach 1.2 million tonnes per annum of mined metal capacity in FY2020. Capital mine development increased by 14% to 23 km in H1 FY2020.

Sindesar Khurd

The production shaft is fully commissioned and integrated with mine. The second paste fill plant was commissioned in June, liberating the mine to operate at full production capacity.

Rampura Agucha

The shaft project, despite few delays, is in advanced stage and expected to be completed in Q3 FY2020.

Zawar

India's first ever dry tail stacking plant was commissioned at Zawar, significantly reducing water & land footprint and improving structural stability of tailing dam. Additionally, the two paste fill plants are on track to be commissioned in Q3 FY2020, enabling mining of left out high-grade ore in old pillars.

Rajpura Dariba

The existing production shaft capacity is being upgraded from 0.7 to 1.3 mtpa to debottleneck the mine and is expected to be completed in Q4 FY2020.

Smelter debottlenecking to expand capacity to 1.13 mtpa is at the verge of completion and will be commissioned in Q3 FY 2020

The cold commissioning of Fumer Project has commenced with targeted completion by Q3 FY2020.

Next phase of expansion from 1.25 to 1.35 mtpa

Next phase of expansion will be on an end-to-end engagement with a global partner who will define, implement and deliver the projects within cost and time to optimally achieve growth objectives.

Detailed exercise to evaluate growth potential in grade improvement, increased tonnage, improved recoveries and increased reserves has commenced. This study will be followed by detailed scoping and feasibility by the Project Management Office (PMO) partner. These studies and scoping are expected to be completed by Q4 FY2020.

Outlook

The production in H1 was impacted by geo-technical issues at Sindesar Khurd mine. Mined metal and refined metal production in H2 FY2020 are expected to be higher than in H1 on account of continued ramp-up of underground mines. The production at Sindesar Khurd mine is expected to ramp up in H2 on account of opening of new blocks, faster development and higher back filling post commissioning of second paste fill plant.

The revised guidance for both mined and refined metal production in FY2020 is c.950kt while silver production is expected to be c.650 tonnes. The COP before royalty is projected to be c.$1030 per tonne in H2 FY2020 including the impact of higher electricity duty.

ZINC INTERNATIONAL

Summary

During H1 FY2020, Zinc International performed better in terms of higher production from both Skorpion and Black Mountain and volume additions from Gamsberg. We achieved the ever highest ore production at Gamsberg in September 2019 with ore mined greater than 0.5 million tonnes. The business won "Visionary Client of the Year Award for Excellence in Tailing Facility Engineering "from CESA.

With further ramp up of Gamsberg and Skorpion Pit 112, Zinc International is expected to produce more than 280,000 tonnes this year.

Production performance

	H1 FY2020	H1 FY2019	% Change	FY 2019
Total production (kt)	123	54	-	148
Production– mined metal (kt)				
Gamsberg	47	-	-	17
BMM	35	29	23%	65
Refined metal Skorpion	41	25	63%	66

Operations

During H1 FY2020, total production was at 123,000 tonnes, higher by 130% y-o-y.

Production at Skorpion stood at 41,000 tonnes during H1 FY2020, higher by 63% y-o-y due to planned 45 days shut down in Q1 FY2019, improved zinc grades (7.55% vs 6.25%) leading to better recoveries partially offset by 2 weeks of ore shortage caused by temporary shutdown due to an illegal strike by the mining business partner employees with start of operation in mid-April 2019. A slope failure occurred on 09 May on the western pushback. This resulted in the immediate stoppage of all pit activities to make safe and an extended suspension of the activities on the western pushback. The delayed mining of the western pushback has, however resulted in a 3-month ore gap and a depletion of the ROM ore buffers. While mining will continue during this period, the refinery will be placed on a temporary shut from November 2019. The shut is envisaged to end in February 2020 once sufficient ore inventories have been re-established. During this period, an opportunity has been taken to perform maintenance work in key plant areas to ensure plant reliability upon start up and reduce fixed-costs.

At BMM, production was 23% higher than the previous year. This was mainly due to 9% higher ore mined, 10% increased throughput, higher grades and improved recoveries in H1 FY2020.

At Gamsberg, production stood at 47,000 during H1 FY2020 as Gamsberg operations continues to ramp up post start of trial production in November 2018. 1.6 million tonnes of ore stockpile have been built ahead of the plant. Metal in Concentrate ramp up was slower than expected due to higher than anticipated SAG mill-liner wear rates caused by treatment of higher than planned South-pit (higher silica) ore and teething issues with the first Zn application Woodgrove floatation cells.

Unit costs

	H1 FY2020	H1 FY2019	% Change	FY 2019
Zinc (US$ per tonne) unit cost	1,652	2,393	(31%)	1,912

The unit cost of production decreased by 31% to US$ 1,652 per tonne from US$ 2,393 per tonne from the previous period This was mainly driven by higher production at both Skorpion and BMM, operating efficiency, production from Gamsberg and local currency depreciation offset partly by higher TCRCs.

Financial Performance

(US$ million, unless stated)

	H1 FY2020	H1 FY2019	% Change	FY 2019
Revenue	245	163	51%	392
EBITDA	48	15	-	100
EBITDA margin	20%	9%	-	25%
Depreciation	49	22	-	61
Operating profit before special items	(1)	(7)	(79%)	39
Share in group EBITDA %	3%	1%	-	3%
Capital expenditure	50	128	(61%)	196
Sustaining	40	38	4%	73
Growth	10	90	(89%)	123

During the period, revenue increased by 51% to US$ 245 million, driven by higher sales volumes due to higher production in H1 FY2020 partially offset by lower LME. The same factors, combined with a lower cost of production, resulted in an EBITDA of US$ 48 million.

Outlook

In FY2020, we expect production volumes from Skorpion, BMM to be around 130kt. Based on Gamsberg slower than planned plant ramp up schedule, we are forecasting around 150kt tonnes of metal in concentrate in FY2020, lower than our earlier guidance.

The cost of production, excluding Gamsberg, is expected to be around US$ 1,850 tonne. Increase in cost of production is due to increase in TCRCs in BMM and Skorpion refinery shutdown for 4 months due to slope failure. Gamsberg costs would be around US$ 1,250 per tonne due to lower recovery and higher TCRCs.

OIL & GAS

Summary

During H1 FY2020, our Oil & Gas business delivered 179 kilo barrel of oil equivalent per day(kboepd) gross operated production, lower 6% due to natural decline. Further, Gas volume has increased by 77% y-o-y. Business continues to drive all efforts towards volume growth via capacity additions, new wells and surface facilities.

In pursuit of our vision to contribute 50% of India's domestic crude oil production, we continue to invest in growth projects in order to monetise the resource base. Most of our projects are on track to deliver expected volumes. Further, we continue to evaluate opportunities to expand our portfolio through Open Acreage Licensing Policy (OALP) extensive exploration.

For H2 FY2020, with increase in drilling activities and wells hook up, gross operated production is expected to be around 200kboepd.

Production performance

	Unit	H1 FY2020	H1 FY2019	% change	FY 2019
Gross operated production	Boepd	179,398	190,431	(6)%	188,784
Rajasthan	Boepd	149,790	159,593	(6)%	155,903
Ravva	Boepd	13,015	13,855	(6)%	14,890
Cambay	Boepd	16,593	16,984	(2)%	17,991
Oil	Bopd	163,473	182,713	(11)%	178,207
Gas	Mmscfd	95.5	53.9	77%	63.5
Net production – working interest	Boepd	114,783	121,761	(6)%	119,798
Oil*	Bopd	105,540	117,633	(10)%	114,214
Gas	Mmscfd	55.5	28.5	95%	33.5
Gross production	Mmboe	33.0	34.8	(6)%	68.9
Working interest production	Mmboe	21.0	22.3	(6)%	43.7

**Includes net production of 365 boepd in H1 FY2020 and 135 boepd in H1 FY2019 from KG-ONN block, which is operated by ONGC. Cairn holds a 49% stake.*

Average gross operated production across our assets was 6% lower y-o-y at 179,398 barrel of oil equivalent per day (boepd). Production from the Rajasthan block was 149,790boepd, 6% lower y-o-y. The natural reservoir decline has been managed with gains accruing from the new wells brought online. Production from the offshore assets stood at a combined 29,608boepd, lower by 4% y-o-y, due to natural decline from the fields.

Production details by block are summarised below.

Rajasthan block

Gross production from the Rajasthan block averaged 149,790 boepd for H1 FY2020, 6% lower y-o-y. This decrease was primarily due to reservoir natural decline from the fields but was partially arrested by the gain realised from new wells brought online as part of Mangala infill, Bhagyam & Aishwariya EOR campaign, ABH drilling, production optimisation activities and augmentation of Liquid handling capacity at Mangala Processing Terminal (MPT) through surface facility debottlenecking.

At Rajasthan, 166 wells have been drilled as part of the growth projects, of these 63 wells have been brought online till date.

Gas production from Raageshwari Deep Gas (RDG) averaged 85.7 million standard cubic feet per day (mmscfd) in H1 FY2020, with gas sales, post captive consumption, at 66.0 mmscfd.

Ravva block

The Ravva block produced at an average rate of 13,015boepd, lower by 6% y-o-y. This was primarily due to natural field decline, although this was partially offset by production optimisation measures.

Cambay block

The Cambay block produced at an average rate of 16,593boepd in H1 FY2020, lower by 2% y-o-y. Well intervention activities resulted in sustaining current production levels and added to incremental gains opportunities.

Prices

	H1 FY2020	H1 FY2019	% change	FY 2019
Average Brent prices – US$/barrel	65.4	74.8	(13)%	70.4

The oil price climbed to a six- month high in April and keeping them there until late May, supported by supply cuts led by the OPEC and allies, plus involuntary outages such as a drop in Iranian and Venezuelan exports due to U.S. sanctions.

Nonetheless, concern about the worsening economic outlook has overshadowed support from the supply side and the further output disruption in the Middle East appears of limited concern. The Brent crude oil averaged at US$ 65.4 per barrel.

Financial performance

(US$ million, unless stated)

	H1 FY2020	H1 FY2019	% change	FY 2019
Revenue	904	978	(8)%	1,892
EBITDA◊	525	572	(8)%	1100
EBITDA margin	58%	58%	-	58%
Depreciation and amortisation	276	328	(16)%	611
Operating profit before special items	249	244	2%	489
Share in Group EBITDA %	38%	33%	-	32%
Capital expenditure	231	183	27%	480
Sustaining	8	3	-	11
Growth	231	179	25%	469

Revenue for H1 FY2020 was at $ 904 million, 8% lower y-o-y (after profit and royalty sharing with the Government of India), owing to fall in oil price realisation and lower volumes. EBITDA was also lower in line with the lower revenue.

The Rajasthan water flood operating cost was US$ 5.7 per barrel in H1 FY2020 compared to US$ 4.8 per barrel in the previous year, primarily driven by increased interventions and production enhancement initiatives. Overall, the blended Rajasthan operating costs increased to US$ 8.2 per barrel compared to US$ 7.2 per barrel in the previous year.

Exploration and development

Exploration

Rajasthan – (BLOCK RJ-ON-90/1)

The Group is reactivating its oil & gas exploration efforts in the prolific Barmer Basin, which provides access to multiple play types with oil in high permeability reservoirs, tight oil and tight gas. We have engaged global partners to reveal the full potential of the basin and establish >1 billion boe of prospective resources.

We have awarded an integrated contract for a drilling campaign of 7-18 exploration and appraisal wells to build on the resource portfolio, with well-spud expected by Q3 FY2020.

Rajasthan Tight Oil Appraisal

The contract for the appraisal of four fields (Vijaya & Vandana, Mangala Barmer Hill, DP and Shakti) has been awarded, and includes drilling of 10 new wells. This will also involve multi-stage hydraulic fracturing and extended testing. Currently, two rigs are operational in Vijaya & Vandana and drilling is in progress.

Krishna-Godavari Basin Offshore

Oil discovery was notified in second exploratory well (H2 FY2020). The first exploration well A3-2 drilled in the block was a gas discovery. Analysis and studies ongoing to assess the discoveries and further potential.

Ravva

In order to increase the reserve and resource base, an integrated contract for drilling exploratory wells has been awarded and drilling to commence by Q4 FY2020.

Open Acreage Licensing Policy (OALP)

Under the Open Acreage Licensing Policy (OALP), revenue-sharing contracts have been signed for 41 blocks in October 2018 and for 10 exploration blocks as part of the Open Acreage Licensing Policy Round II & III (OALP–II&III) in July 2019. These blocks offer a rich conventional and unconventional resource play with a total resource potential of 2-5 billion boe. The secured blocks increased the acreage of Cairn Oil & Gas by ~60,000 sq km.

Discoverable Small Fields (DSF2)

Discovered small fields (DSF2) provide synergy with existing oil & gas blocks in the vicinity. These blocks were assessed based on the resource potential and proximity to infrastructure in prioritised sedimentary basins across India. Two discovered small fields named as Hazarigaon and Kaza gas fields, located in Assam and Krishna Godavari basins respectively, have been awarded under DSF2.

Out of 41 blocks, Petroleum Exploration Licenses (PEL) has been received for 22 blocks and partial (as the geographical area of such blocks fall under more than one state) for 5 blocks. PEL applications have been submitted for 10 blocks allotted under OALP II & III.

Development

The Oil & Gas business has a strong year ahead on the back of our development projects to deliver incremental volumes. Most of the projects are being executed and substantial efforts are being made to deliver expected additional volumes.

Infill & enhanced oil recovery (EOR) projects

Mangala infill – 45 wells, Bhagyam and Aishwariya EOR Polymer, MBA alkaline surfactant polymer (ASP)

The field is currently under full field polymer injection. In addition, to increase the ultimate oil recovery and support production volumes, we are executing a 45-well infill drilling campaign in the field.

The valuable learnings gained from the successful implementation of the Mangala polymer EOR project, are being leveraged to enhance production from the Bhagyam and Aishwariya fields. Drilling campaign for 87 wells across Mangala, Bhagyam and Aishwariya has been completed, of these 54 wells are online. Polymer injection commenced in Aishwariya field during H1 FY2020. Infill campaign for 4 horizontal wells got completed during H1 FY2020, which are currently online.

Going forward, the Alkaline surfactant polymer (ASP) project at Mangala will enable incremental recovery from the prolific Mangala field. The project entails drilling wells and developing infrastructure facilities at the Mangala Processing Terminal. The contract for drilling has already been awarded, while the contract for the surface facility will be awarded by Q3 FY2020.

Tight oil and gas projects

Tight oil: Aishwariya Barmer Hill (ABH)

Aishwariya Barmer Hill (ABH) is the first tight oil project to monetise the Barmer Hill potential, and drilling started in Q1 FY2019. Till date, 38 wells have been drilled, 19 wells have been fracced and flowed back, 5 are online. Surface facility is under construction and to be commissioned by Q4 FY2020.We have successfully drilled the longest lateral well of 1,355m using advanced geo-steering technology.

Tight gas: Raageshwari deep gas (RDG) development

The RDG project is being executed through an integrated development approach to ramp up overall Rajasthan gas production to ~150mmscfd, and condensate production of 5kboepd. The project entails developing surface facilities and the drilling and completion of 42 wells. The early production facility has been commissioned and under ramp-up & stabilization. Construction of the terminal is progressing to plan. Up to March 2020, 13 wells will be drilled.

Other projects

Satellite Field Development

An integrated contract for the development of satellite fields has been awarded for 57 wells across 14 fields. Currently 1 rig is operational and till date 1 well has been drilled.

Surface facility upgrade

Mangala Processing Terminal (MPT) facility upgradation is progressing as per plan to handle incremental liquids. Intra-field pipeline augmentation project balance scope to be commissioned by Q3 FY2020 and full scope of MPT upgradation project to be completed by Q1 FY2021.

Ravva Development

An integrated contract for drilling development wells has been awarded and drilling to commence by Q3 FY2020.

Outlook

Vedanta's Oil & Gas business has a balanced portfolio of exploration and development blocks, focused on prospecting new oil, a large pool of development projects and prolific producing fields. Our energy is now focused on our optimum portfolio mix across oil and gas projects to fuel our growth aspiration to ramp up the production volumes and increase in 2P and 2C resources and reserves.

For H2 FY2020, with the increase in drilling activities and wells hook up, we expect to exit production volumes to be around c.225 kboepd. Opex during the year is targeted to be around -US$ 7.5/boe.

ALUMINIUM

Summary

Our Lanjigarh Alumina Refinery recorded an ever highest half yearly production of 856kt, up 27% y-o-y driven by debottlenecking efforts. With continued focus on structured cost reduction and various initiatives, the cost of production for H1 FY2020 was 9% lower y-o-y.

Further, we are focusing on reducing our hot metal cost to be in range of US$ 1,725 – 1,775 per tonne for FY2020.

Production performance

Production (kt)	H1 FY2020	H1 FY2019	% change	FY 2019
Alumina – Lanjigarh	856	673	27%	1,501
Total aluminium production	947	976	(3%)	1,959
Jharsuguda I	271	273	(1%)	545
Jharsuguda II[1]	401	420	(5%)	843
BALCO I	126	128	(2%)	260
BALCO II[2]	150	155	(4%)	311

1 *Including trial run production of nil kt in H1 FY2020 vs. 36 kt in H1 FY2019*
2 *Including trial run production of nil kt in H1 FY2020 vs. nil kt in H1 FY2019*

Alumina refinery: Lanjigarh

At Lanjigarh, production increased to 856,000 tonnes, up 27% y-o-y through plant debottlenecking and improved bauxite sourcing from Odisha Mining Corporation (OMC). Increased captive alumina production and local bauxite sourcing are key in our efforts to drive the aluminium costs lower. We continue to work towards the expansion of the refinery, subject to bauxite availability.

Aluminium smelters

Production for H1 FY2020 stood at 947,000 tonnes, lower by 3% y-o-y (including trial run).

Jharsuguda I & II smelter

Production from the Jharsuguda I smelter was flat in comparison to same period last year. Production from the Jharsuguda-II smelter was 4% lower y-o-y due to pot cut outs for routine maintenance, which shall be added in due course of time.

We continue to evaluate Line 4 expansion in Jharsuguda II smelter.

BALCO I & II smelters

Production from BALCO I & II smelters were 2% down y-o-y.

Prices

	H1 FY2020	H1 FY2019	% Change	FY 2019
Average LME cash settlement prices (US$ per tonne)	1,777	2,156	(18%)	2,035

Average LME prices for aluminium in H1 FY2020 stood at US$ 1,777 per tonne, a decrease of 18% y-o-y. There is a weakness in global industrial output, including the automotive and electrical sectors. The global trade war tensions between US & China have also contributed to fall in LME.

Unit costs

(US$ per tonne)

	H1 FY2020	H1 FY2019	% Change	FY 2019
Alumina cost (ex-Lanjigarh)	289	350	(17%)	321
Aluminium hot metal production cost	1,810	1,990	(9%)	1,967
Jharsuguda CoP	1,822	1,996	(9%)	1,970
BALCO CoP	1,781	1,973	(10%)	1,962

During H1 FY2020, the cost of production (CoP) of alumina at Lanjigarh refinery was 17% down y-o-y at US$ 289 per tonne, largely driven by improving plant operating parameters performance and improving bauxite source-mix. In H1 FY2020, the total bauxite requirement was met from Odisha (59%), Chhattisgarh (9%) and imports (33%). In comparison, our H1 FY2019, bauxite requirement was met from Odisha (13%), Chhattisgarh (9%), other domestic sources (30%) and imports (48%).

The Cost of production (CoP) of hot metal at Jharsuguda was US$ 1,820 per tonne, down from US$ 1,996 in H1 FY2019. The CoP at BALCO fell to US$ 1,781 per tonne from US$ 1,973 in H1 FY2019. The decrease in costs for both smelters were primarily due to improving captive alumina mix and lower alumina price indices. It was offset by higher power costs, driven by disruptions in the domestic coal supply from Coal India, resulting in procurement of coal and power from alternative sources at higher prices.

Financial performance

(US$ million, unless stated)

	H1 FY2020	H1 FY2019	% Change	FY 2019
Revenue	1,917	2,201	(13)%	4,183
EBITDA	9	225	(96)%	316
EBITDA margin	-	10%	-	8%
Depreciation and amortisation	118	107	11%	240
Operating profit before special items	(109)	118	-	76
Share in group EBITDA (%)	1%	13%	-	9%
Capital expenditure	91	85	6%	182
Sustaining	52	42	24%	100
Growth	43	43	(11%)	82

Revenue for H1 FY2020 stood at US$ 1,917 million, lower by 13% y-o-y driven by lower Aluminium LME prices partially offset by higher volume.

EBITDA was lower at US$ 9 million (H1 FY2019: US$ 225 million) in line with lower revenue driven by lower Aluminium price partially offset by lower cost driven by lower input commodity prices.

Outlook

As input commodity supply for alumina and carbon show signs of respite and falling indices, the overall market scenario continues to be volatile due to global uncertainties and trade wars. We continuously look at ways to create supply sources that will help achieve a structural cost reduction, while also increasing our price realisation in order to improve profitability in a sustainable way.

We are working towards improved local bauxite sourcing to feed the alumina refinery. Lanjigarh refinery ramp-up, subject to bauxite availability, will improve captive alumina production and support our structural cost reduction.

On coal, we are targeting to further improve coal security through additional linkages from future auctions, better linkage materialisation and continued production at full capacity at our captive Chotia mine. We are also focusing on reducing coal quality losses as well as improvements in logistics and plant operating parameters, which should help reduce non-coal costs.

Aluminium and alumina production guidance for the year remains at c. 1.9 million tonnes and 1.7-1.8 million tonnes respectively. We expect the full year cost of production to be in the range of US$ 1,725 - 1,775/tonne as we make progress on some of these initiatives in the second half of the year.

POWER

Summary

In H1 FY2020, Talwandi Saboo Power Plant (TSPL) achieved availability of 93%. Further, plant load factors for the Jharsuguda and Balco IPP improved as compared to prior period on account better coal availability.

Production performance

	H1 FY2020	H1 FY2019	% Change	FY2019
Total power sales (MU)	6,776	6,830	(1%)	13,515
- Jharsuguda 600 MW	287	289	(1%)	1,039
- BALCO 600 MW[2]	878	1,137	(23%)	2,168
- MALCO[1]	-	-	-	-
- HZL wind power	298	324	(8%)	449
- TSPL	5312	5,081	5%	9,858
- TSPL – availability	93%	93%	-	88%

1. Continues to be under care and maintenance since 26 May 2017

2. BALCO operated 600 MW IPP in H1 FY2019 and operated only 300 MW IPP in H1 FY2020 as one of its 300 MW IPP was converted to CPP during H2 FY2019.

Operations

Power sales from TSPL were 5,312 million units, 5% up y-o-y. The power purchase agreement with the Punjab state compensates us based on the availability of the plant. TSPL operated at record plant availability factor of 97% in April 2019. Average availability for H1 FY2020 was 93%.

The Jharsuguda 600MW power plant operated at a lower plant load factor (PLF) of 3% in H1 FY2020 (Q1 FY2020: 6%, Q2 FY2020: 0%, H1 FY2019: 0%).

The 300MW BALCO IPP operated at a PLF of 72% in H1 FY2020 (Q1 FY2020: 70%, Q2 FY2020: 74%, H1 FY2019: 51%) and continues to supply to its customers under long-term power purchase agreements.

Unit sales and costs

	H1 FY2020	H1 FY2019	% Change	FY 2019
Sales realisation ex TSPL (US cent/kWh)[1]	5.1	5.1	-	4.8
Cost of production ex TSPL (US cent/kWh)[1]	3.5	4.0	(13%)	4.1
TSPL sales realisation (US cent/kWh)2	6.3	6.0	4%	5.9
TSPL cost of production (US cent/kWh)[2]	4.8	4.2	13%	4.4

1 *Power generation excluding TSPL*

2 *TSPL sales realisation and cost of production is considered above based on availability declared during the respective period*

Average power sales prices, excluding TSPL, increased by 1% y-o-y. Power generation cost was at US cents 3.1 per kWh, down by 23% y-o-y, mainly on account of rupee depreciation.

TSPL's average sales price was higher at US cents 6.2 per kWh in H1 FY2020 compared to US cents 6.0 per kWh in H1 FY2019, up by 3% y-o-y. Power generation cost was higher at US cents 4.8 per kWh compared with US cents 4.5 per kWh in the previous year, driven mainly by increased coal prices partially offset by rupee depreciation

Financial performance

(US$ million, unless stated)

	H1 FY2020	H1 FY2019	% change	FY 2019
Revenue	479	483	(1%)	934
EBITDA	116	117	(1%)	219
EBITDA margin	24%	24%	-	24%*
Depreciation and amortisation	42	45	(5%)	86
Operating profit before special items	74	72	1%	133
Share in group EBITDA%	8%	7%	-	6%
Capital expenditure	2	1	61%	4
Sustaining	2	1	60%	4
Growth	3	-	-	-

**Excluding one-offs*

EBITDA for the period flat y-o-y at US$ 116 million primarily on account of higher power sales at TSPL, improved sales realisation and lower cost of power generation at Balco.

We realised power debtors of c. US$150 million at TSPL, in line with the order of the Hon'ble Supreme Court of India.

Outlook

We will remain focused on maintaining highest levels of plant availability at TSPL, full load at our BALCO 300MW IPP and achieving higher plant load factors at our Jharsuguda 600MW IPP.

IRON ORE

Summary

Operations in Goa continue to be suspended in H1 FY2020. We continuously engage with State & Central Government with the support of people adversely impacted by the Supreme Court's State-wide ban for resumption of mining in Goa. Karnataka recorded highest ever quarterly dispatches of 1.4 million tonnes in Q2 FY2020.

The production from Iron Ore Karnataka is expected to be around 4.5 wet million tonnes (WMT).

Production performance

	H1 FY2020	H1 FY2019	% Change	FY 2019
Production (dmt)				
Saleable ore	2.4	2.8	(14%)	4.4
Goa	0.0	0.2	-	0.2
Karnataka	2.4	2.6	(6%)	4.1
Pig iron (kt)	354	339	4%	686
Sales (dmt)				
- Iron ore	2.6	1.8	48%	3.8
- Goa	0.0	1.2	(98%)	1.3
- Karnataka	2.6	0.6	-	2.6
- Pig iron (kt)	330	338	(2%)	684

Operations

At Goa, there were no operations pursuant to the Supreme Court judgement dated 07 February 2018, directing mining operations in Goa to cease with effect from 16 March 2018. We continue to engage with the Government with the aim of resuming mining there.

We have bought 1.4 million tonnes low grade iron ore in recent auctions held by Goa Government which will predominantly help us to cater requirement of our pig iron plant at Amona, which is currently being bought from nearby states of Goa.

At Karnataka, production was 2.4 million tonnes in H1 FY2020, lower by 6% y-o-y, however sales stood at 2.6 million tonnes, tripled y-o-y due to muted e - auction sales in comparative previous year.

During the half-year, pig iron production was 4% higher y-o-y at 354,000 tonnes.

During H1 FY2020, the company acquired a met coke plant having production capacity of 1,20,000 tons per annum at Sindudhurg, Maharashtra which became operational on 09 September 2019 and produced 7 kt of Met Coke during H1 FY2020.

Prices

The pig iron margin decreased from US$ 82 per tonne in H1 FY2019 to US$ 21 per tonne in H1 FY2020, primarily on account of falling realisations of Pig Iron and increased input commodity costs.

Financial performance

(US$ million, unless stated)

	H1 FY2020	H1 FY2019	% Change	FY 2019
Revenue	222	203	9%	416
EBITDA	45	42	6%	90
EBITDA margin	20%	21%	-	22%
Depreciation	19	18	6%	35
Operating (loss) before special items	26	24	7%	55
Share in group EBITDA %	3%	2%	-	3%
Capital expenditure	3	2	60%	1
Sustaining	3	2	60%	1
Growth	1	-	-	-

In H1 FY 2020, Revenue was at US$ 222 million, higher 9% y-o-y mainly due to higher sales volumes at Karnataka. Iron ore Karnataka sales have increased by 48% y-o-y.

In H1 FY2020, EBITDA was US$ 45 million compared with US$ 42 million in H1 FY2019, higher 6% y-o-y. This was mainly due to higher volumes at Karnataka partially offset by slashed margin at Value added Business.

Outlook

The Company continues to explore all legal avenues to secure the reinstatement of mining operations in Goa and increase our footprints in Iron Ore by continuing to participate in auctions across the country including Karnataka & Jharkhand.

At Karnataka, the production is expected to be 4.5 WMT.

STEEL

Summary

Since June 2018, post Vedanta's acquisition of ESL, the business has seen consequential improvement leading to better operational efficiencies and production. In H1 FY2020, our steel business delivered a strong performance of 645kt of hot metal production, up 15% y-o-y on account of debottlenecking of blast furnace, steel melting shop & roll capacity. However, subdued steel pricing environment in domestic market has impacted our margins.

Hot metal production is expected to be around 1.5mtpa for FY2020.

Production performance

Particulars	H1 FY2020	H1 FY2019	% Change	FY 2019
Production (Kt)	593	527	13%	1,199
Pig iron	73	59	24%	142
Billet	41	7	-	39
TMT bar	217	196	11%	441
Wire rod	187	208	(10%)	427
Ductile iron pipes	76	57	33%	150

Operations

During H1 FY2020, we have successfully completed 12 days planned annual shutdown. Despite of this, we achieved 593,000 tonnes of saleable production during H1 FY2020, up 13% y-o-y on account of improved availability of hot metal (restart of Blast Furnace (BF)-3 in August 2018), better operational efficiency at rolling mills and ductile iron plant.

The priority remains to enhance production of value-added products (VAPs) i.e., TMT bar, wire rods and DI Pipe. During H1 FY2020, VAP production was 480,000 MT compared to 461,000 MT despite lower wire rod production due to sluggish demand in the Indian market.

Our Consent to Operate (CTO) for our steel plant at Bokaro, which was valid until December 2017, was not renewed by the State Pollution Control Board (PCB). This was followed by the Ministry of Environment, Forests and Climate Change revoking the Environmental Clearance (EC). Both the directions have since been stayed by the Hon'ble High Court of Jharkhand, until the next date of hearing which is due on 26 February 2020.

Prices

(US$ per tonne)

	H1 FY2020	H1 FY2019	% change	FY2019
Pig iron	358	426	(16%)	404
Billet	425	513	(17%)	486
TMT	517	590	(12%)	564
Wire rod	570	648	(12%)	638
DI pipe	622	576	8%	593
Average sales realisation	524	591	(11%)	572

Average sales realisation decreased 11% y-o-y from US$ 591 to US$ 524 per tonne in H1 FY2020. Prices of iron & steel are influenced by several macro-economic factors. These include government spend on infrastructure, emphasis on development projects, demand supply forces, the Purchasing Managers' Index (PMI) in India and production and inventory levels across the globe especially China. Due to slowdown in Indian economy & GDP slumping to record low of 5% in last quarter, lowest in last 6 years, has impacted the steel industry. There has been a demand slump sparked by slowdown in automotive, housing & infrastructure sector. Trade tensions between USA and China have also contribute to fall in the prices.

Unit costs

	H1 FY2020	H1 FY2019	% change	FY2019
Steel (US$ per tonne)	460	485	(5%)	457

The cost of production stood at US$ 460 per tonne in H1 FY2020, down by 5%. This was managed through improvement in key operational metrics which includes optimisation of lower grade iron ore fines, improvement in coke rate consumption, higher pulverised coal injection (PCI) consumption in blast furnaces, lower met coke prices and commercial excellence.

Financial performance

(US$ million, unless stated)

	H1 FY2020	H1 FY2019	% change	FY 2019*
Revenue	299	207	44%	600
EBITDA	31	30	2%	113
EBITDA margin	10%	14%	-	19%
Depreciation and amortisation	17	11	49%	28
Operating profit before special items	14	19	(26%)	85
Share in group EBITDA%	2%	2%	-	3%
Capital expenditure	4	8	(51%)	15
Sustaining	4	8	(51%)	15
Growth	-	-	-	-

***Financial numbers are for post-acquisition w.e.f June 2018**

Revenue for the period H1FY2020, stood at US$ 299 million, higher by 44% y-o-y. This is mainly driven by higher volume partially offset by lower steel prices.

EBITDA for the period stood at US$ 31 million, marginally higher y-o-y. Due to lower demand and steep fall in net realisation, our EBITDA was US$ 25/t in Q2 FY 2020 compared US$ 104/t in Q1 FY 2020. In Q2 FY 2020, net realisation has gone down further at US$ 485 /t compared to US$ 565 /t in Q1 FY 2020. EBITDA margin was impacted due to annual shutdown which had impact of US$ 6/tonne on cost in H1 FY 2020.

Outlook

Hot metal production is expected to be c.1.5mtpa in FY2020.

COPPER – INDIA / AUSTRALIA

Summary

The copper smelter at Tuticorin was under shutdown for H1 FY2020. We continue to engage with the Government, local communities and other relevant stakeholders to enable the restart of operations at Tuticorin.

Production performance

	H1 FY2020	H1 FY2019	% Change	FY 2019
Production (Kt)				
- India – cathode	31	40	(20%)	90

Operations

The Company's application for renewal of Consent to Operate (CTO) for existing copper smelter was rejected by Tamil Nadu Pollution Control Board (TNPCB) in April 2018. Subsequently the Government of Tamil Nadu order dated 28 May 2018 issued directions to seal the existing copper smelter plant permanently. The Company has appealed before the National Green Tribunal (NGT). NGT in its order dated 15 December 2018 has set aside the impugned orders and directed the TNPCB to pass fresh orders for renewal of consent and authorization to handle hazardous substances, subject to appropriate conditions for protection of environment in accordance with law. The State of Tamil Nadu and TNPCB approached Supreme Court in Civil Appeals on 02 January 2019 challenging the judgement of NGT dated 15 December 2018 and the previously passed judgement of NGT dated 08 August 2013. The Supreme Court its judgement dated 18 February 2019 set aside the judgements of NGT dated 15 December 2018 and 08 August 2013 on the basis of maintainability alone.

The company has also filed a writ petition before Madras High Court challenging the various orders passed against the company in 2018 and 2013. The case was heard on 01 March 2019 wherein the company pressed for interim relief for care and maintenance of the plant. The Madras High Court has directed the State of Tamil Nadu and TNPCB to file their counter to our petition for interim relief.

On completion of the arguments on behalf of all the impleaders, we started our rejoinder arguments on 29 August 2019 We have submitted that findings/facts prior to the Supreme Court order in our case dated 02 April 2013, cannot be argued or reargued before this High Court, as the Supreme Court has already considered them while permitting the Plant to operate subject to certain remedial measures. As one of the judges constituting the Bench has moved to the Madurai Bench, for a period of three months, we have placed a request before the Acting Chief Justice of Madras High Court to place the matter before the same bench at the earliest for concluding the remaining rejoinder hearing of 5-6 days.

Furthermore, the High Court of Madras in a Public Interest Litigation held that the application for renewal of the Environmental Clearance (EC) for the Expansion Project shall be processed after a mandatory public hearing and in the interim ordered the Company to cease construction and all other activities on the site with immediate effect.

Ministry of Environment and Forests (MoEF) has delisted the expansion project since the matter is sub judice. However, in the meanwhile, State Industries Promotion Corporation of Tamil Nadu (SIPCOT) cancelled the land allotted for the proposed Expansion Project and TNPCB issued order directing the withdrawal of the Consent to Establish (CTE) which was valid till 31 March 2023.

The Company has approached Madras High Court by way of writ petition challenging the cancellation of lease deeds by SIPCOT pursuant to which an interim stay has been granted. The Company has also filed Appeals before the TNPCB Appellate Authority challenging withdrawal of CTE by the TNPCB.

In the interim, we continue with our engagement with the local communities and stakeholders through various outreach and CSR.

Our Silvassa refinery and wire rod plant continues to operate. This enables us to cater to our domestic market.

Our copper mine in Australia has remained under extended care and maintenance since 2013. However, we continue to evaluate various options for its profitable restart, given current favourable government support.

Financial performance

(US$ million, unless stated)

	H1 FY2020	H1 FY2019	% change	FY 2019
Revenue	709	755	(6%)	1537
EBITDA◊	(23)	(13)	71%	(36)
EBITDA margin	(3%)	(2%)	-	(2%)
Depreciation and amortisation	11	11	(4%)	21
Operating profit before special items	(34)	(24)	37%	(57)
Share in Group EBITDA %	(2%)	(1%)	-	(1%)
Capital expenditure	7	26	(74%)	37
Sustaining	6	21	(73%)	28
Growth	1	6	(76%)	9

During H1 FY2020, revenue stood at US$ 709 million and EBITDA was US$ (23) million. EBITDA is lower 71% y-o-y due to higher CSR expenses at Tuticorin plant.

Outlook

On restart, we expect production to remain at around 100,000 tonnes per quarter.

PORT BUSINESS

Vizag General Cargo Berth (VGCB)

During H1FY2020, VGCB operations showed an increase/decrease of 4% in discharge and 6% in dispatch compared to H1 FY2019. This was mainly driven by lower availability of railways rakes in the region.

SUSTAINABILITY

Our Sustainable Development Model is built to allow us to respond to the material concerns of our business.

This year, we have taken several steps to push forward our sustainability agenda. In H1 FY2020, we refreshed our materiality framework after undertaking an extensive stakeholder engagement exercise that saw us reach out to nearly 3,000 stakeholders from across our businesses. We are using the findings from the exercise to inform our sustainability roadmap. We also completed a review – undertaken by external experts – of the maturity of our social performance framework and related social license to operate. Findings from the assessment have been used to inform the development of our social performance standards on grievance management and external stakeholder engagement.

In keeping with global disclosure requirements, we have released the details of group-wide tailings dam facilities on our website. We also continue to report on our overall sustainability performance. The group's 11th Sustainability Report based on GRI Standards was released in August. Finally, our subsidiary, Vedanta Limited improved its rankings in the Dow Jones Sustainability Index to 20th in the metals and mining sector, compared to a ranking of 24th in 2018.

Health & safety

Safeguarding the well-being of our workforce is of paramount importance. We fiercely advocate a zero-harm culture at Vedanta. In H1 FY2020, we continued to focus on implementing our group-wide key Safety Performance Standards. However, we are deeply saddened by the loss of four lives at our businesses during H1. In response we have doubled-down on the monitoring of our safety culture with a focus on three organization-wide KPIs:

- Visible Felt Leadership – where the expectation is for our leadership team to spend more time on the shop floor ensuring safe operations and making safety interventions where required
- Ensuring controls in place for safety critical tasks – where the expectation is to identify and put-in-place mitigation controls for all tasks that have a high risk of fatalities or unsafe work conditions
- Business partner engagement – where the focus is to ensure that our long-term business partners are held to the same safety standards as our employees and for short-term business partners, we follow a stringent on-boarding process that lays an emphasis on their safety management systems and awareness of safety critical behaviours and practices

During H1 FY2020, our LTIFR (Lost Time Injury Frequency Rate) was 0.67 (FY2019: 0.48).

Environmental Management

We have made significant progress on the management of our tailing's dams. Work is underway at all our locations to adhere to the findings that emerged as a result of the gap assessment conducted by a third-party expert agency in the previous year. Disclosure about the status of our tailings facilities has been uploaded onto our website – in line with the request received from the Church of England.

We are also working to realign our water balancing and measurement approach with ICMM's water reporting guidelines. A pilot is currently underway a BALCO to evaluate how these guidelines can be translated to the rest of the businesses.

We continue to work on advancing our Zero Waste philosophy. Several of our businesses are working to increase their fly ash utilization. Currently we are utilizing more than 85% of our high-volume, low-toxicity wastes such as fly-ash, slag, Jarosite, and red mud.

Social Performance

We believe Vedanta's role is to create value for all stakeholders, and that the communities in and around the areas in which we operate should share that value. Together with shared financial, economic and social values, this will help us maintain our license to operate.

Vedanta makes significant contributions to partner with local governments and to help them achieve their developmental goals; to strengthen national and local economies; and to build infrastructure and facilities for local education and healthcare. Our flagship CSR initiative, 'Project Nand Ghar' is on track with 1,038 Nand Ghars built so far and 536 under construction in FY2020. The Nand Ghar's help support 41,000 children and 31,000 women. These act as a catalyst for all-round social development, with the centres providing interactive learning facilities for children and entrepreneurial training for women.

HEALTH, SAFETY & ENVIRONMENT

In H1 FY2020, we strengthened our focus on implementing our group-wide key Safety Performance Standards across various business. However, we are deeply saddened by the loss of four lives at our businesses during H1 FY2020. In response, we have doubled-down on the monitoring of our safety culture and have taken various initiatives for HSE in each business. The brief details of such initiatives across businesses are given below.

➢ ZINC INDIA

During the reporting period, we are deeply saddened to report two fatalities, which compounded focus on enabling a safer work environment. The LTIFR was recorded at 1.11 compared to 0.63 in the previous year. This increasing trend is due to renewed efforts to encourage reporting of unsafe incidents, behaviour and practices. During this year, there has been greater management focus to bring a cultural change via safety interactions, townhalls, enabling tools like safety whistle blower as well as rewarding near-miss reporting across HZL.

Several steps have been taken to enable a safer work environment:

- The role of the Chief Safety Officer was rolled up into the CEO's office, who committed to spend at least 30% time every day on safety implementation
- Emergency Response & Control procedures for safe operations (Process Safety Management) rolled out
- Launch of "I Support Aarohan" - a program for projects focussed on individual safety
  Conducted internal audit of ground control management plan at all mines.
- Ru-Bu-Ru, the flagship project for business partner safety, competency and productivity enhancement was launched. In Phase 1, MIP, competence and skill levels were assessed for three key contractors and joint action plans are under deployment. Similar exercise is being conducted for remaining contractors

Safety Innovation

- Conducted trials of motion sensors at RDM to avoid vehicle collision and man-machine interaction in critical areas of underground mine
- Started vehicle tracking in underground mines at SKM and RAM, which has led to traffic awareness and real time man-machine interaction alerts
- Commissioned tele-remote system at RAM underground mine for safe bogging operation and elimination of man-machine interaction
- Installed wagon wheel stopper and clamper to reduce the risk of manual intervention during rake unloading at CLZS CPP

Hindustan Zinc's courageous CLZS Rescue Team saved the lives of 35 people, trapped under a bridge due to heavy rains in Chittorgarh.

Environment

The business delivered steady performance in resources conservation and recycling. During the reporting period the water recycling rate remained unchanged at 35%.

Hindustan Zinc commissioned dry tail stacking plant at Zawar, significantly increasing process water recovery by recirculating greater than 90% of the process water and reducing tailing dam risk. After successful implementation at Zawar, dry tail stacking plant will be implemented across all tailing dams.

E-waste management policy was rolled out. Materiality assessment was conducted covering all key stakeholders and Materiality Matrix was finalised for HZL to identify the key material issues for the business.

HZL received first European patent for the process of converting antimony bearing by-product of lead-zinc smelters into Potassium Antimony Tartrate.

HZL continues to rank high in Dow Jones Sustainability Index 2019 with a 5th overall position in global metal & mining sector and 1st in Asia Pacific region. HZL has claimed its membership in FTSE4 Good Index series for the 3rd consecutive year. It also received Best Environmental Sustainability Award in the category of National Awards for Excellence in CSR and Sustainability by World CSR Day & Zee Business.

- **ZINC INTERNATIONAL**

Safety

Zinc International launched Safety as a First Value in H1 FY2020 with zero harm as a non-negotiable safety net. Safety Value has been elevated in the Business and the motto is "everyone goes home unharmed". In order to ensure that everyone is on the same page, ZI hosted a Business Partner Summit with the aim of reinforcing Safety as a Value, capacity building in practical hazard identification processes and understanding shared roles in within operating environment. Leadership engagement has been key to the improvements in safety at ZI and visible felt leadership engagement continue to engage teams in understanding of critical controls through hazard hunts. Innovative approaches aimed at captivating teams in understanding work place exposures have been done through industrial theatre and induction videos.

Employee recognition is an important aspect in driving Behavioural Safety and ZI launched a VZI Smart Safety Competition where recognition of teams is based on measurable leading indicators. All ZI units SZ, BMM and Gamsberg maintained certifications on ISO 9001, 14001, 1725 and OSHAS 18001.

During the period, the business reported an improvement in the LTIFR performance (H1 FY2020: 0.97 vs H1 FY2019: 1.47). Going forward for H2 FY2020, ZI has created a plan addressing compliance i.e. audits and new employee's induction programme development, HSE Systems i.e. Digital incident reporting and compliance monitoring and finally critical risk management and best practice adoption.

Environment

Two major environmental approvals were undertaken at Black Mountain and Gamsberg respectively. The Environmental authorizations for Swartberg expansion was favourable reviewed by the Authorities and final approval is expected by November. The Environmental authorization process is progressing well, and the first round of public consultations will commence in second week of November.

A Biodiversity strategy session for Black Mountain Mine and Gamsberg was held in H1 FY2020 and the biodiversity management plan roll out over the next five years was finalized. Attendance of the strategy session included management from both Black Mountain, Gamsberg, VZI Exploration and the VZI project team. The purpose of the workshop was to improve the integration of biodiversity principles into the day-to-day business decisions of the various operational disciplines.

As Skorpion Zinc's LOM of mine is approaching, with open pit mining operation scheduled to cease in June 2020 and Refinery operation continues to run on available ore stockpiles until March 2021. As such the mine and refinery will be put under care and maintenance, during which period, the business will continue to explore opportunities for possible future start up. The operation has formed a team to work on mine closure/refinery care and maintenance. Stakeholder engagement progressed in H1 FY2020, mainly with government ministries, employees, workers unions, business partners and local Rosh Pinah community. In order to achieve a smooth cessation of mining and refinery operations, the business have formed work streams to focus on specific activities pertaining to mine care and maintenance.

➢ OIL & GAS

Safety

We are deeply saddened by the loss of one life at our Rajasthan operations. Post investigation, corrective and preventive actions were identified and adequate engineering and administrative controls were put in place. There were also eight lost time injuries (LTIs) in H1 FY2020. The frequency rate stood at 0.33 (H1 FY2019: 0.18), amid a significant increase in activity due to development projects.

We had strengthened our safety philosophy and management systems and were recognised with awards conferred by several external bodies:

- Raageshwari Gas Terminal received the Platinum prize in the eighth FICCI Safety Systems Excellence Awards 2019 (mining category in manufacturing sector), while Mangala, Bhagyam and Aishwariya field received "Certificate of Honor".
- Raageshwari Oil & Gas Mine won Gold Prize in Quality Circle Forum of India (QFCI) 5S Convention sub chapter Jaipur.
- Bhogat Terminal was certified for '5S' by the Quality Circle Forum of India (QCFI).

Environment

Our Oil & Gas business is committed to protect the environment, minimise resource consumption and drive towards our goal of 'zero discharge'. At Raageshwari Gas Terminal, natural gas was adopted for power generation, thereby eliminating flaring of gas emissions. Cairn Oil & Gas has also carried out initiatives for recycling and reusing 95% of produced water, resulting in reduced water abstraction.

➢ ALUMINIUM

Safety

We are deeply saddened to report a fatality at Jharsuguda during rail shunting operations in the first half of FY2020. The incident was fully investigated, and a task force was established on safety in rail operations. This culminated in a Group-wide Rail Safety Committee and the development of a Group Safety Performance Standard on Rail safety, which will be promulgated in October 2019. The LTIFR for the Aluminium business was 0.46 compared to 0.29 in the H1 FY2019.

Over the last 6 months, the aluminium business has worked to improve its HSE performance. At Jharsuguda, safety is driven by leaders of each operations department instead of HSE function team. We have also involved senior operation leaders to take up Single Point Accountability (SPA) to lead each element of the Vedanta Sustainability Assurance Protocol (VSAP). The focus has been on the four key HSE Improvement pillars – Vedanta Felt Leadership (VFL), Building Internal HSE competency among those personnel assigned Single Point Accountability for safety, driving Zero Harm Culture & Culture of Care.

Additional safety programs and initiatives at Jharsuguda include daily shop-floor walk down conducted by CEO & Plant heads, molten material flash protection uniform provided to all molten material handling employees. We initiated a comprehensive 3-month railway safe operation review program involving Vedanta and Business Partner leaders/workers aiming to eliminate all potential fatality and Lose Time Injury of the rail operation with target completion in November.

At BALCO there has been significant efforts to improve the safety competency of our line managers, leadership team, and business partners. Some of the key activities included training and competency assessments for drivers of heavy and technical vehicles (e.g. dumpers). Safety leadership program has been initiated for middle management and business partner supervisors, which includes topics like: VSS, work permit, onsite emergency plan, safety audits & inspection, risk assessment and other related aspects of safe work performance.

At Lanjigarh, programs and initiatives to improve our safety performance include greater emphasis on Personal Lock-Out-Tag-Out procedures with 2,010 personal-locks being distributed to the site employees.

Additionally, customized vehicle LOTO devices have been installed and isolation standard implemented in vehicle maintenance also. VSAP task force constituted and best safety practices across Vedanta groups benchmarked to be implemented at the site.

Environment

All locations in the aluminium business have achieved 100% fly ash utilization for the last 6 months. They have been able to do so by: supplying ash to brick manufacturers, supplying fly-ash to cement industries, ash dykes filling, utilizing the fly-ash to level low-lying areas, backfilling of mines, and road making.

The aluminium business continues to focus on reducing its specific energy and water consumption. BALCO completed construction of a settling tank with recycling facility of about 2200 m3 to enable zero discharge from power plants. At Jharsuguda, specific water consumption for Smelter 1 is 0.40 m3/T of Al and Smelter 2 is 0.48m3/T of Al. The Specific Energy Consumption for Smelter 1 is 52.55 GJ/T. of Al and Smelter 2 is 54.09 GJ/T of Al.

At BALCO, a total of 3,224 MT of Spent Potlines (SPL) was disposed to authorized recyclers in H1 FY2020. The business also conducted the quarterly waste management audit.

Among other initiatives, Jharsuguda has successfully installed laser-based fugitive fluoride monitoring system at Pot-line 3 & 5 of Smelter 2 to monitor fugitive fluoride emission. It has also installed a Mechanized wheel washing system at the Coal Handling facility of 2,400 MW and 1,215 MW power facility in order to reduce the fugitive emissions. BALCO has planted about 114,000 saplings across its mines and smelter operations. At Lanjigarh, third party audit of the Red Mud and Ash pond was conducted by M/s Golder Associates and water management audit conducted by a third-party company. The ESP retrofitting with bag filters has been completed for two boilers for reduction of dust emission to achieve the revised norms of 50 mg/Nm3.

- **POWER**

Safety

In H1 FY2020, we have six LTIs and an LTIFR of 2.37. In line with our zero-harm vision, continuous efforts are made to implement the Vedanta Safety Standards and improve the safety culture with more focus on working at height, confined space, vehicle safety and crane & lifting safety.

Environment

At TSPL, we have increased the fly ash utilization from 92% in FY2018-19 to 95% till H1 FY2020.

- **IRON ORE**

Safety

Our LTIFR performance for H1 FY2020 was 0.29 (FY2019 H1: 0.30). During H1 FY2020, we have inducted Vedanta Felt Leadership & Critical Task Assessment through our Business Partners, which will provide more thrust on safety at ground level in finding and correcting the unsafe behaviours and unsafe conditions. We also launched Personal Safety Action Plan for FY2020 for all the management employees, which will be reviewed by departmental heads during Half-Yearly and Yearly performance appraisals.

To bolster our safety performance, we have conducted several safety programmes: Safety Town halls at all the units, Simulator trainings for drivers at Iron Ore – Karnataka (IOK) to improve vehicle & driving standard, Managing critical tasks during blasting, IOSH Managing safely program for Grid owners at IOK, Scaffolding training and certification course at VAB, “Train the Trainer Programme” on Defensive Driving by NSC at VAB, Traffic safety discipline thro E-Token, GPS, Convoying and Consequence management at IOK and a Pilot study: Installation of truck dump body lifting buzzer and indication the effectiveness of which will be assessed in coming quarter.

VAB won ICC National OHS Platinum Award and Green Triangle Gomant Sarvoccha Suraksha Puraskar during H1 FY2020.

Environment

Value-Added-Business (VAB)

During H1 FY2020, we updated our stormwater management plan to prevent the mixing of rainwater and process streams, thereby ensuring in a clear water discharge. As part of this effort, a series of settling ponds were made in order to hold the monsoon water. Additionally, installation of boulder wall, use of geo-textiles, and desilting of settling ponds & drains aided in the effort.

We have installed baghouse at ladle dumping chamber at Pig Iron Plant. Continuous monitoring systems were installed at all the process stacks at VAB with live data on dashboard. Additionally, during the monsoon season, we have initiated a greenbelt development project at IOK and VAB. 5,000 saplings were also planted at VAB. We successfully renewed consent to operate for 5 years for our PID-1 unit, which was earlier only for 2 years.

VAB also won Energy Efficient Unit Award at CII National Energy Management Awards at Hyderabad.

Iron ore Karnataka (IOK)

During H1 FY2020, major focus was given on Water Conservation, Dump management and Afforestation.

We have completed the construction of 3 new check-dams in forest and village area and completed de-silting activity of around 71,000 m^3 in 10 nearby village ponds to rejuvenate and increase the water retention capacity of the ponds. Three settling pits situated near mining lease were also taken up for de-silting to avoid silt to enter natural streams. This has also resulted in rain-water harvesting of around 1,620 m^3 in an area, which is drought-prone.

We have also successfully complete 2nd phase of biodiversity studies through Sirsi College of Forestry of the region and received a preliminary report. The last phase of study is scheduled in October 2019. Around 2.9 Ha of the finalized dump at D-3 has been stabilized by using coir mat and successfully vegetated by growing native grasses. We have also completed the plantation of 49,320 native saplings on Dumps, Forest areas, Roadside and Government Schools. This year after-care activities have resulted in an increase of survival rate of plantation from 77% to 92%.

We have also celebrated *Van Mahotsava* Week under which we have organized tree plantation drives, biodiversity workshop for school students and awareness rally in Sirigere village for the protection of forest. We have taken initiative namely “Plant a sapling on your birthday” under which, so far, 19 employees have used the occasion to plant saplings.

- **STEEL**

Safety

We have reported eight Lost Time Injuries in H1 FY2020. Our LTIFR was 0.75 as compared to 0.49 in H1 FY2019.

We have initiated a thorough review of our standard operating procedures to check for their alignment with Vedanta Safety Management System with a special emphasis Vedanta Safety standards, risk assessment for all critical tasks, focus on Visible Felt leadership, compliance towards group safety alert lesson learned, Swatchatha Abhiyan i.e. Housekeeping drive, capability development across employees and business partners, Periodic Medical Examination (PME) of employees and others.

Environment

During H1, we commissioned thirteen Continuous Emissions Monitoring Stations (CEMS), with the data uploaded online for nine of the analysers to the Pollution Board's servers. To mitigate dust emission, permanent water sprinklers have been provided throughout the stretch of the haul road and at all transfer points of conveyor systems. Around 45,000 saplings have been planted in and around the plant premises. Internal Waste Management Audit has been conducted for all the units and the business in undertaking work to close the gaps found. E-Waste Management Procedures have been formulated, ensuring that e-waste, which remained undisposed since inception is sold to PCB-authorized vendors. Target of 100 % utilization of Fly Ash achieved.

- **COPPER – INDIA / AUSTRALIA**

Safety

During the period, LTIFR is at 0.00 against 0.17 last year. This year we launched the campaign, 'Drive to Zero Harm' to impart safety awareness and training. Under this drive, 305 employees and their children were imparted safety awareness. The campaign also covered around 500 school children of nearby villages.

Our TIFR stood at 0.71 against the 21.00 in same period last year. Our Silvassa unit has an injury-free commissioning of the new copper rod plant. This coincided with the Silvassa unit achieving 11.74 injury-free million-man hours. To further reinforce a safety culture, initiatives such as Single-Point-Accountability campaigns and enhanced Behaviour Based Safety participation have been undertaken.

To enhance our housekeeping and to ensure that our employees and senior management are engaged in the upkeep of our plant, the unit kicked off a housekeeping drive called "SHRAMDAN". The campaign was designed to increase focus on improving the implementation of Vedanta's safety performance standards. To minimize hazards related to working at height, we have converted temporary monsoon sheds to permanent structures. Deluge sprinkler system is provided in the yard of high voltage transformers to mitigate the fire incidents.

We received 'Par excellence' award in 5S national conclave organized by QCFI and 'Silver' award in CCQC-19, Mumbai Chapter.

In Fujairah, we launched the visible felt leadership (VFL) program. VFL is a critical element in our safety program for achieving a zero-incident workplace. Visible Felt leadership engages workers so they come to work with the mindset of proactively preventing incidents rather than a mindset of just being safe. We have conducted skill builder training to our new batch of Safety stewards, who work as the constantly guiding safety force available round the clock at shop floor.

During the period, our LTIFR stood at 0.00 against the 0.00 in same period last year.

Environment

Currently, company does not have access to Sterlite Copper plant at Tuticorin pursuant to pending writ petition at Madras High Court. However, in order to improve upon the current status quo, we are imparting training to our employees and are being engaged in the community engagement activities. The unit has been corresponding with the State and District Administration for necessary care and maintenance.

Copper mines of Tasmania had no major environmental incidents were reported during the half year. General monitoring of surface water discharges from the site have returned results within regulatory limits.

In our Silvassa plant, soot extraction system for boiler has been installed.

RISK AND UNCERTAINTIES SECTION

Vedanta is a diversified natural resources company with low cost operations. Vedanta operates across the value chain, undertaking exploration, asset development, extraction, processing and value addition.

As a global natural resources company, our businesses are exposed to a variety of risks. It is therefore essential to have in place the necessary systems and a robust governance framework to manage risk, while balancing the risk-reward equation expected by stakeholders. Our risk management framework is designed to help the organization meet its objectives through alignment of operating controls to the mission and vision of the group.

Our risk management framework is designed to be simple, consistent and clear for managing and reporting risks. We have a multi-layered risk management framework aimed at effectively mitigating the various risks which our businesses are exposed to in the course of their operations as well as in their strategic actions. We identify risk at the individual business level for existing operations as well as for projects through a consistently applied methodology.

Formal discussion on risk management take place at the business level review meetings periodically. The respective businesses review the risks, change in the nature and extent of the major risks since the last assessment, control measures established for the risk and further action plans. These meetings are attended by business executive committee members, senior management and concerned functional heads. Risk officers have been formally nominated at all operating businesses as well as Group level whose role is to create awareness on risks at senior management level and to develop and nurture a risk management culture within the businesses.

Together, our management systems, organizational structures, processes, standards and Code of Conduct and Ethics form the system of internal control that governs how the Group conducts its business and manages the associated risks. The Board has ultimate responsibility for the management of risks and for ensuring the effectiveness of internal control systems. The Board’s review includes the Audit Committee’s report on the risk matrix, significant risks and the mitigating actions we put in place.

The Audit Committee is in turn assisted by the Group Risk Management Committee (GRMC) in evaluating the design and effectiveness of the risk mitigation programme and control systems. The GRMC meets every quarter and comprises the Group Chief Executive Officer, Group Chief Financial Officer, Director Finance and Director – Management Assurance. The Group Head – Health, Safety, Environment & Sustainability is invited to attend these meetings. The GRMC discusses key events impacting the risk profile, principal risks and uncertainties, emerging risks and progress against planned actions.

In addition to the above structure, other key risk governance and oversight committees in the group include the following:

- Committee of Directors (COD) and Finance Standing Committee which have oversight on treasury related risks.
- Sustainability Committee which reviews sustainability related risks.
- Group Capex Council which evaluates the risks while reviewing any capital investment decisions as well as institutes risk management framework in projects.

In addition to the above, there are various group level councils who work towards identifying various risks in the group and work towards mitigating them.

Principal risks and uncertainties and detailed information on the impact of these risks as well as the identification and mitigation measures adopted by management have been documented in Vedanta's Annual Report.

Listing of risks:

- Challenges in aluminium and power business – raw material security, infrastructure bottlenecks, etc.
- Fluctuation in commodity prices (including oil) and currency exchange rates
- Health, safety and environment (HSE) & impact of climate change
- Discovery risk
- Major project delivery
- Managing relationship with stakeholders
- Regulatory and legal risk
- Tailings dam stability
- Tax related matters
- Access to capital
- Extension of Production Sharing Contract of Cairn at less favourable terms and subject to certain conditions
- Breaches in IT / cybersecurity
- Loss of assets or profit due to natural calamities
- KCM related challenges (For more information, refer note 3(b)(iii) of financial statements)

It may be noted that the order in which these risks appear does not necessarily reflect the likelihood of their occurrence or the relative magnitude of their impact on our business.

RESPONSIBILITY STATEMENT

We confirm that to the best of our knowledge:

- The condensed set of financial statements has been prepared in accordance with IAS 34, Interim Financial Reporting.

By order of the Board

Srinivasan Venkatakrishnan

Chief Executive Officer

24 December 2019

Financial Statements
for the Period Ended 30 September 2019

CONDENSED CONSOLIDATED INCOME STATEMENT

(US$ million)

		Six months ended 30 September 2019 (Unaudited)			Six months ended 30 September 2018 (Unaudited)*			Year ended 31 March 2019 (Restated)*		
	Note	**Before Special items**	**Special items (Note 5)**	**Total**	**Before Special items**	**Special items (Note 5)**	**Total**	**Before Special items**	**Special items (Note 5)**	**Total**
Revenue	4	6,132	-	6,132	6,477	-	6,477	13,006	-	13,006
Cost of sales		(5,153)	-	(5,153)	(5,155)	-	(5,155)	(10,451)	-	(10,451)
Gross profit		**979**	**-**	**979**	**1,322**	**-**	**1,322**	**2,555**	**-**	**2,555**
Other operating income		69	-	69	81	-	81	225	-	225
Distribution costs		(131)	-	(131)	(127)	-	(127)	(244)	-	(244)
Administrative expenses		(233)	-	(233)	(225)	-	(225)	(460)	-	(460)
Impairment reversal / (charge) [net]	5	-	(72)	(72)	-	38	38	-	38	38
Operating profit		**684**	**(72)**	**612**	**1,051**	**38**	**1,089**	**2,076**	**38**	**2,114**
Investment revenue		207	12	219	142	-	142	533	-	533
Finance costs		(615)	-	(615)	(631)	9	(622)	(1,213)	9	(1,204)
Other gains and (losses) [net]	6	(41)		(41)	(74)	-	(74)	(75)	-	(75)
Profit/ (loss) before taxation from continuing operations (a)		**235**	**(60)**	**175**	**488**	**47**	**535**	**1,321**	**47**	**1,368**
Net tax credit/ (expense) (b)	7	**127**	**8**	**135**	**(461)**	**(16)**	**(477)**	**(595)**	**(16)**	**(611)**
Profit for the period/ year from continuing operations (a+b)		**362**	**(52)**	**310**	**27**	**31**	**58**	**726**	**31**	**757**
Profit/ (loss) after tax for the period/ year from discontinued operations and gain on deconsolidation	3(b)(iii)	-	521	521	-	(229)	(229)		(333)	(333)
Profit/ (loss) for the period/ year		**362**	**469**	**831**	**27**	**(198)**	**(171)**	**726**	**(302)**	**424**
Attributable to:										
Equity holders of the parent		(23)	526	503	(161)	(166)	(327)	11	(248)	(237)
Non-controlling interests		385	(57)	328	188	(32)	156	715	(54)	661
Profit/ (loss) for the period/ year		**362**	**469**	**831**	**27**	**(198)**	**(171)**	**726**	**(302)**	**424**

* *Restated refer Note 1(c)*

CONDENSED CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME

(US$ million)

	Six months ended 30 September 2019 (Unaudited)	Six months ended 30 September 2018 (Unaudited)*	For the year ended 31 March 2019 (Audited)
Profit/ (loss) for the period/ year	**831**	**(171)**	**424**
Items that will not be reclassified subsequently to income statement:			
Remeasurement of net defined benefit plans	(17)	(4)	(6)
Tax effects on net defined benefit plans	6	3	4
Loss on fair value of financial asset investment	(4)	(1)	(6)
Total (a)	**(15)**	**(2)**	**(8)**
Items that may be reclassified subsequently to income statement:			
Exchange differences arising on translation of foreign operations	(155)	(927)	(608)
Gains/ (losses) on cash flow hedges	13	(46)	16
Tax effects arising on cash flow hedges	(5)	14	(7)
(Gains)/ losses on cash flow hedges recycled to income statement	(1)	6	(28)
Tax effects arising on cash flow hedges recycled to income statement	0	(2)	9
Total (b)	**(148)**	**(955)**	**(618)**
Other comprehensive (loss)/ income for the period/ year (a+b)	**(163)**	**(957)**	**(626)**
Total comprehensive (loss)/ income for the period/ year	**668**	**(1,128)**	**(202)**
Attributable to:			
Equity holders of the parent	447	(669)	(484)
Non-controlling interests	221	(459)	282
Total comprehensive (loss)/ income for the period/ year	**668**	**(1,128)**	**(202)**

* *Restated refer Note 1(c)*

CONDENSED CONSOLIDATED STATEMENT OF FINANCIAL POSITION

(US$ million)

	Note	As at 30 September 2019 (Unaudited)	As at 31 March 2019 (Audited)
Assets			
Non-current assets			
Goodwill		12	12
Intangible assets		109	108
Property, plant and equipment		15,572	17,322
Exploration and evaluation assets		423	404
Leasehold land prepayments		-	63
Financial asset investments		290	707
Non-current tax assets		357	504
Other non-current assets		2,494	1,010
Deferred tax assets		997	778
		20,254	**20,908**
Current assets			
Inventories		1,519	2,060
Trade and other receivables		896	1,504
Financial instruments (derivatives)		26	11
Current tax assets		3	1
Short-term investments	10	3,893	4,164
Cash and cash equivalents	10	1,251	1,133
		7,588	**8,873**
Total assets		**27,842**	**29,781**
Liabilities			
Current liabilities			
Borrowings	10	4,013	5,456
Trade and other payables		6,035	6,878
Financial instruments (derivatives)		33	66
Retirement benefits		23	17
Provisions		43	38
Current tax liabilities		32	61
		10,179	**12,516**
Net current liabilities		**2,591**	**3,643**
Non-current liabilities			
Borrowings	10	10,637	10,524
Trade and other payables		193	244
Financial instruments (derivatives)		14	14
Deferred tax liabilities		601	776
Retirement benefits		22	71
Provisions		377	371
Non equity non-controlling interests		-	12
		11,844	**12,012**
Total liabilities		**22,023**	**24,528**
Net assets		**5,819**	**5,253**
Equity			
Share capital	12	29	29
Share premium		202	202
Hedging reserve		(94)	(98)
Other reserves		(157)	(97)
Retained earnings		(649)	(964)
Equity attributable to equity holders of the parent		**(669)**	**(928)**
Non-controlling interests		**6,488**	**6,181**
Total equity		**5,819**	**5,253**

Interim Condensed Financial Statements of Vedanta Resources Limited (formerly Vedanta Resources plc) with registration number 4740415 were approved by the Board of Directors on 24 December 2019 and signed on their behalf by

Srinivasan Venkatakrishnan

Chief Executive Officer

CONDENSED CONSOLIDATED CASH FLOW STATEMENT

(US$ Million)

	Six months ended 30 September 2019 (Unaudited)	Six months ended 30 September 2018 (Unaudited)*	For the year ended 31 March 2019 (Restated)*
Cash flows from operating activities			
Profit before taxation from continuing operations	175	535	1,368
Adjustments for:			
Depreciation and amortisation	714	679	1,380
Investment revenue	(219)	(142)	(533)
Finance costs	615	622	1,204
Other (gains) and losses (net)	41	74	75
Loss on disposal of PP&E	6	6	9
Write-off of unsuccessful exploration costs	0	0	7
Share-based payment charge	7	10	18
Impairment charge / (reversal) (net)	72	(38)	(38)
Operating cash flows before movements in working capital	**1,411**	**1,746**	**3,490**
Decrease/ (Increase) in inventories	369	(72)	(67)
Increase in receivables	(253)	(341)	(421)
Increase/ (decrease) in payables	351	(392)	767
Cash generated from operations	**1,878**	**941**	**3,769**
Dividend received	11	3	6
Interest income received	62	50	159
Interest paid	(660)	(442)	(1,237)
Income taxes paid	(30)	(150)	(547)
Dividends paid	(125)	(113)	(113)
Cash Flows from operating activities (Continuing activities)	**1,136**	**289**	**2,037**
Cash flows from operating activities (Discontinued operations)	3	(56)	(153)
Total cash inflow from operating activities	**1,139**	**233**	**1,884**
Cash flows from investing activities			
Purchase of property, plant and equipment and intangibles	(565)	(606)	(1,291)
Proceeds on disposal of property, plant and equipment	6	1	18
Proceeds from redemption of short-term investments	5,842	4,775	12,588
Purchases of short-term investments	(5,511)	(5,311)	(11,949)
Purchase of financial assets investments	-	-	(254)
Proceeds from sale of financial asset investments	428	-	-
Payments towards financial asset investments	(63)	-	-
Consideration paid for business acquisition (net of cash and cash equivalents acquired)	(5)	(752)	(752)
Amount paid against guarantees issued on behalf of KCM	(98)	-	-
Reduction in cash and cash equivalents on loss of control of KCM	(1)	-	-
Cash Flows from investing activities (Continuing activities)	**33**	**(1,893)**	**(1,640)**
Cash flows from investing activities (Discontinued operations)	(4)	(19)	(35)
Total cash from/ (used in) investing activities	**29**	**(1,912)**	**(1,675)**
Cash flows from financing activities			
Issue of ordinary shares	-	-	1
Dividends paid to non-controlling interests of subsidiaries	-	(21)	(1,028)
Share purchase by subsidiary	(1)	-	(21)
Sale of treasury shares	-	19	19

Exercise of stock options in subsidiary	-	1	1
Repayment of working capital loan (net)	(915)	(483)	(90)
Proceeds from other short-term borrowings	251	331	1,324
Repayment of other short-term borrowings	(743)	(708)	(2,296)
Proceeds from medium and long-term borrowings	1,547	2,551	2,856
Repayment of medium and long-term borrowings	(1,170)	(180)	(370)
Cash Flows from financing activities (Continuing activities)	**(1,031)**	**1,510**	**396**
Cash flows from financing activities (Discontinued operations)	0	(109)	(229)
Total cash (used in)/ from financing activities	**(1,031)**	**1,401**	**167**
Net increase/ (decrease) in cash and cash equivalents	**137**	**(278)**	**376**
Effect of foreign exchange rate changes	(19)	(52)	(42)
Cash and cash equivalents at beginning of the period/ year	**1,133**	**799**	**799**
Cash and cash equivalents at end of the period/ year	**1,251**	**469**	**1,133**

* *Restated refer Note 1(c)*

CONDENSED CONSOLIDATED STATEMENT OF CHANGES IN EQUITY

For the Six months ended 30 September 2019 (Unaudited)

(US$ million)

	Attributable to equity holders of the parent							
	Share capital (Note 12)	**Share premium**	**Hedging reserve**	**Other reserves[1]**	**Retained earnings**	**Total**	**Non-controlling Interests**	**Total equity**
At 1 April 2019	**29**	**202**	**(98)**	**(97)**	**(964)**	**(928)**	**6,181**	**5,253**
Profit for the period	-	-	-	-	503	503	328	831
Other comprehensive loss for the period	-	-	4	(60)	-	(56)	(107)	(163)
Total comprehensive income/(loss) for the period	**-**	**-**	**4**	**(60)**	**503**	**447**	**221**	**668**
Transfers	-	-	-	0	(0)	-	-	-
Dividends paid/ payable (note 9)		-	-	-	(185)	(185)	-	(185)
Derecognition of NCI pertaining to KCM (refer note 3(b)(iii))	-	-	-	-	-	-	86	86
Acquisition of Non-controlling interest of ESL (refer note 3(b)(v))	-	-	-	-	2	2	(10)	(8)
Change in fair value of put option liability/conversion option asset/derecognition of non controlling interest	-	-	-	-	(5)	(5)	3	(2)
Other changes in non-controlling interests[2]	-	-	-	-	-	-	7	7
At 30 September 2019 (Unaudited)	**29**	**202**	**(94)**	**(157)**	**(649)**	**(669)**	**6,488**	**5,819**

1. Other reserves comprise the currency translation reserve, merger reserve, investment revaluation reserve, debenture redemption reserve, capital redemption reserve and the general reserves established in the statutory accounts of the Group's subsidiaries.

2. Includes share based payment charge by subsidiaries.

For the year ended 31 March 2019 (Audited)

(US$ million)

	Attributable to equity holders of the parent									
	Share capital (Note 12)	**Share premium**	**Treasury Shares**	**Share-based payment reserves**	**Hedging reserve**	**Other reserves[1]**	**Retained earnings**	**Total**	**Non-controlling Interests**	**Total equity**
At 1 April 2018	**30**	**202**	**(558)**	**13**	**(93)**	**155**	**(79)**	**(330)**	**6,870**	**6,540**
Profit/(loss) for the year	-	-	-	-	-	-	(237)	(237)	661	424
Other comprehensive loss for the year	-	-	-	-	(5)	(242)	-	(247)	(379)	(626)
Total comprehensive income/(loss) for the year	**-**	**-**	**-**	**-**	**(5)**	**(242)**	**(237)**	**(484)**	**282**	**(202)**
Transfers	-	-	-	-	-	(10)	10	-	-	-
Dividends paid (note 9)	-	-	-	-	-	-	(113)	(113)	(1,008)	(1,121)
Sale/cancellation of treasury shares	(2)	-	557	-	-	-	(536)	19	-	19
Exercise of stock options	1	-	1	(19)	-	-	18	1	-	1
Recognition of share-based payment	-	-	-	6	-	-	-	6	-	6
Non-controlling interest on business combination (Note 3(b)(i))	-	-	-	-	-	-	-	-	29	29
Change in fair value of put option liability/conversion option asset/derecognition of non- controlling interest	-	-	-	-	-	-	(15)	(15)	5	(10)
Other changes in non-controlling interests[2]	-	-	-	-	-	-	(12)	(12)	3	(9)
At 31 March 2019	**29**	**202**	**-**	**-**	**(98)**	**(97)**	**(964)**	**(928)**	**6,181**	**5,253**

1. Other reserves comprise the currency translation reserve, merger reserve, investment revaluation reserve, debenture redemption reserve, capital redemption reserve and the general reserves established in the statutory accounts of the Group's subsidiaries.
2. Includes purchase of shares by Vedanta Limited through ESOP trust for its stock options and share based payment charge by subsidiaries.

For the Six months ended 30 September 2018 (Unaudited)*

(US$ million)

	Attributable to equity holders of the parent									
	Share capital (Note 12)	**Share premium**	**Treasury Shares**	**Share-based payment reserves**	**Hedging reserve**	**Other reserves[1]**	**Retained earnings**	**Total**	**Non-controlling Interests**	**Total equity**
At 1 April 2018	**30**	**202**	**(558)**	**13**	**(93)**	**155**	**(79)**	**(330)**	**6,870**	**6,540**
Profit/(loss) for the period	-	-	-	-	-	-	(327)	(327)	156	(171)
Other comprehensive income/(loss) for the period	-	-	-	-	(14)	(328)	-	(342)	(615)	(957)
Total comprehensive income/(loss) for the period	**-**	**-**	**-**	**-**	**(14)**	**(328)**	**(327)**	**(669)**	**(459)**	**(1,128)**
Transfers	-	-	-	-	-	(40)	40	-	-	-
Dividends paid/ payable (note 9)	-	-	-	-	-	-	(113)	(113)	-	(113)
Sale of Treasury shares	-	-	66	-	-	-	(48)	19	-	19
Exercise of stock options	1	-	1	(18)	-	-	17	1	-	1
Recognition of share-based payment	-	-	-	5	-	-	-	5	-	5
Non-controlling interest on business combination (Note 3(b)(i))	-	-	-	-	-	-	-	-	29	29
Recognition of put option liability/conversion option asset/derecognition of non-controlling interest	-	-	-	-	-	-	(5)	(5)	4	(1)
Other changes in non-controlling interests[2]	-	-	-	-	-	-	0	0	5	5
At 30 September 2018 (Unaudited)	**31**	**202**	**(491)**	**1**	**(107)**	**(213)**	**(515)**	**(1,092)**	**6,449**	**5,357**

1. Other reserves comprise the currency translation reserve, merger reserve, investment revaluation reserve, debenture redemption reserve, capital redemption reserve and the general reserves established in the statutory accounts of the Group's subsidiaries.
2. Includes purchase of shares by Vedanta Limited through ESOP trust for its stock options and share based payment charge by subsidiaries.

NOTES TO THE FINANCIAL STATEMENTS

1. Group Overview, basis of preparation and basis of measurement of financial statements

a) Group Overview

Vedanta Resources Limited ((“Vedanta” or “VRL” or “Company”) formerly known as Vedanta Resources plc or “VRPLC”) is a company incorporated and domiciled in the United Kingdom. Vedanta and its consolidated subsidiaries (collectively, the “Group”) is a diversified natural resource group engaged in exploring, extracting and processing minerals and oil and gas. The Group engages in the exploration, production and sale of zinc, lead, silver, copper, aluminium, iron ore and oil & gas and have a presence across India, South Africa, Namibia, Ireland, Australia, Liberia and UAE. The Group is also in the business of commercial power generation, steel manufacturing and port operations in India and manufacturing of glass substrate in South Korea and Taiwan.

Buy back and delisting of Vedanta Resources plc Shares

On 31 July 2018, Volcan Investments (“Volcan”) and Vedanta announced that they had reached agreement on the terms of a recommended cash offer (the "Offer") by Volcan for the remaining issued and to-be-issued share capital of Vedanta not currently owned by Volcan.

The Volcan Offer was declared unconditional in all respects on 03 September 2018 and Volcan announced that Vedanta had applied for its shares to be cancelled from listing on the Official List of the UK Listing Authority and to trading on the main market for listed securities of the London Stock Exchange, such cancellation took effect on 01 October 2018.

At the General Meeting of Vedanta shareholders held on 01 October 2018, the resolution put to shareholders in relation to the re-registration of VRPlc as a private limited company was duly passed on a poll. Re-registration of VRPlc as a private limited company became effective on 29 October 2018 pursuant to which the name has been changed to Vedanta Resources Limited.

Following the delisting of the Company’s shares from the Official list of the London Stock Exchange, 6,904,995 ordinary shares of US 10 Cents each, which were issued on the conversion of certain convertible bonds issued by one of Vedanta's subsidiaries and held through a global depositary receipt (GDR), were redeemed and the GDR listing was cancelled.

Details of Group’s various businesses are as follows.

- Zinc India business is owned and operated by Hindustan Zinc Limited (“HZL”).
- Zinc international business is comprised of Skorpion mine and refinery in Namibia operated through THL Zinc Namibia Holdings (Proprietary) Limited (“Skorpion”), Lisheen mine in Ireland operated through Vedanta Lisheen Holdings Limited (“Lisheen”) (Lisheen mine ceased operations in December 2015) and Black Mountain Mining (Proprietary) Limited (“BMM”), whose assets include the operational Black Mountain mine and the Gamsberg mine located in South Africa.
- The Group’s oil and gas business is owned and operated by Vedanta Limited and its subsidiary, Cairn Energy Hydrocarbons Limited and consists of exploration, development and production of oil and gas.
- The Group’s iron ore business is owned by Vedanta Limited, and by two wholly owned subsidiaries of Vedanta Ltd. i.e. Sesa Resources Limited and Sesa Mining Corporation Limited and consists of exploration, mining and processing of iron ore, pig iron and metallurgical coke and generation of power for captive use. Pursuant to Honourable Supreme Court order, operations in the state of Goa are currently suspended. The Group’s iron ore business includes Western Cluster Limited (“WCL”) in Liberia which has iron ore assets and is wholly owned

by the Group. WCL's assets include development rights to Western Cluster and a network of iron ore deposits in West Africa. WCL's assets have been fully impaired.

- The Group's copper business comprises three operations divided into two segments, namely (i)Copper India/Australia, comprising Vedanta Limited's custom smelting operations in India (including captive power plants at Tuticorin in Southern India) and (ii) Copper Zambia comprising Konkola Copper Mines plc's ("KCM") mining and smelting operations in Zambia. Due to the ongoing litigations in relation to the Zambian operations, the Group believes that it has lost control over KCM and has accordingly deconsolidated the same (refer note 3(b)(iii) for further details).
- The Group's copper business in India has received an order from Tamil Nadu Pollution Control Board ("TNPCB") on 09 April 2018, rejecting the Group's application for renewal of consent to operate under the Air and Water Acts for the 400,000 tpa copper smelter plant in Tuticorin for want of further clarification and consequently the operations were suspended. The Group has filed an appeal with TNPCB Appellate authority against the said order. During the pendency of the appeal, TNPCB through its order dated 23 May 2018 ordered for disconnection of electricity supply and closure of our copper smelter plant. Post such order, the state government on 28 May 2018 ordered the permanent closure of the plant. (Refer Note 3(a)(ii))
- In addition, the Group owns and operates the Mt. Lyell copper mine in Tasmania, Australia through its subsidiary, CMT and a precious metal refinery and copper rod plant in Fujairah, UAE through its subsidiary Fujairah Gold FZC. The operations of Mt Lyell copper mine were suspended in January 2014 following a mud slide incident and were put into care and maintenance since 09 July 2014 following a rock fall incident in June 2014.
- The Group's Aluminium business is owned and operated by Vedanta Limited and by Bharat Aluminium Company Limited ("BALCO"). The aluminium operations include a refinery and captive power plant at Lanjigarh and a smelter and captive power plants at Jharsuguda both situated in the State of Odisha in India. BALCO's partially integrated aluminium operations are comprised of two bauxite mines, captive power plants, smelting and fabrication facilities in central India.
- The Group's power business is owned and operated by Vedanta Limited, BALCO, and Talwandi Sabo Power Limited ("TSPL"), a wholly owned subsidiary of Vedanta Limited, which are engaged in the power generation business in India. Vedanta Limited power operations include a thermal coal- based commercial power facility of 600 MW at Jharsuguda in the State of Odisha in Eastern India. BALCO power operations included 600 MW (2 units of 300 MW each) thermal coal-based power plant at Korba, of which a unit of 300 MW was converted to be used for captive consumption vide order from Central Electricity Regulatory Commission (CERC) dated 01 January 2019. Talwandi Sabo Power Limited ("TSPL") power operations include 1,980 MW (three units of 660 MW each) thermal coal- based commercial power facilities. Power business also includes the wind power plants commissioned by HZL and a power plant at MALCO Energy Limited ("MEL") (under care and maintenance) situated at Mettur Dam in State of Tamil Nadu in southern India.
- The Group's other activities include Electrosteel Steels Limited ("ESL") acquired on 04 June 2018. ESL is engaged in the manufacturing and supply of billets, TMT bars, wire rods and ductile iron pipes in India.

The Group's other activities also include Vizag General Cargo Berth Private Limited ("VGCB") and Maritime Ventures Private Limited ("MVPL"). Vizag port project includes mechanization of coal handling facilities and upgradation of general cargo berth for handling coal at the outer harbour of Visakhapatnam Port on the east coast of India. MVPL is engaged in the business of rendering logistics and other allied services inter alia rendering stevedoring, and other allied services in ports and other allied sectors. VGCB commenced operations in the fourth quarter of fiscal year 2013. The Group's other activities also include AvanStrate Inc. ("ASI"). ASI is involved in manufacturing of glass substrate in South Korea and Taiwan.

b) Basis of Preparation

The interim condensed consolidated financial statements for the six months ended 30 September 2019 have been prepared in accordance with International Accounting Standard (IAS) 34 Interim Financial Reporting as adopted by the European Union ('EU').

The interim condensed consolidated financial statements do not include all of the information and disclosures required in the annual financial statements and should be read in conjunction with the Group's annual financial statements for the year ended 31 March 2019, which were prepared in accordance with International Financial Reporting Standards (IFRS) as adopted by the EU. The interim condensed consolidated financial statements do not constitute statutory accounts as defined in section 434 of the Companies Act 2006. The financial information for the full year is not the statutory accounts of the Group for that financial year. A copy of the statutory accounts for that year has been delivered to the Registrar of Companies. The auditor's report on those accounts was unqualified, did not include a reference to any matters to which the auditor drew attention by way of an emphasis of matter and did not contain a statement under sections 498 (2) or (3) of the Companies Act 2006.

The set of condensed consolidated financial statements included in the interim financial report has been prepared using the going concern basis of accounting.

Certain comparative figures appearing in these interim condensed consolidated financial statements have been regrouped and/or reclassified to better reflect the nature of those items.

These financial statements are presented in US dollars being the functional currency of the Company and all values are rounded off to the nearest million except where otherwise indicated. Amounts less than US$ 0.5 million have been presented as "0".

c) Restatement/ Reclassification

(i) During the year ended 31 March 2019, the Group had revised the presentation of forward premium relating to derivative instruments to present it along with the mark-to-market gain/loss on these instruments, as these more appropriately reflect the substance of the forward premiums on derivative transactions. As a result of the change, forward premium expense amounting to US$ 25 million has been reclassified from 'Finance cost' to 'Cost of sales' (US$ 21 million) and 'Other gains and losses' (US$ 4 million) for the comparative period ended 30 September 2018. The net cash inflow from operating activities in the condensed consolidated cash flow statement remains unchanged.

(ii) During the year ended 31 March 2019, the classification of export incentives from government was also revised to present it under 'other operating income', as the revised classification is more appropriate. As a result of the change, export incentives amounting to US$ 36 million has been reclassified from 'revenue' to 'other operating income' for the comparative period ended 30 September 2018.

(iii) Due to the ongoing litigation with respect to the Zambian operations, it has been classified as discontinued operations from the current period in accordance with IFRS 5. Consequently, the figures of previous periods of the Zambian operations in the Income Statement, Cash Flow statement and the corresponding notes have been restated. The profit/ (loss) after tax from discontinued operations and Cash flows from discontinued operations have been disclosed separately in the respective statements. Refer note 3(b)(iii) for further details.

2(a). Accounting policies

The interim condensed consolidated financial statements are prepared using the same accounting policies as applied in the audited 31 March 2019 financial statements except for those mentioned in 2(b) below.

2(b). Application of new and revised standards

The Group has adopted, with effect from 01 April 2019, the following new and revised standards and interpretations. Their adoption has not had any significant impact on the amounts reported in the interim condensed consolidated financial statements.

IFRS 16 – Leases

IFRS 16, Leases, replaces the existing standard on accounting for leases, IAS 17, with effect from 01 April 2019. This standard introduces a single lessee accounting model and requires a lessee to recognize a 'right of use asset' (ROU) and a corresponding 'lease liability' for all leases. Lease costs are to be recognised in the income statement over the lease term in the form of depreciation on the ROU asset and finance charges representing the unwinding of the discount on the lease liability. In contrast, the accounting requirements for lessors remain largely unchanged.

The Group acts as a lessee in lease arrangements mainly involving office premises and other properties. The Group has elected to apply the modified retrospective approach on transition, and accordingly the comparative numbers have not been restated. For contracts in place as at 01 April 2019, the Group has continued to apply its existing definition of leases as under IAS 17 (“grandfathering”), instead of reassessing whether existing contracts are or contain a lease at that date. Further, the Group has elected to avail the exemption in IFRS 16 from applying the requirements of IFRS 16 to short-term leases of all assets that have a lease term of 12 months or less and leases for which the underlying asset is of low value. The lease payments associated with these leases are recognized as an expense on a straight-line basis over the lease term.

Transition to IFRS 16 did not have a material effect on the Group’s financial statements.

IFRIC 23 – Uncertainty over Income Tax Treatments

IFRIC 23 clarifies how to apply the recognition and measurement requirements in IAS 12 *Income Taxes* when there is uncertainty over income tax treatments. The clarification did not have a material effect on the Group’s financial statements so far as the recognition and measurement of income taxes is concerned. A consequential impact of the clarification is on the disclosure of contingent liabilities. The Group previously used to consider only those cases/matters for contingent liabilities wherever demand has been raised by the authorities/ initial assessment has been completed. The contingent liabilities have now been extrapolated to other years where a similar issue exists but formal demand has not been raised by tax authorities. Consequently, the miscellaneous income tax and other contingent liabilities as at 31 March 2019 includes US$ 599 million and US$ 3 million respectively considering the impact of IFRIC 23 assessment. As per the transitional provisions of IFRIC 23, the Group has not restated comparative information.

Other Amendments

A number of other minor amendments to existing standards also became effective on 01 April 2019 and have been adopted by the Group. The adoption of these new accounting pronouncements did not have a significant impact on the accounting policies, methods of computation or presentation applied by the Group.

Standards issued but not yet effective

The new and amended standards and interpretations that are issued, but not yet effective, up to the date of issuance of the Group's financial statements are not expected to have a significant impact on the Group's financial statements. The Group has not early adopted any amendment, standard or interpretation that has been issued but is not yet effective.

2.(c) Foreign Exchange Rate

The following exchange rate to US dollar ($) has been applied:

	Average rate for six months ended 30 September 2019	Average rate for six months ended 30 September 2018	As at 30 September 2019	As at 31 March 2019
Indian rupee	69.97	68.51	70.50	69.17

3(a). Significant Accounting Estimates

(i) PSC Extension for Rajasthan block

On 26 October 2018, the Government of India (GoI), acting through the Directorate General of Hydrocarbons (DGH) has granted its approval for a ten-year extension of the Production Sharing Contract (PSC) for the Rajasthan Block (RJ), with effect from 15 May 2020 subject to certain conditions. The GoI has granted the extension under the Pre-NELP Extension Policy, the applicability whereof to PSC for Rajasthan Block is sub-judice and pending before the Hon'ble Delhi High Court. The conditions stated by DGH and the Group's position is detailed below:

Submission of Audited Accounts and End of year statement:

Vedanta Limited and one of the joint venture partners have divergent views on the cost oil entitlement and therefore the End of Year statement for the year ended March 31, 2018 & March 31, 2019 and the Investment Multiple as at 31 March 18 and as at 31 March 19 could not be finalized. Consequentially, profit petroleum pertaining to the said Block for the year ended March 31, 2019 & for Apr'19 to Sep'19 and applicable Investment Multiple calculated based on management's cost oil computation (resulting into Government's share of profit petroleum @ 40% for DA-1 & DA-2 and @20% for DA-3 for FY2019 & FY 2020), remains provisional. The computation is after considering relevant independent legal advice. Pending alignment with joint venture partner, the End of Year Statement for FY 2017-18 and FY 2018-19 as per Operator's calculations have been submitted to DGH and the joint venture partner, during current financial year.

Above condition for submission of audited accounts and End of year statement for adoption by Management Committee of the Block has been delinked by DGH vide letter dated December 03, 2019 as a pre-condition to PSC extension.

Profit Petroleum:

DGH has raised a demand for the period upto 31 March 2017 for Government's additional share of Profit Oil based on its computation of disallowance of cost incurred over the initially approved Field Development Plan (FDP) of pipeline project and retrospective allocation of certain common costs between Development Areas (DAs) of Rajasthan Block. The company believes that it has sufficient as well as reasonable basis (pursuant to PSC provisions & approvals) for having claimed such costs and for allocating common costs between different DAs. Company's view is also supported by independent legal opinion and Company has been following the process set out in PSC to resolve the matter.

ii). Copper- India

Existing Plant:

In an appeal filed by the Group against the closure order of the Tuticorin Copper smelter by Tamil Nadu Pollution Control Board ("TNPCB"), the appellate authority National Green Tribunal ("NGT") passed an interim order on 31 May 2013 allowing the copper smelter to recommence operations and appointed an Expert Committee to submit a report on the plant operations. Post the interim order, the plant recommenced operations on 23 June 2013. Based on Expert Committee's report on the operations of the plant stating that the plant's emission were within prescribed standards and based on this report, NGT ruled on 08 August 2013 that the Copper smelter could continue its operations and recommendations made by the Expert Committee be implemented in a time bound manner. The Group has implemented all of the recommendations. TNPCB has filed an appeal against the order of the NGT before the Supreme Court of India.

In the meanwhile, the application for renewal of Consent to Operate (CTO) for existing copper smelter, required as per procedure established by law was rejected by TNPCB in April 2018. Vedanta Limited has filed an appeal before the TNPCB Appellate Authority challenging the Rejection Order. During the pendency of the appeal, there were protests by a section of local community raising environmental concerns and TNPCB vide its order dated 23 May 2018 ordered closure of existing copper smelter plant with immediate effect. Further, the Government of Tamil Nadu, issued orders dated 28 May 2018 with a direction to seal the existing copper smelter plant permanently. The company believes these actions were not taken in accordance with the procedure prescribed under applicable laws.

Subsequently, the Directorate of Industrial Safety and Health passed orders dated 30 May 2018, directing the immediate suspension and revocation of the Factory License and the Registration Certificate for the existing smelter plant.

The company has appealed this before the National Green Tribunal (NGT). NGT vide its order on 15 December 2018 has set aside the impugned orders and directed the TNPCB to pass fresh orders for renewal of consent and authorization to handle hazardous substances, subject to appropriate conditions for protection of environment in accordance with law.

The State of Tamil Nadu and TNPCB approached Supreme Court in Civil Appeals on 02 January 2019 challenging the judgement of NGT dated 15 December 2018 and the previously passed judgement of NGT dated 08 August 2013. The Supreme Court vide its judgement dated 18 February 2019 set aside the judgements of NGT dated 15 December 2018 and 08 August 2013 on the basis of maintainability alone and directed the Company to file an appeal in High court.

The company has filed a writ petition before Madras High Court challenging the various orders passed against the company in 2018 and 2013, the matter is pending for adjudication.

Further, in Oct'19, the Company has filed a writ petition in Madras High court for allowing access to plant to undertake essential care and maintenance as due to lack of care and maintenance in the last 18 months, several structures such as pipelines, cable trays etc. are in corroded state and likely to get damaged. Management believes that assessment of physical damage, if any, can be carried out once it gets access to the plant. However, the same is not expected to be material.

Expansion Plant:

Separately, the company has filed a fresh application for renewal of the Environmental Clearance for the proposed Copper Smelter Plant 2 (Expansion Project) dated 12 March 2018 before the Expert Appraisal Committee of the MoEF wherein a sub-committee was directed to visit the Expansion Project site prior to prescribing the Terms of Reference.

In the meantime, the Madurai Bench of the High Court of Madras in a Public Interest Litigation held vide its order dated 23 May 2018 that the application for renewal of the Environmental Clearance for the Expansion Project shall be processed after a mandatory public hearing and in the interim, ordered the company to cease construction and all other activities on site for the proposed Expansion Project with immediate effect. The Ministry of Environment and Forests (MoEF) has delisted the expansion project since the matter is sub judice. Separately, SIPCOT vide its letter dated 29 May 2018, cancelled 342.22 acres of the land allotted for the proposed Expansion Project. Further the TNPCB issued orders on 07 June 2018 directing the withdrawal of the Consent to Establish (CTE) which was valid till 31 March 2023.

The company has approached Madras High Court by way of writ petition challenging the cancellation of lease deeds by SIPCOT pursuant to which an interim stay has been granted. The company has also filed Appeals before the TNPCB Appellate Authority challenging withdrawal of CTE by the TNPCB, the matter is pending for adjudication.

Even though there can be no assurance regarding the final outcome of the process and the timing of such process in relation to the approval for the expansion project, as per the company's assessment, it is in compliance with the applicable regulations and expects to get the necessary approvals in relation to the existing operations and the expansion project.

The company has carried out an impairment analysis during the year ended 30 September 2019 considering the key variables and concluded that there exists no impairment. The company had done an additional sensitivity with a delay in commencement of operations both at the existing and expansion plants by three years and noted that the recoverable amount of the assets would still be in excess of their carrying values.

The carrying value of the assets under operation and under expansion as at 30 September 2019 is US$ 286 million and US$ 149 million respectively.

(iii) Flue-gas desulfurization:

Ministry of Environment, Forests and Climate Change (MOEF&CC) has revised emission norms for coal-based power plants in India. Accordingly, both captive and independent coal-based power plants in India are required to comply with these revised norms for reduction of sulphur oxide (SOx) emissions for which the current plant infrastructure is to be modified or new equipment's have to be installed. Timelines for compliance to the revised norm varies for various plants in the Group - the earliest being December 2019 and last one in March 2022. Different power plants are at different stages of the implementation process. However, it is unlikely that the implementation would be completed by the stipulated date. Vedanta operations have been engaging with the concerned authorities to extend the timeline for compliance which is likely to be granted. In the event, the request for extension of timeline is not accepted, this could impact the operations of power plants and associated operations, the impact of which cannot be determined with reasonable certainty.

(iv) Electrosteel Steels Limited had filed application for renewal of Consent to Operate ('CTO') on 24 August 2017 for the period of five years which was denied by Jharkhand State Pollution Control Board ('JSPCB') on 23 August 2018. Hon'ble High Court of Jharkhand has extended a stay on the order of denial of CTO by JSPCB and continued their interim order to allow the operations till next hearing. Hon'ble High Court has also extended stay against order of Ministry of Environment, Forests and Climate Change (MOEF&CC) dated 20 September 2018 in respect of environment clearance. Presently the stay has been extended till 26 February 2020. In October 2019, ESL has been granted the stage I forest clearance by Forest Appraisal Committee (FAC) of Ministry of Environment, Forest & Climate Change (MOEF&CC). The Company expects to get the necessary approvals in due course.

For further information on significant accounting estimates and judgements, see Vedanta Resources Limited Annual Report - Financial statements - Note 2(c) "Significant accounting estimates and judgements".

(v) Impact of Taxation Laws (Amendment) Ordinance, 2019

Pursuant to the introduction of Section 115BAA of the Indian Income Tax Act, 1961 by the Taxation Laws (Amendment) Ordinance, 2019 which is effective 01 April 2019, companies in India have the option to pay corporate income tax at the rate of 22% plus applicable surcharge and cess as against the earlier rate of 30% plus applicable surcharge and cess, subject to certain conditions like, the company has to forego all benefits like tax holidays, brought forward losses generated through tax incentives/additional depreciation and outstanding MAT credit. Considering all the provisions under Section 115BAA and based on the expected timing of exercising the option by the respective Indian entities, the Group has re-measured its deferred tax balances as at 31 March 2019 and accordingly a deferred tax credit of US$ 331 million has been recognized in the current period.

3(b). Business Combinations, Discontinued operations and others

(i) Electrosteel Steels Limited – business combination

During the year ended 31 March 2019, the Group, through its subsidiary Vedanta Star Limited (VSL) acquired control over Electrosteel Steels Limited (ESL). Based on completion of the closing conditions, the Group concluded the acquisition date as 04 June 2018. ESL has been included in "Others" segment. If ESL had been acquired at the beginning of the comparative period, the Group revenue would have been US$ 6,575 million and US$ 13,102 million and the profit before taxation of the Group would have been US$ 531 million and US$ 1,364 million for the half-year ended 30 September 2018 and year ended 31 March 2019 respectively.

(ii) Acquisition of new hydrocarbon blocks

In August, 2018, Vedanta Limited was awarded 41 hydrocarbon blocks out of 55 blocks auctioned under the open acreage licensing policy (OALP) by Government of India (GOI). The blocks awarded to Vedanta Limited comprise of 33 onshore and 8 offshore blocks. Vedanta Limited will share a specified proportion of the net revenue from each block with GOI and has entered into 41 separate revenue sharing contracts (RSC) on 1 October 2018.

The bid cost of US$ 551 million represents Vedanta Limited's total committed capital expenditure on the blocks for the committed work programs during the exploration phase. Vedanta Limited has provided bank guarantees for minimum work programme commitments amounting to US$ 322 million for the 41 exploration blocks.

In March 2019, Vedanta Limited has been awarded 2 Contract Areas out of total 25 Contract Areas auctioned under Round II of the Discovered Small Field Policy (DSF) by Government of India (GOI). Both the Contract Areas awarded are onland fields. The Company will share a specified proportion of the revenue from each block with GOI and has entered into 2 separate Revenue Sharing Contracts (RSC) on 07 March 2019. There is no commitment for minimum work programme in these blocks.

In July 2019, the Company has been awarded 10 hydrocarbon blocks out of 32 blocks awarded under round II & III of Open Acreage Licensing Policy (OALP) by Government of India (GoI). The blocks awarded to the Company comprise of 7 onshore and 3 offshore blocks. To effect the transaction, the Company has entered into revenue sharing contracts ("RSCs") with the GoI on 16th July'19. The bid cost of US$ 235 million represents the Company's estimated cost of committed work program in the blocks during the initial exploration phase. Vedanta Limited has provided bank guarantees for minimum work programme commitments amounting to US$ 73 million for the 10 exploration blocks.

(iii) Discontinued operations - Copper Zambia (KCM):

On 21 May 2019, ZCCM Investments Holdings Plc (ZCCM), a company majority owned by the Government of Zambia, which owns 20.6% of the shares in Konkola Copper Mines Plc (KCM), filed a petition in the High Court of Zambia to wind up KCM (Petition) on "just and equitable" grounds. ZCCM also obtained an ex parte order from the High Court of Zambia appointing a Provisional Liquidator (PL) of KCM pending the hearing of the Petition. On 11 June 2019, without any prior notice, ZCCM amended the Petition to include an additional ground for winding up KCM, based on allegations that KCM is unable to pay its debts.

As a result of the appointment of the PL following ZCCM's ex parte application, the PL is currently exercising almost all the functions of the Board of Directors, to the exclusion of the Board.

The Group not only disputes the allegations and opposes the Petition, but also maintains that the complaints brought by ZCCM are in effect "disputes" between the shareholders. Per the KCM Shareholders' Agreement, the parties (including ZCCM and the Government of the Republic of Zambia) have agreed that any disputes must be resolved through international arbitration seated in Johannesburg, applying the UNCITRAL Rules; not the Zambian courts. Consequently, the Group maintains that the action brought by ZCCM before the Zambian High Court should not be heard until the dispute has been resolved in arbitration in accordance with the KCM Shareholders' Agreement.

Arbitration Application

Following the filing of the Petition, Vedanta Resources Holdings Limited (VRHL) and Vedanta Resources Limited (VRL or Company) commenced the dispute resolution procedures prescribed by the KCM Shareholders' Agreement, and have initiated arbitration consistent with their position that ZCCM is in breach of the KCM Shareholders' Agreement by reason of its actions in seeking to wind up KCM before the Zambian High Court and applying for the appointment of the PL, as opposed to pursuing its alleged grievances through arbitration under the KCM Shareholders' Agreement. As part of the dispute resolution process under the KCM Shareholders' Agreement, VRHL obtained injunctive relief from the High Court of South Africa requiring ZCCM to withdraw the Petition such that the PL is discharged from office, and declaring ZCCM to be in breach of the arbitration clause in the KCM Shareholders' Agreement. ZCCM was further prohibited from taking any further steps to wind up KCM until the conclusion of the arbitration. The High Court of South Africa denied ZCCM leave to appeal, though ZCCM has now been granted leave to appeal to the Supreme Court of South Africa. The Group believes the prospects of a successful appeal by ZCCM are low.

ZCCM is obliged to comply with the order, given that the South African courts' jurisdiction derives from the arbitration agreement, which provides for Johannesburg as the seat of the arbitration. However, in the absence of a Zambia-South Africa treaty on the mutual recognition and enforcement of judgements, there are low prospects of enforcing the order of the High Court of South Africa through the Zambian courts if ZCCM chooses to breach a South African court order.

The arbitration proceedings against ZCCM are proceeding and a sole arbitrator has been appointed.

An arbitration award would be enforceable in Zambia under the New York Convention.

Proceedings in the Zambian Courts

VRHL has also made a number of applications before the Zambian High Court in connection with the Petition, including an application for a stay of the Petition, pending the determination of the arbitration. This application was dismissed, but VRHL is appealing to the Zambian Court of Appeal and the petition is currently stayed pending either the outcome of the appeal or an appeal filed by ZCCM against the stay of the Petition. Hearings in the Zambian Court of Appeal are not expected to take place before early 2020.

An Order given by the Zambian High Court staying certain of the PL's powers (i.e. those relating to the PL's ability to sell assets and make compromises with creditors) was put on hold until the Petition returns to the High Court, subject to the outcome of the appeals to the Zambian Court of Appeal. The PL has given evidence in the Zambian High Court that he would not be able to sell assets (beyond that which is necessary to carry on KCM's ordinary business) without seeking the Court's approval. With the PL having given this evidence, regardless of how the Court rules on this issue, we believe the PL will find it difficult to sell KCM or key assets without first seeking the Zambian High Court's approval, in which case VRHL should have an opportunity to make representations to the Court.

At the date of approval of these financial statements, the PL remains in office and the Petition remains stayed.

Accounting Considerations

Since all the significant decision-making powers, including carrying on the business of KCM and taking control over all the assets of KCM, rests with the PL, the Group believes that the appointment of PL has caused loss of its control over KCM. Accordingly, the Group has deconsolidated KCM with effect from 21 May 2019 and has presented the same in the income statement as a discontinued operation. This has also resulted in derecognition of non-controlling interests in KCM of US$ 86 million. The loss with respect to KCM operations along with the gain on deconsolidation has been presented as a special item in the income statement.

The Group has total exposure of US$ 1,934 million to KCM in form of loans, receivables, investments and amounts relating to the guarantees issued by VRL, which have been accounted for at cost and disclosed under non-current assets in the Condensed Consolidated Statement of Financial Position. In connection with the response to the Petition, VRL has provided to the Board of KCM a commitment to provide certain financial support to KCM. This commitment is subject to certain conditions, including the dismissal of the Petition and discharge of the PL

Recognising the uncertainty inherent to the litigation, the Group believes, based on the legal advice it has obtained, that it is probable that it will succeed with its appeal to the Zambian Court of Appeal, which would result in the Petition being stayed until the outcome of the arbitration and the Group believes at some stage the Petition will be dismissed and the appointment of the PL discharged.

Given the above background, various legal and other strategies being pursued by the Group and challenges involved in determining the valuation under different likely scenarios, the Group based on its assessment of the merits of the case has continued to account for these balances at cost.

The recoverable value assessment carried out as at the year-end 31 March 2019 (at which time KCM was a controlled, consolidated subsidiary), resulted in no impairment. Also based on the sensitivity analysis carried out on key variables like movement in copper prices, discount rate and delayed production ramp-up, the recoverable amount was still expected to exceed the carrying value of US$ 1,513 million as at 31 March 2019. Mining companies have made representations to the Government of the Republic of Zambia for the improvement of the environment for mining companies and the roll back of the additional proposed taxes. GRZ has recently withdrawn the applicability of General Sales Tax (GST) in Zambia but any such additional taxes imposed in future would impact future investment in key identified areas, which coupled with non-achievement of planned production ramp-up, could pose significant risk of impairment as disclosed in the financial statements for the year ended 31 March 2019. Additionally, any delays in regaining control of KCM including any consequences of the PL remaining in place could potentially result in both deterioration of assets and increased risks in implementing the turnaround plan that could also result in significant risk of impairment.

a) *The profit/ (loss) from discontinued operations i.e. KCM:*

(US$ million)

	Six months ended 30 September 2019*	**Six months ended 30 September 2018**	**For the year ended 31 March 2019**
Revenue	94	545	1,025
Cost of sales	(160)	(586)	(1,081)
Gross loss	**(66)**	**(41)**	**(56)**
Other operating income	1	2	4
Distribution costs	(3)	(17)	(32)
Administrative expenses	(12)	(39)	(81)
Operating loss	**(80)**	**(95)**	**(165)**
Investment revenue	(11)	(23)	(53)
Finance costs	(9)	(24)	(54)
Loss before taxation (a)	**(100)**	**(142)**	**(272)**
Net tax credit/ (expense) (b)	23	(87)	(61)
Loss after tax from discontinued operations (a+b)	**(77)**	**(229)**	**(333)**

**Till the date of appointment of PL*

b) *Gain on deconsolidation:*

(US$ million)

	Six months ended 30 September 2019
Assets recognised on deconsolidation:	
Investment in KCM recognised**	266
Loans, receivables and obligations of KCM towards the Group**	1,668
Total (a)	**1,934**
Assets derecognised on deconsolidation:	
Net assets of KCM (refer note c below)	(418)
Loans, receivables and obligations of KCM towards the Group	1,668
External Net assets of KCM	**1,250**
Non-controlling Interest	86
External Net assets of KCM attributable to the Group (b)	**1,336**
Gain on deconsolidation (a) – (b)	**598**

***recognised at cost/ outstanding amounts since fair values are not reliably measurable, as explained above.*

c) The carrying amount of assets and liabilities:

(US$ million)

	As at 21 May 2019
Property, plant and equipment	1,470
Other non-current assets	68
Other current assets	240
Total assets	**1,778**
Borrowings	1,187
Trade payables	817
Others	192
Total liabilities	**2,196**
Net assets of KCM	**(418)**

d) The profit/ (loss) from discontinued operations i.e. KCM including gain on its deconsolidation has been presented below:

(US$ million)

	Six months ended 30 September 2019
Loss after tax from discontinued operations (refer note a above)	(77)
Gain on deconsolidation (refer note b above)	598
Total	**521**

(iv) Assessment of impairment at Avanstrate Inc (ASI)

Significant changes in the market and economic environment in which ASI operates has led to decrease in demand and profitability in the glass substrate business. Accordingly, the Group has assessed the recoverable value of all its assets and liabilities which led to a non-cash impairment charge in the current period.

During the period ended 30 September 2019, the Management performed impairment tests on the assets of ASI as indicators of impairment were identified in accordance with IAS 36. The Group has recognized an impairment charge of US$ 72 million as against the net carrying value of US$ 278 million on the assets of AvanStrate Inc business in Japan, Taiwan and Korea in the 'Others' segment. Given the significant interdependence of these entities on each other, these are considered as a single cash-generating unit.

The net recoverable value of assets and liabilities has been assessed at US$ 206 million based on the fair value less costs of disposal approach, using the Discounted Cash Flow Method (income approach), a level 3 valuation technique in the fair value hierarchy.

The impairment assessments are based on a range of estimates and assumptions, including:

Estimates/ assumption	Basis
Future sales volume	Existing customer relationships, unperformed contracts and expected wins
Commodity prices	management's best estimate
Discount rates	cost of capital risk-adjusted for the risk specific to the asset/ CGU

The projections of future sales volume are based on the existing customer relationships, unperformed contracts and revenue from contracts with new customers which are in the advanced stage of discussions or are probable wins based on management judgement. The cash flows are discounted using the post-tax nominal discount rate of 11%. Any subsequent changes to cash flows due to changes in the above-mentioned factors could impact the carrying value of the assets.

Based on the sensitivities carried out by the Group, decrease in volume assumptions by 1% would lead to decrease in recoverable value by US$ 9 million and increase in discount rate by 1% would lead to a decrease in recoverable value by US$ 14 million.

(v) Acquisition of Non-controlling interest of ESL:

During the period, the Group acquired 3.29% shares of Electrosteel Steels Limited from the non-controlling interests as part of an open offer made by Vedanta Star Limited for an amount of US$ 9 million.

The said exit open offer ended on 20 December 2019. Post the balance sheet date, the Group further acquired 2.45% for an amount of US$ 7 million, resulting in a total holding of 95.74% in Electrosteel Steels Limited.

(vi) Assessment of indicators of impairment at Skorpion Zinc (pty) Limited (Skorpion):

Skorpion is an integrated zinc facility (part of 'Zinc International' segment') in Namibia, Africa comprising of an open-pit mine and refinery. Skorpion is approaching its end of life on the mine (LOM) but has sufficient ore expected to run the refinery till April 2021. The refinery is build to process oxide based ores only which are available from the in-house mine. Post expiry of mine life, the Group intends to continue Skorpion as a custom refinery through procurement of ore from the other Group entities or other external parties. This would require re-purposing of the refinery to process concentrate. Management is actively looking into this alternative plan. Considering the uncertainty around the future operations of refinery, an impairment trigger was identified as of 30th September 2019. The company has carried out an impairment analysis as at 30 September 2019 considering the available ore only from the captive mine till April 2021 and concluded that there exists no impairment. Carrying value of Skorpion refinery assets as of 30th September 2019 is US$ 55 million. Since the refinery will be available for use after expiry of life of mine in April 2021, the depreciation under IAS 16 has been recorded based on the useful life of refinery of ~ 10 years.

4. Segment information

The Group is a diversified natural resources Group engaged in exploring, extracting and processing minerals and oil and gas. The Group produces zinc, lead, silver, copper, aluminium, iron ore, oil and gas and commercial power and have a presence across India, Zambia, South Africa, Namibia, UAE, Ireland, Australia, Liberia, Japan, South Korea and Taiwan. The Group is also in the business of port operations and manufacturing of glass substrate and steel.

The Group's reportable segments defined in accordance with IFRS 8 are as follows:

- Zinc- India
- Zinc-International
- Oil & Gas
- Iron Ore
- Copper-India/Australia
- Copper-Zambia**
- Aluminium
- Power

**Due to the ongoing litigation with respect to the Zambian operations, Copper-Zambia segment has been discontinued from the current period, and prior period information has been restated accordingly. Refer note 3(b)(iii) for further details.

'Others' segment mainly comprises of port/berth, steel and glass substrate business and those segments which do not meet the quantitative threshold for separate reporting.

Management monitors the operating results of reportable segments for the purpose of making decisions about resources to be allocated and for assessing performance. Segment performance is evaluated based on the EBITDA of each segment. Business segment financial data includes certain corporate costs, which have been allocated on an appropriate basis. Inter-segment sales are charged based on prevailing market prices except for power segment sales to aluminium segment amounting to US$ Nil million for the six months ended 30 September 2019 (30 September 2018: US$ 4 million and 31 March 2019: US$ 10 million), which were at cost.

The following tables present revenue and profit information for the six months ended 30 September 2019 and 30 September 2018 and year ended 31 March 2019 and certain asset and liability information regarding the Group's reportable segments as at 30 September 2019 and year ended 31 March 2019. Items after operating profit are not allocated by segment.

(a) Reportable segments

For the Six months ended 30 September 2019

(US$ Million)

	Zinc-India	Zinc-International	Oil and gas	Iron Ore	Copper-India*/ Australia	Aluminium	Power	Others	Elimination	Total operations
REVENUE										
Sales to external customers	1,324	245	904	222	709	1,916	479	333	-	6,132
Inter-segment sales	-	-	-	0	-	1	-	6	(7)	
Segment revenue	**1,324**	**245**	**904**	**222**	**709**	**1,917**	**479**	**339**	**(7)**	**6,132**
Segment Result										
EBITDA[(1)]	642	48	525	45	(23)	9	116	33	-	1,395
Depreciation and amortisation[(2)]	(162)	(49)	(276)	(19)	(11)	(118)	(42)	(34)	-	(711)
Operating profit / (loss) before special items	**480**	**(1)**	**249**	**26**	**(34)**	**(109)**	**74**	**(1)**		**684**
Investment revenue										207
Finance costs										(615)
Other gains and (losses) [net]										(41)
Special items										(60)
PROFIT BEFORE TAXATION FROM CONTINUING OPERATIONS										**175**
Segments assets	2,738	825	3,728	526	929	6,952	2,428	1,163	-	19,289
Financial asset investments										290
Deferred tax assets										997
Short-term investments										3,893
Cash and cash equivalents										1,251
Tax assets										360
Others										1,762
TOTAL ASSETS										**27,842**
Segment liabilities	622	186	1,223	194	442	2,976	243	224	-	6,110
Borrowings										14,650
Current tax liabilities										32
Deferred tax liabilities										601
Others										630
TOTAL LIABILITIES										**22,023**
Other Segment Information										
Impairment charge[(3)]	-	-	-	-	-	-	-	(72)	-	(72)

Six months ended 30 September 2018

(US$ million)

	Zinc-India	Zinc-International	Oil and gas	Iron Ore	Copper-India*/ Australia	Aluminium	Power	Others	Elimination	Total operations
REVENUE										
Sales to external customers	1,436	163	978	203	755	2,199	479	264	-	6,477
Inter-segment sales	-	-	-	0	0	2	4	4	(10)	-
Segment revenue**	**1,436**	**163**	**978**	**203**	**755**	**2,201**	**483**	**268**	**(10)**	**6,477**
Segment Result										
EBITDA[(1)]	727	15	572	42	(13)	225	117	45	-	1,730
Depreciation and amortisation[(2)]	(122)	(22)	(328)	(18)	(11)	(107)	(45)	(27)	-	(679)
Operating profit / (loss) before special items	**605**	**(7)**	**244**	**24**	**(24)**	**118**	**72**	**19**	**-**	**1,051**
Investment revenue										142
Finance costs										(631)
Other gains and (losses) [net]										(74)
Special items										47
Profit before taxation from continuing operations										**535**
Other Segment Information										
Impairment reversal[(3)]	-	-	38	-	-	-	-	-	-	38

Year ended 31 March 2019

(US$

	Zinc-India	Zinc-International	Oil and gas	Iron Ore	Copper-India*/ Australia	Aluminium	Power	Others	Elimination	Total operations
REVENUE										
Sales to external customers	2,955	392	1,892	415	1,537	4,180	924	711	-	13,006
Inter-segment sales	-	-	-	1	0	3	10	7	(21)	-
Segment revenue	**2,955**	**392**	**1,892**	**416**	**1,537**	**4,183**	**934**	**718**	**(21)**	**13,006**
Segment Result										
EBITDA(1)	1,516	100	1,100	90	(36)	316	219	151	-	3,456
Depreciation and amortisation(2)	(268)	(61)	(611)	(35)	(21)	(240)	(86)	(58)	-	(1,380)
Operating profit / (loss) before special items	**1,248**	**39**	**489**	**55**	**(57)**	**76**	**133**	**93**	**-**	**2,076**
Investment revenue										533
Finance costs										(1,213)
Other gains and (losses) [net]										(75)
Special items										47
PROFIT BEFORE TAXATION										**1,368**

	Zinc-India	Zinc-International	Oil and gas	Iron Ore	Copper-India*/ Australia	Copper-Zambia	Aluminium	Power	Others	Elimination	Total operations
Segments assets	2,704	872	3,983	547	1,074	1,844	7,432	2,635	1,270	-	22,361
Financial asset investments											707
Deferred tax assets											778
Short-term investments											4,164
Cash and cash equivalents											1,133
Tax assets											505
Others											133
TOTAL ASSETS											**29,781**
Segment liabilities	733	197	1,421	190	585	578	2,909	243	207	-	7,063
Borrowings											15,980
Current tax liabilities											61
Deferred tax liabilities											776
Others											648
TOTAL LIABILITIES											**24,528**
Other segment information											
Impairment reversal(3)	-	-	38	-	-	-	-	-	-	-	38

Million)

(1) *EBITDA is a non-IFRS measure and represents earnings before special items, depreciation, amortisation, other gains and losses, interest and tax.*

(2) Depreciation and amortisation are also provided to the chief operating decision maker on a regular basis.

(3) Included under special items (Note 5)

** The annual consent to operate (CTO) under the Air and Water Acts for copper smelters in India was rejected by the State Pollution Control Board on 09 April 2018 for want of further clarification and consequently the operations have presently been suspended. The matter is presently pending in High Court (refer note 3(a)(ii)).*

*** Export incentive has been reclassified from 'segment revenue' to 'other operating income'(refer note 1(c)(ii)).*

Disaggregation of revenue

Below table summarises the disaggregated revenue from contracts with customers:

(US$ million)

Particulars	**Six months ended 30 September 2019 (Unaudited)**	**Six months ended 30 September 2018 (Unaudited)**	**For the year ended 31 March 2019 (Audited)**
Zinc Metal	1,177	1,160	2,437
Lead Metal	245	268	563
Silver Bars	170	176	367
Oil	863	921	1809
Gas	48	32	75
Iron ore	80	46	99
Pig Iron	159	164	294
Metallurgical coke	1	4	8
Copper Products	490	689	1,330
Aluminum Products	1,836	2,120	4,017
Power	386	351	682
Steel Products	273	235	600
Others	360	237	604
Revenue from contracts with customers	**6,088**	**6,403**	**12,885**
Revenue from contingent rents	119	122	242
Gains/(losses) on provisionally priced contracts	(75)	(48)	(121)
Total Revenue	**6,132**	**6,477**	**13,006**

5. Special items

(US$ million)

	Six months ended 30 September 2019			Six months ended 30 September 2018			Year ended 31 March 2019		
	Special items	Tax effect of Special items	Special items after tax	Special items	Tax effect of Special items	Special items after tax	Special items	Tax effect of Special items	Special items after tax
Impairment reversal of oil and gas assets[1]	-	-	-	38	(13)	25	38	(13)	25
Impairment charge of ASI assets[2]	(72)	11	(61)	-	-	-	-	-	-
Total impairment reversal/ (charge) (net)	**(72)**	**11**	**(61)**	**38**	**(13)**	**25**	**38**	**(13)**	**25**
Operating special items	**(72)**	**11**	**(61)**	**38**	**(13)**	**25**	**38**	**(13)**	**25**
Financing special items[3]	-	-	-	9	(3)	6	9	(3)	6
Investment Revenue special items[4]	12	(3)	9	-	-	-	-	-	-
Profit from Discontinued Operations[5]	521	-	521	(229)	-	(229)	(333)	-	(333)
Special items	**461**	**8**	**469**	**(182)**	**(16)**	**(198)**	**(286)**	**(16)**	**(302)**

1 During the six months ended 30 September 2018 and year ended 31 March 2019, the Group had recognized an impairment reversal of US$ 38 million following the start of commercial production in Krishna Godavari Onshore block.

2 Significant changes in the market and economic environment in which ASI operates has led to decrease in demand and profitability in the glass substrate business. Accordingly, the Group has assessed the recoverable value of all its assets and liabilities which led to a non-cash impairment charge of US$ 72 million in the current period (refer note 3(b)(iv)).

3 During the six months ended 30 September 2018 and year ended 31 March 2019, the Group had partly reversed the provision for interest of US$ 9 million for dues towards SSNP pursuant to the Honourable Supreme Court of India order.

4 On the contempt petition filed by TSPL, the Hon'ble Supreme Court of India vide its order dated 07 August 2019 allowed gross calorific value (GCV) on as received basis (ARB) and actual cost of coal in the Energy Charge Formula and directed Punjab State Power Corporation Limited (PSPCL) to make the payments within 8 weeks. Pursuant to the order, PSPCL has paid US$ 124 million in September 2019 and further US$ 18 million in October 2019. TSPL has booked an interest of US$ 20 million due to the delay in receipt of payment as per the Supreme Court order dated 07 March, 2018 allowing the interest on delay in payment. Of this interest of US$ 12 million pertaining to period prior to FY 2020 is booked as special item and amount of US$ 8 million for current period is booked in investment income (refer note 14(iii)).

5 Consequent to the appointment of provisional liquidator of KCM on 21 May 2019, the Company deconsolidated KCM w.e.f. 21 May 2019, given the loss of control as per IFRS 10. The profit/ loss for the comparative period and till 21 May 2019 of the current period along with net gain/ loss on de-consolidation is shown as a special item (refer note 3(b)(iii)).

6. Other gains and (losses) (net)

(US$ million)

	Six months ended 30 September 2019	Six months ended 30 September 2018	Year ended 31 March 2019
Foreign exchange loss (net)	(35)	(86)	(65)
Change in fair value of financial liabilities measured at fair value	0	(1)	(1)
Net (loss)/ gain arising on qualifying hedges and non-qualifying hedges	(6)	13	(9)
Total	**(41)**	**(74)**	**(75)**

7. Tax

(a) Tax charge/ (credit) recognised in Consolidated Income Statement (including on special items)

(US$ million)

	Six months ended 30 September 2019	Six months ended 30 September 2018	Year ended 31 March 2019
Current tax:			
Current tax on profit for the period/year	139	179	554
Charge/(credit) in respect of current tax for earlier years	-	-	(1)
Total current tax (a)	**139**	**179**	**553**
Deferred tax			
(Reversal)/ Origination of temporary differences*	(266)	282	42
(Credit)/ Charge in respect of Special items (note 5)	(8)	16	16
Total deferred tax (credit)/ charge (b)	**(274)**	**298**	**58**
Net tax (credit)/ expense ((a)+(b))	**(135)**	**477**	**611**
Profit/ (loss) before taxation	**175**	**535**	**1,368**
Effective tax rate (%)	**(77.1%)**	**89.2%**	**44.6%**

* *Deferred tax charge for the six months ended 30 September 2019 includes Nil (30 September 2018: US$ 121 million and 31 March 2019: US$ 121 million) representing reversal of deferred tax asset created on carry forward losses not expected to be utilised during the statutory permitted period. It also includes US$ 84 million (30 September 2018: US$ 161 million and 31 March 2019: US$ 158 million) tax on undistributed/ distributed profits of subsidiaries. This also includes deferred tax credit of US$ 331 million (30 September 2018 and 31 March 2019: Nil) recognized pursuant to introduction of lower tax rates for the Indian companies (refer note 3(a)(v)).*

Tax expense

(US$ million)

Particulars	Six months ended 30 September 2019	Six months ended 30 September 2018	Year ended 31 March 2019
Tax effect of special items (Note 5)	(8)	16	16
Tax expense – others	(127)	461	595
Net tax (credit)/expense	**(135)**	**477**	**611**

8. Underlying Attributable Profit/(Loss) for the period

Underlying profit/(loss) is an alternative earnings measure, which the management considers to be a useful additional measure of the Group's performance. The Group's Underlying profit/ loss is the profit/ loss from continuing operations for the period/year after adding back special items, other gains/(losses) [net] (note 6) and their resultant tax (including taxes classified as special items) and non-controlling interest effects. This is a Non-IFRS measure.

(US$ million)

	Note	Six months ended 30 September 2019	Six months ended 30 September 2018	Year ended 31 March 2019
Profit/ (Loss) for the period/ year attributable to equity holders of the parent		503	(327)	(237)
Special items	*5*	60	(47)	(47)
Other (gains)/losses [net]	*6*	41	74	75
Tax effect of special items (including taxes classified as special items) and other gains/ (losses) [net]		(17)	12	(1)
Non-controlling interest on special items) and other gains/ (losses)		(58)	(20)	(16)
(Gain)/ loss on discontinued operations	*3(b)(iii)*	(521)	229	333
Non-controlling interest on loss after tax from discontinued operations		(17)	(47)	(69)
Underlying attributable profit/(loss) for the period/ year		**(9)**	**(126)**	**38**

9. Dividends

(US$ million)

	Six months ended 30 September 2019	Six months ended 30 September 2018*	Year ended 31 March 2019*
Amounts recognised as distributions to equity holders:			
Equity dividends on ordinary shares:			
Final dividend for 2017-18: 41.0 US cents per share	-	114	114
Final dividend for 2018-19: 65.0 US cents per share	185	-	

* *This includes US$ 1 million for the six months ended 30 September 2018 and for the year ended 31 March 2019 dividend on equity shares held by a separate investment trust holding treasury shares of the Company.*

The proposed interim dividend for the six months ended 30 September 2019 was 53 US cents per share totalling US$ 151 million (30 September 2018: Nil US cents).

10. Movement in net debt[1]

(US$ Million)

	Cash and cash equivalents	Short term investments	Financial asset investment net of related liabilities and derivatives[1]	Total cash and short-term investments	Debt due within one year	Debt due after one year	Total Net Debt
					Debt carrying value	Debt carrying value	
At 1 April 2019	**1,133**	**4,164**	**391**	**5,688**	**(5,456)**	**(10,524)**	**(10,292)**
Cash flow from continuing operations	139	(331)	(365)	(557)	1,408	(377)	474
Cash flows from Discontinued operations-KCM	(1)			(1)	-	-	(1)
De-recognition due to loss of control of KCM	(1)	-	-	(1)	128	22	149
Other non-cash changes[2]	-	125	(26)	99	(178)	165	86
Foreign exchange currency translation differences	(19)	(65)	-	(84)	85	77	78
At 30 September 2019	**1,251**	**3,893**	**-**	**5,144**	**(4,013)**	**(10,637)**	**(9,506)**

(US$ million)

	Cash and cash equivalents	Short term investments	Total cash and short-term investments	Debt due within one year	Debt due after one year	Total Net Debt
				Debt carrying value	Debt carrying value	
At 1 April 2018	**798**	**4,808**	**5,606**	**(5,460)**	**(9,734)**	**(9,587)**
Cash flow from continuing operations	(131)	536	405	860	(2,371)	(1,106)
Cash Flows from discontinued operations (KCM)	(184)	-	(184)	63	46	(75)
Net cash flow on acquisition through business combination	36	46	82	(1)	-	81
Other non-cash changes[2]	-	66	66	(620)	594	40
Foreign exchange currency translation differences	(52)	(432)	(484)	450	486	452
At 30 September 2018	**467**	**5,024**	**5,491**	**(4,708)**	**(10,979)**	**(10,195)**

(US$ Million)

	Cash and cash equivalents	Short term investments	Financial asset investment net of related liabilities and derivatives[(1)]	Total cash and short-term investments	Debt due within one year	Debt due after one year	Total Net Debt
					Debt carrying value	Debt carrying value	
At 1 April 2018	**798**	**4,808**	**-**	**5,606**	**(5,460)**	**(9,734)**	**(9,588)**
Cash flow from continuing operations	758	(639)	254	373	1,062	(2,486)	(1,051)
Cash flow from discontinued operations-KCM	(417)	-	-	(417)	137	92	(188)
Net cash flow on acquisition through business combination	36	46	-	82	(1)	-	81
Other non-cash changes [(2)]	-	187	137	324	(1,449)	1,398	273
Foreign exchange currency translation differences	(42)	(238)	-	(280)	255	206	181
At 31 March 2019	**1,133**	**4,164**	**391**	**5,688**	**(5,456)**	**(10,524)**	**(10,292)**

(1) Net debt is a Non-IFRS measure and represents total debt after fair value adjustments under IAS 32 and IFRS 9 as reduced by cash and cash equivalents, short-term investments and structured investment (refer note 15), net of the deferred consideration payable for such investments (referred above as Financial asset investment net of related liabilities), if any

(2) Other non-cash changes comprise of amortisation of borrowing costs, foreign exchange difference on net debt and reclassification between debt due within one year and debt due after one year. It also includes US$ 99 million (30 September 2018: US$ 66 million and 31 March 2019; US$ 324 million) representing fair value movement in investments and accrued interest on investments.

Debt securities issued/repaid during the period

In May 2017, Vedanta Ltd issued NCDs of US$ 50 million at an interest rate of 7.60%. These NCDs are secured by way of movable fixed assets of the Lanjigarh Refinery Expansion Project including 210 MW Power Project for the Lanjigarh Refinery Expansion Project with a minimum security cover of 1 time of the outstanding amount of the debenture and specifically exclude the 1MTPA alumina refinery of Vedanta Limited along with 90 MW power plant in Lanjigarh and all its related expansions. The NCDs have been fully repaid in May 2019.

In Dec 2017, Vedanta Ltd issued NCDs of US$ 71 million at an interest rate of 7.80%. These NCDs are secured by way of movable fixed assets of the Lanjigarh Refinery Expansion Project including 210 MW Power Project for the Lanjigarh Refinery Expansion Project with a minimum security cover of 1 time of the outstanding amount of the debenture and specifically exclude the 1MTPA alumina refinery of Vedanta Limited along with 90 MW power plant in Lanjigarh and all its related expansions. The NCDs have been fully repaid in April 2019.

In September 2016, Vedanta Ltd issued NCDs of US$ 21 million at an interest rate of 8.65%. These NCDs are secured by way of first ranking pari-passu charge on movable fixed assets in relation to the Lanjigarh Refinery Expansion Project (having capacity beyond 2 MTPA and upto 6 MTPA) situated at Lanjigarh, Orissa. The Lanjigarh Refinery Expansion Project shall specifically exclude the 1 MTPA alumina refinery of Vedanta Limited along with 90 MW power plant in Lanjigarh and all its related capacity expansions. The NCDs have been fully repaid in September 2019.

In March 2017, TSPL issued NCDs of US$ 35 million at an interest rate of 7.75%. These NCDs are secured by first pari-passu charge on movable and/or immovable fixed assets of TSPL with a minimum asset cover of 1 time during the tenure of NCD and an unconditional and irrevocable corporate guarantee by Vedanta Limited. The NCDs have been fully repaid in September 2019.

In April 2019, Vedanta Resources Finance 2 Limited issued bonds of US$ 400 million at an interest rate of 8.00%. The bonds are due for repayment in April 2023. As at 30 September 2019, the carrying value is US$ 397 million.

In April 2019, Vedanta Resources Finance 2 Limited issued bonds of US$ 600 million at an interest rate of 9.25%. The bonds are due for repayment in April 2026. As at 30 September 2019, the carrying value is US$ 596 million.

11. Financial instruments

Financial Assets and Liabilities:

The following tables present the carrying value and fair value of each category of financial assets and liabilities as at 30 September 2019 and 31 March 2019:

(US$ million)

As at 30 September 2019	Fair value through profit or loss	Fair value through other comprehensive income	Derivatives designated as hedging instruments	Amortised cost	Others	Total carrying value	Total fair value
Financial Assets							
Financial instruments (derivatives)	21	-	5	-	-	26	26
Financial asset investments held at fair value	12	12	-	-	-	24	24
Financial asset investments held at cost*	-	-	-	-	266	266	266
Short term investments							
- Bank deposits	-	-	-	87	-	87	87
- Other investments	3,806	-	-	-	-	3,806	3,806
Cash and cash equivalents	-	-	-	1,251	-	1,251	1,251
Other non-current assets and trade and other receivables	30	-	-	991	1,668**	2,689	2,689
Total	**3,869**	**12**	**5**	**2,329**	**1,934**	**8,149**	**8,149**

** Investment in KCM of US$ 266 million. These have been measured at cost since fair value is not reliably measurable. (refer note 3(b)(iii)).*

*** Loans, receivables and obligations of KCM towards the Group of US$ 1,668 million. These have been measured at outstanding amounts since fair value is not reliably measurable. (refer note 3(b)(iii)).*

(US$ million)

As at 30 September 2019	Fair value through profit or loss	Derivatives designated as hedging instruments	Amortised cost	Others*	Total carrying value	Total fair value
Financial Liabilities						
Financial instruments (derivatives)	47	0	-	-	47	47
Trade and other payables	51	-	4,402	32	4,485	4,485
Borrowings	-	-	14,650	-	14,650	14,580
Total	**98**	**0**	**19,052**	**32**	**19,182**	**19,112**

**Represents put option liability accounted for at fair value*

(US$ million)

As at 31 March 2019	Fair value through profit or loss	Fair value through other comprehensive income	Derivatives designated as hedging instruments	Amortised cost	Total carrying value	Total fair value
Financial Assets						
Financial instruments (derivatives)	5	-	6	-	11	11
Financial asset investments held at fair value**	690	17	-	-	707	707
Short term investments						
- Bank deposits	-	-	-	122	122	122
- Other investments	4,042	-	-		4,042	4,042
Cash and cash equivalents	-	-	-	1,133	1,133	1,133
Other non-current assets and trade and other receivables	35	-	-	1,639	1,674	1,674
Total	**4,772**	**17**	**6**	**2,894**	**7,689**	**7,689**

*** Includes structured investment.*

(US$ million)

As at 31 March 2019	Fair value through profit or loss	Derivatives designated as hedging instruments	Amortised cost	Others*	Total carrying value	Total fair value
Financial Liabilities						
Financial instruments (derivatives)	79	1	-	-	80	80
Trade and other payables	221	-	4,913	29	5,163	5,163
Borrowings	-	-	15,980	-	15,980	15,873
Total	**300**	**1**	**20,893**	**29**	**21,223**	**21,116**

**Represents put option liability accounted for at fair value*

Fair value hierarchy

The Group uses the following hierarchy for determining and disclosing the fair value of financial instruments by valuation technique:

- Level 1: quoted prices (unadjusted) in active markets for identical assets or liabilities
- Level 2: inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly (i.e. as prices) or indirectly (i.e. derived from prices)
- Level 3: inputs for the asset or liability that are not based on observable market data (unobservable inputs)

The below tables summarise the categories of financial assets and liabilities as at 30 September 2019 and 31 March 2019 measured at fair value:

(US$ Million)

	As at 30 September 2019		
	Level 1	**Level 2**	**Level 3**
Financial assets			
At fair value through profit or loss			
- Short term investments	1,226	2,580	-
- Financial asset investments held at fair value	-	-	12
- Financial instruments (derivatives)	-	21	-
- Other non-current assets and trade and other receivables	-	30	-
At fair value through other comprehensive income			
- Financial asset investments held at fair value	11	-	1
Derivatives designated as hedging instruments			
- Financial instruments (derivatives)	-	5	-
Total	**1,237**	**2,636**	**13**
Financial liabilities			
At fair value through profit or loss			
- Financial instruments (derivatives)	-	47	-
- Trade and other payables	-	51	-
Derivatives designated as hedging instruments			
- Financial instruments (derivatives)	-	0	-
Trade and other payables- Put option liability with non- controlling interest	-	-	32
Total		**98**	**32**

**Investment in KCM of US$ 266 million. These have been measured at cost since fair value is not reliably measurable. (refer note 3(b)(iii)).*

(US$ million)

	As at 31 March 2019		
	Level 1	**Level 2**	**Level 3**
Financial assets			
At fair value through profit or loss			
- Short term investments	939	3,091	12
- Financial asset investments held at fair value*	-	690	-
- Financial instruments (derivatives)	-	5	-
- Other non-current assets and trade and other receivables		35	
At fair value through other comprehensive income			
- Financial asset investments held at fair value	15	-	2
Derivatives designated as hedging instruments			
- Financial instruments (derivatives)	-	6	-
Total	**954**	**3,827**	**14**
Financial liabilities			
At fair value through profit or loss			
- Financial instruments (derivatives)	-	79	-
- Trade and other payables		221	
Derivatives designated as hedging instruments			
- Financial instruments (derivatives)	-	1	-
Trade and other payables- Put option liability with non -controlling interest	-	-	29
Total	**-**	**301**	**29**

** Includes structured investment*

The below table summarizes the fair value of borrowings which are carried at amortised cost as at 30 September 2019 and 31 March 2019:

(US$ million)

	As at 30 September 2019		As at 31 March 2019	
	Level 1	**Level 2**	**Level 1**	**Level 2**
Borrowings	3,079	11,501	3,068	12,805
Total	**3,079**	**11,501**	**3,068**	**12,805**

The fair value of the financial assets and liabilities are at the amount that would be received to sell an asset and paid to transfer a liability in an orderly transaction between market participants at the measurement date. The following methods and assumptions were used to estimate the fair values:

- Investments traded in active markets are determined by reference to quotes from the financial institutions; for example: Net asset value (NAV) for investments in mutual funds declared by mutual fund house. For other listed securities traded in markets which are not active, the quoted price is used wherever the pricing mechanism is same as for other marketable securities traded in active markets. Other current investments and structured investments are valued by referring to market inputs including quotes, trades, poll, primary issuances for securities and /or underlying securities issued by the same or similar issuer for similar maturities and movement in benchmark security, etc.
- Financial assets forming part of Trade and other receivables, cash and cash equivalents (including restricted cash and cash equivalents), bank deposits, financial liabilities forming part of trade and other payables and short-term borrowings: Approximate their carrying amounts largely due to the short-term maturities of these instruments.
- Other non-current financial assets and financial liabilities: Fair value is calculated using a discounted cash flow model with market assumptions, unless the carrying value is considered to approximate to fair value.

- Long-term fixed-rate and variable rate borrowings: Listed bonds are fair valued based on the prevailing market price. For all other long-term fixed-rate and variable-rate borrowings, either the carrying amount approximates the fair value, or fair value has been estimated by discounting the expected future cash flows using a discount rate equivalent to the risk-free rate of return adjusted for the appropriate credit spread.
- Quoted financial asset investments: Fair value is derived from quoted market prices in active markets.
- Derivative financial assets/liabilities: The Group enters into derivative financial instruments with various counterparties. Interest rate swaps, foreign exchange forward contracts and commodity forward contracts are valued using valuation techniques, which employs the use of market observable inputs. The most frequently applied valuation techniques by the Group include forward pricing and swap models, using present value calculations. The models incorporate various inputs including the foreign exchange spot and forward rates, yield curves of the respective currencies, currency basis spreads between the respective currencies, interest rate curves and forward rate curves of the underlying commodity. Commodity contracts are valued using the forward LME rates of commodities actively traded on the listed metal exchange i.e. London Metal Exchange, United Kingdom (UK).

For all other financial instruments, the carrying amount is either the fair value, or approximates the fair value.

The changes in counterparty credit risk had no material effect on the hedge effectiveness assessment for derivatives designated in hedge relationship and the value of other financial instruments recognised at fair value.

The estimated fair value amounts as at 30 September 2019 and 31 March 2019 have been measured as at that date. As such, the fair values of these financial instruments subsequent to reporting date may be different than the amounts reported at each year-end.

There were no significant transfers between level 1, level 2 and level 3 during the current period.

12. Share capital

	As at 30 September 2019		As at 31 March 2019	
Shares in issue	**Number**	**Paid up amount (US$ million)**	**Number**	**Paid up amount (US$ million)**
Ordinary shares of 10 US cents each	285,246,698	29	285,246,698	29
Deferred shares of £1 each	50,000	0	50,000	0
Total	**285,296,698**	**29**	**285,296,698**	**29**

Rights and obligations attaching to shares

The rights and obligations attaching to the ordinary and deferred shares are set out in the Articles.

Each ordinary share carries the right to one vote at general meetings of the Company and is entitled to dividends.

The holders of deferred shares do not have the right to receive notice of any general meeting of the Company nor the right to attend, speak or vote at any such general meeting. The deferred shares have no rights to dividends and, on a winding-up or other return of capital, entitle the holder only to the payment of the amounts paid on such shares after repayment to the holders of Ordinary Shares of the nominal amount paid up on the Ordinary Shares plus the payment of £100,000 per Ordinary Share. Of the 50,000 deferred shares, one deferred share was issued at par and has been fully paid, and 49,999 deferred shares were each paid up as to one-quarter of their nominal value.

13. Commitments, guarantees, contingencies and other disclosures

A. Commitments

The Group has a number of continuing commitments in the normal course of business including:

Exploratory mining commitments;

Oil and gas commitments;

Mining commitments arising under production sharing agreements; and

Completion of the construction of certain assets.

(US$ million)

	As at 30 September 2019	As at 31 March 2019
Capital commitments contracted but not provided	1,679	2,003

Estimated amount of contracts remaining to be executed on capital accounts and not provided for:

(US$ million)

	As at 30 September 2019	As at 31 March 2019
Oil & Gas sector		
Cairn India	564	797
Aluminium sector		
Lanjigarh Refinery (Phase II)	217	209
Jharsuguda 1.25 MTPA smelter	58	67
Zinc sector		
Zinc India (mines expansion and smelter)	128	284
Gamsberg mining & milling project	18	26
Copper sector		
Tuticorin Smelter 400 KTPA*	396	404
Others	298	216
Total	**1,679**	**2,003**

**currently contracts are under suspension under the force majeure clause as per the contract*

Committed work programme (Other than capital commitment):

(US$ million)

	As at 30 September 2019	As at 31 March 2019
Oil & Gas sector		
Cairn India (OALP - New Oil and Gas blocks)	786	551

B. Guarantees

The aggregate amount of indemnities and other guarantees on which the Group does not expect any material losses, was US$ 881 million (31 March 2019: US$ 1,120 million).

The Group has given guarantees in the normal course of business as stated below:

Guarantees and bonds advanced to the customs authorities in India of US$ 71 million relating to the export and payment of import duties on purchases of raw material and capital goods (31 March 2019: US$ 98 million).

Guarantees issued for Group's share of minimum work programme commitments of US$ 412 million (31 March 2019: US$ 342 million).

Guarantee issued against liabilities for structured investment (refer RPT note for details of the transactions) worth US$ 277 million as of 31 March 2019 has been relinquished due to liquidation of these investment in July 2019

Guarantees of US$ 11 million issued under bid bond for placing bids (31 March 2019: US$ 78 million).

Bank guarantees of US$ 16 million (US$ 17 million as on 31 March 2019) has been provided by the Group on behalf of Volcan Investments Limited to Income tax department, India as a collateral in respect of certain tax disputes

Other guarantees worth US$ 370 million (31 March 2019: US$ 308 million) issued for securing supplies of materials and services, in lieu of advances received from customers, litigation, for provisional valuation of custom duty and also to various agencies, suppliers and government authorities for various purposes. The Group does not anticipate any liability on these guarantees.

Cairn PSC/RSC guarantee to Government

The Group has provided guarantees for the Cairn India Group's obligation under the Production Sharing Contract ('PSC') and Revenue Sharing Contract ('RSC').

C. Export Obligations

The Indian entities of the Group have export obligations of US$ 451 million (31 March 2019: US$ 467 million) on account of concessional rates of import duty paid on capital goods under the Export Promotion Capital Goods Scheme and under the Advance Licence Scheme for the import of raw material laid down by the Government of India.

In the event of the Group's inability to meet its obligations, the Group's liability would be US$ 69 million (31 March 2019: US$ 78 million) plus applicable interest.

The Group has given bonds of US$ 222 million (31 March 2019: US$ 216 million) to custom authorities against these export obligations.

D. Contingencies

The Group discloses the following legal and tax cases as contingent liabilities.

Hindustan Zinc Limited: Department of Mines and Geology

The Department of Mines and Geology of the State of Rajasthan issued several show cause notices in August, September and October 2006 to HZL, totalling US$ 47 million as at 30 September 2019 (31 March 2019: US$ 48 million). These notices alleged unlawful occupation and unauthorised mining of associated minerals other than zinc and lead at HZL's Rampura Agucha, Rajpura Dariba and Zawar mines in Rajasthan during the period from July 1968 to March 2006. HZL believes it is unlikely that the claim will lead to a future obligation and thus no provision has been made in the financial statements. HZL had filed appeals (writ petitions) in the High Court of Rajasthan in Jodhpur. The High Court restrained the Department of Mines and Geology from undertaking any coercive measures to recover the penalty. Central Government has also been made a party to the case and the matter is likely to be listed now for hearing after completion of pleadings by the Central Government.

Richter and Westglobe: Income Tax

The Group, through its subsidiaries Richter Holdings Limited and Westglobe Limited, in 2007 acquired the entire stake in Finsider International Company Limited (FICL) based in the United Kingdom which held 51% shares of Sesa Goa Ltd, an Indian Company. In October 2013, the Indian Tax Authorities (Tax Authorities) had served an order on Richter and Westglobe for alleged failure to deduct withholding tax on capital gains on the indirect acquisition of shares in April 2007.

The Tax Authorities determined the liability for such non-deduction of tax as US$ 124 million (31 March 2019: US$ 127 million) in the case of Richter and US$ 83 million (31 March 2019: US$ 84 million) in the case of Westglobe, comprising tax and interest as at 31 March 2019. Richter and Westglobe filed appeals before the first appellate authority. Appeals (writ petitions) were filed in the High Court of Karnataka challenging the constitutional validity of retrospective amendments made by the Finance Act 2012 and in particular the imposition of obligations to deduct tax on payments made against an already concluded transaction. The Karnataka High Court passed interim orders and directed that the adjudication of liability (TDS quantum and interest) shall no longer remain in force since the tax department passed the orders on merits travelling beyond the limited issue of jurisdiction. The jurisdiction issue will be heard by the High Court.

In another similar matter, ITAT in the case of Cairn UK Holdings Limited held that being a retrospective transaction, interest would not be levied. As a result of the above order from ITAT, the Group now considers the risk in respect of the interest portion of claim to be remote. Accordingly, the Group has revised the contingent liability to US$ 72 million (31 March 2019: US$ 74 million) in the case of Richter and US$ 48 million (31 March 2019: US$ 49 million) in the case of Westglobe.

Vedanta Limited: Income tax

In March 2014, Vedanta Limited (notice was served on Cairn India Limited which subsequently merged with Vedanta Limited, accordingly now referred to as Vedanta Limited) received a show cause notice from the Indian Tax Authorities ('Tax Authorities') for not deducting withholding tax on the payments made to Cairn UK Holdings Limited (CUHL), for acquiring shares of Cairn India Holdings Limited (CIHL), as part of their internal reorganisation. The Tax Authorities have stated in the notice that a short-term capital gain has accrued to CUHL on transfer of the shares of CIHL to Vedanta Limited, in the financial year 2006–2007, on which tax should have been withheld by Vedanta Limited. Pursuant to this, various replies were filed with the Tax Authorities. After several hearings, the Income Tax Authority, in March 2015, issued an order holding Vedanta Limited as 'assessee in default' and raised a demand totalling US$ 2,907 million (including interest of US$ 1,454 million). Vedanta Limited had filed an appeal before the First Appellate Authority, Commissioner of Income Tax (Appeals) which vide order dated 03 July 2017 confirmed the tax demand against Vedanta Limited. Vedanta Limited has challenged the Commissioner of Income Tax's (Appeals) order before the Income Tax Appellate Tribunal (ITAT).

Vedanta Limited also filed a writ petition before the Delhi High Court wherein it has raised several points for assailing the aforementioned Income Tax Authority's order.

The matter came up for hearing on 06 August 2019 before Delhi High Court but adjourned and the next date of hearing is 05 February 2020.

Separately CUHL, on whom the primary liability of tax lies, had received an Order from the ITAT in the financial year 2016-17 holding that the transaction is taxable in view of the clarification made in the Act but also acknowledged that being a retrospective transaction, interest would not be levied. Hence affirming a demand of US$ 1,454 million excluding the interest portion that had previously been claimed. The tax department has appealed this order before the Delhi High Court. As a result of the above order from ITAT, the Group considers the risk in respect of the interest portion of claim to be remote. Further, as per the recent recovery notice dated 12 October 2018 received from the Tax Recovery Officer (TRO) appointed for CUHL, tax demand of CUHL of approx. US$ 709 million along with interest is outstanding. Further, in the said notice, tax department had also instructed to remit the preference shares redemption amount including dividend payable thereon to the TRO. Accordingly, amount aggregating to US$ 86 million has been paid to the TRO on 26 October 2018 thus reducing the liability to US$ 623 million. Vedanta has also paid interim dividend for FY 2018-19 of US$ 1 million to the TRO. Accordingly, the Group has revised the contingent liability to US$ 622 million (31 March 2019: US$ 634 million). In the event, the case is finally decided against the Company, the demand payable along with interest as per the above mentioned order would be US$ 2,907 million, of which only US$ 622 million is considered as possible. Separately, but in connection with this litigation, the Company has filed a Notice of Claim against the Government of India ('GOI') under the UK India Bilateral Investment Treaty (the BIT). The International Arbitration Tribunal passed a favourable order on jurisdiction and Transparency and hearing on merits have been completed in May 2019 and order will be passed in due course. The Government of India has challenged the jurisdiction and Transparency orders of Arbitration Tribunal before the High Court of Singapore which are listed for hearing on 06 February 2020 and 24 February 2020 respectively.

Ravva Joint Operations arbitration proceedings

ONGC Carry

The Ravva Production Sharing Contract (PSC) obliges the contractor parties to pay a proportionate share of ONGC's exploration, development, production and contract costs in consideration for ONGC's payment of costs related to the construction and other activities it conducted in Ravva prior to the effective date of the Ravva PSC (the ONGC Carry). The question as to how the ONGC Carry is to be recovered and calculated, along with other issues, was submitted to an International Arbitration Tribunal in August 2002 which rendered a decision on the ONGC Carry in favour of the contractor parties (including Vedanta Limited (Cairn India Limited which subsequently merged with Vedanta Limited, accordingly now referred to as Vedanta Limited)) whereas four other issues were decided in favour of Government of India (GOI) in October 2004 (Partial Award). The GOI then proceeded to challenge the ONGC Carry decision before the Malaysian courts, as Kuala Lumpur was the seat of the arbitration. The Federal Court of Malaysia upheld the Partial Award. As the Partial Award did not quantify the sums, therefore, contractor parties approached the same Arbitration Tribunal to pass a Final Award in the subject matter since it had retained the jurisdiction to do so. The Arbitral Tribunal was reconstituted and the Final Award was passed in October 2016 in Vedanta Limited's favour. GOI's challenge of the Final Award has been dismissed by the Malaysian High Court and the next appellate court in Malaysia i.e. Malaysian Court of Appeal. GOI then filed an appeal at Federal Court of Malaysia. The matter was heard on 28 February 2019 and the Federal Court dismissed GOI's leave to appeal. Vedanta Limited has also filed for the enforcement of the Partial Award and Final Award with Delhi High Court.

Base Development Cost

Ravva joint operations had received a claim from the Ministry of Petroleum and Natural Gas, Government of India (GOI) for the period from 2000-2005 for US$ 129 million for an alleged underpayment of profit petroleum (by recovering higher Base Development Costs ("BDC") against the cap imposed in the PSC) to the Government of India (GOI), out of which, Vedanta Limited's (Cairn India Limited which subsequently merged with Vedanta Limited, accordingly now referred to as Vedanta Limited) share will be US$ 29 million plus interest. Joint venture partners initiated the arbitration proceedings and Arbitration Tribunal published the Award allowing claimants (including Vedanta Limited) to recover the development costs spent to the tune of US$ 278 million and disallowed over run of US$ 22 million spent in respect of BDC along with 50% legal costs. The High Court of Kuala Lumpur as well as the Court of Appeal dismissed GOI's application of setting aside the part of the Award. GOI challenge to the same before the Federal Court of Malaysia was also dismissed on 17 May 2016. Vedanta Limited has filed an application for enforcement of award before Delhi High Court.

In connection with the above two matters, Vedanta Limited has received an order dated 22 October 2018 from the GOI directing oil marketing companies (OMCs) who are the offtakers for Ravva to divert the sale proceeds to GOI's account. GOI alleges that the Ravva Joint Operations has short paid profit petroleum of US$ 314 million (Vedanta Limited's share approximately - US$ 93 million) on account of the two disputed issues of ONGC Carry and BDC matters. Against an interim application, filed by Vedanta Limited and other joint venture partner, seeking stay of such action from GOI, before the Delhi High Court, where enforcement petitions for both matters are pending, the Court directed the OMCs to deposit above sums to the Court for both BDC and ONGC Carry matters. However, the Company (and other joint venture partner) has been given the liberty to seek withdrawal of the proportionate amounts (fallen due as of the date of Court order) from the Court upon furnishing a bank guarantee of commensurate value.

The BDC matter was last heard on 25 May 2019 wherein the arguments were completed by the parties and the judge has reserved his judgement in the matter. Separately, GOI has now also filed an interim application seeking deposit by the OMCs of an amount of US$ 87 million (Vedanta's share of US$ 56 million) towards interest on the alleged short payment of profit petroleum. The interim application filed by GOI and the ONGC Carry matter has been listed for hearing on 14 January 2020.

While the Company does not believe the GOI will be successful in its challenge, if the Arbitral Awards in above matters are reversed and such reversals are binding, Group would be liable for approximately US$ 93 million plus interest (31 March 2019: US$ 93 million plus interest).

Proceedings related to the imposition of entry tax

Vedanta Limited and other Group companies i.e. Bharat Aluminium Company Limited (BALCO) and Hindustan Zinc Limited (HZL) challenged the constitutional validity of the local statutes and related notifications in the states of Chhattisgarh, Odisha and Rajasthan pertaining to the levy of entry tax on the entry of goods brought into the respective states from outside.

Post some contradictory orders of High Courts across India adjudicating on similar challenges, the Supreme Court referred the matters to a nine judge bench. Post a detailed hearing, although the bench rejected the compensatory nature of tax as a ground of challenge, it maintained status quo with respect to all other issues which have been left open for adjudication by regular benches hearing the matters.

Following the order of the nine judge bench, the regular bench of the Supreme Court proceeded with hearing the matters. The regular bench remanded the entry tax matters relating to the issue of discrimination against domestic goods bought from other States to the respective High Courts for final determination but retained the issue of jurisdiction for levy on imported goods, for determination by the regular bench of the Supreme Court. Following the order of the Supreme Court, the Group filed writ petitions in respective High Courts.

On 09 October 2017, the Supreme Court has held that states have the jurisdiction to levy entry tax on imported goods. With this Supreme Court judgement, imported goods will rank pari-passu with domestic goods for the purpose of levy of Entry tax. Vedanta Limited and its subsidiaries have amended their appeals (writ petitions) in Odisha and Chhattisgarh to include imported goods as well. With respect to Rajasthan, the State Government has filed a counter petition in the Rajasthan High Court, whereby it has admitted that it does not intend to levy the entry tax on imported goods.

The issue pertaining to the levy of entry tax on the movement of goods into a Special Economic Zone (SEZ) remains pending before the Odisha High Court. The Group has challenged the levy of entry tax on any movement of goods into SEZ based on the definition of 'local area' under the Odisha Entry Tax Act which is very clear and does not include a SEZ. In addition, the Government of Odisha further through its SEZ Policy 2015 and the operational guidelines for administration of this policy dated 22 August 2016, exempted the entry tax levy on SEZ operations.

The total claims against Vedanta Limited and its subsidiaries are US$ 190 million (31 March 2019: US$ 190 million) net of provisions made.

BALCO: Challenge against imposition of Energy Development Cess

BALCO challenged the imposition of Energy Development Cess levied on generators and distributors of electrical energy @ 10 paise per unit on the electrical energy sold or supplied before the High Court on the grounds that the Cess is effectively on production and not on consumption or sale since the figures of consumption are not taken into account and the Cess is discriminatory since captive power plants are required to pay @ 10 paise while the State Electricity Board is required to pay @ 5 paise. The High Court of Chhattisgarh by order dated 15 December 2006 declared the provisions imposing ED Cess on CPPs as discriminatory and therefore ultra vires the Constitution. BALCO has sought refund of ED Cess paid till March 2006 amounting to US$ 5 million.

The State of Chhattisgarh moved an SLP in the Supreme Court and whilst issuing notice has stayed the refund of the Cess already deposited and the Supreme Court has also directed the State of Chhattisgarh to raise the bills but no coercive action be taken for recovery for the same. Final argument in this matter started before the Supreme Court. In case the Supreme Court overturns the decision of the High Court, BALCO would be liable to pay an additional amount of US$ 113 million (31 March 2019: US$ 108 million) and the company may have to bear a charge of US$ 118 million (31 March 2019: US$ 113 million).

Class actions against KCM on behalf of Zambian nationals

Vedanta and KCM had challenged the jurisdiction of the English courts to hear and adjudicate the claims by Zambian residents in relation to KCM's operations in Zambia. The allegations relate to claims of personal injury, significant pollution, environmental damage and claims for aggravated and exemplary damages and for injunctive relief. These allegations are currently defended by KCM. On 27 May 2016, the English High Court of Justice, Queen's Bench Division, Technology and Construction Court ruled that the English courts have jurisdiction to hear and adjudicate the claims. Vedanta and KCM appealed this ruling.

The English Court of Appeal released a judgement on 13 October 2017, dismissing this appeal and ruling that the English courts have jurisdiction to hear and adjudicate the claims. This judgement was solely related to the jurisdiction of the English courts to hear these claims.

Vedanta and KCM had sought permission from the Supreme Court of London to appeal the Court's decision, which was granted by the Supreme Court on 23 March 2018.

The UK Supreme Court hearing on jurisdiction of the UK courts to adjudicate the substantive claims took place on 15 and 16 January 2019. Both parties presented their arguments and submissions on the days. On 10 April 2019, the UK Supreme Court delivered its decision on jurisdiction matter and held that the English Court has jurisdiction to try such claims. The Supreme Court, however, agreed with arguments put forward by Vedanta and KCM that England is not the proper place for the trial of these claims and consequently overturned the lower courts on this point. The Court further added that the High Court was entitled to conclude on the evidence before it that there is a real risk that "substantial justice" will not be obtainable in Zambia and because of this, the claims may nonetheless be heard in the English Court.

Owing to the ZCCM action of initiating liquidation proceedings against KCM and the Provisional Liquidator taking over control, the English class action proceedings have not moved further. The next date for the case management conference has now been fixed for 05 February 2020.

The amount of the claims has not been specified. Given the stage of proceedings the amount is presently not quantifiable.

Miscellaneous disputes- Income tax

The Group is involved in various tax disputes amounting to US$ 1,650 million (31 March 2019: US$ 1,070 million) relating to income tax. It also includes similar matters where initial assessment is pending for subsequent periods and where the Group has made claims and assessments are in progress. These mainly relate to the disallowance of tax holiday for 100% Export Oriented Undertaking under section 10B of the Income Tax Act, 1961, disallowance of tax holiday benefit on production of gas under section 80IB of the Income Tax Act, 1961, tax holiday for undertakings located in certain notified areas under section 80IC of the Income Tax Act, 1961, disallowance of tax holiday benefit for power plants under section 80IA of the Income Tax Act, 1961, on account of depreciation disallowances of the Income Tax Act and interest thereon which are pending at various appellate levels. Interest and penalty, if any would be additional.

The Group believes that these disallowances are not tenable and accordingly no provision is considered necessary.

Miscellaneous disputes- Others

The Group is subject to various claims and exposures which arise in the ordinary course of conducting and financing its business from the excise, indirect tax authorities and others. These claims and exposures mostly relate to the assessable values of sales and purchases or to incomplete documentation supporting the companies' returns or other claims.

The approximate value of claims (excluding the items as set out separately above) against the Group companies total US$ 577 million (31 March 2019: US$ 581 million).

The Group considers that it can take steps such that the risks can be mitigated and that there are no significant unprovided liabilities arising.

Except as described above, there are no pending litigations which the Group believes could reasonably be expected to have a material adverse effect on the results of operations, cash flows or the financial position of the Group.

The miscellaneous income tax and other contingent liabilities as at 31 March 2019 includes US$ 599 million and US$ 3 million respectively on account of the impact of IFRIC 23 assessment.

Based on reassessments and developments during the period, the following matter that was reported as contingent liability as at 31 March 2019 is no more considered as contingent liability:

South Africa Carry Cost basis the acceptance of closure application to exit from South Africa block by Petroleum Agency South Africa (PASA)

14. Other matters

i). Share transactions Call options

a. HZL

Pursuant to the Government of India's policy of divestment, the Group in April 2002 acquired 26% equity interest in HZL from the Government of India. Under the terms of the Shareholder's Agreement ('SHA'), the Group had two call options to purchase all of the Government of India's shares in HZL at fair market value. The Group also acquired an additional 20% of the equity capital in HZL through an open offer. The Group exercised the first call option on 29 August 2003 and acquired an additional 18.9% of HZL's issued share capital, increasing its shareholding to 64.9%. The second call option provides the Group the right to acquire the Government of India's remaining 29.5% share in HZL. This call option is subject to the right of the Government of India to sell 3.5% of HZL shares to HZL employees. The Group exercised the second call option on 21 July 2009. The Government of India disputed the validity of the call option and has refused to act upon the second call option. Consequently, the Group invoked arbitration which is in the early stages. The next date of hearing is to be notified. The Government of India without prejudice to the position on the Put / Call option issue has received approval from the Cabinet for divestment and the Government is looking to divest through the auction route. Meanwhile, the Supreme Court has, in January 2016, directed status quo pertaining to disinvestment of Government of India's residual shareholding in a public interest petition filed which is currently pending and sub-judice.

b. BALCO

Pursuant to the Government of India's policy of divestment, the Group in March 2001 acquired 51% equity interest in BALCO from the Government of India. Under the terms of the SHA, the Group has a call option to purchase the Government of India's remaining ownership interest in BALCO at any point from 02 March 2004. The Group exercised this option on 19 March 2004. However, the Government of India has contested the valuation and validity of the option and contended that the clauses of the SHA violate the (Indian) Companies Act, 1956 by restricting the rights of the Government of India to transfer its shares and that as a result such provisions of the SHA were null and void. In the arbitration filed by the Group, the arbitral tribunal by a majority award rejected the claims of the Group on the grounds that the clauses relating to the call option, the right of first refusal, the "tag-along" rights and the restriction on the transfer of shares violate the (Indian) Companies Act, 1956 and are not enforceable. The Group has challenged the validity of the majority award in the High Court of Delhi and sought for setting aside the arbitration award to the extent that it holds these clauses ineffective and inoperative. The Government of India also filed an application before the High Court of Delhi to partially set aside the arbitral award in respect of certain matters involving valuation. The matter is currently scheduled for hearing by the Delhi High Court on 12 March 2020. Meanwhile, the Government of India without prejudice to its position on the Put / Call option issue has received approval from the Cabinet for divestment and the Government is looking to divest through the auction route.

In view of the lack of resolution on the options, the non-response to the exercise and valuation request from the Government of India, the resultant uncertainty surrounding the potential transaction and the valuation of the consideration payable, the Group considers the strike price of the options to be at fair value, and hence the call options have not been recognised in the financial statements.

ii). Pursuant to Management Committee recommendation and minutes of Empowered Committee of Secretaries (ECS) filed by GoI, Vedanta Limited had considered cost recovery of US$ 251 million in FY 2017-18, being the cost incurred over the initially approved FDP of Pipeline Project. Vedanta Limited's claim for the resultant profit petroleum of US$ 43 million, which had been previously paid, has been objected by the GoI. The Group believes that it has a good case on merits to recover the amount and has therefore treated it as a non-current recoverable amount.

iii). In July 2017, the Appellate Tribunal for Electricity dismissed the appeal filed by one of the Group's subsidiaries, Talwandi Sabo Power Limited (TSPL) with respect to the interpretation of how the calorific value of coal and costs associated with it should be determined. However, APTEL had allowed payment of shunting and unloading charges. TSPL filed an appeal before the Honourable Supreme Court, which by an order dated 07 March 2018 has decided the matter in favour of TSPL. PSPCL has not paid the due amount as per the direction of the Supreme court. Therefore, TSPL filed its contempt petition before the Supreme court. On 07 August 2019, SC has passed order in the contempt petition in favour of TSPL and ordered PSPCL to pay the due amount in 8 weeks. PSPCL has paid US$ 124 million in September 2019 and US$ 18 million in October 2019. PSPCL has filed an application in Supreme Court on 16 October 2019 seeking direction to designate an appropriate authority for arriving at the final amount as per its order. On 25 November 2019 the application has been dismissed and SC directed PSPCL to pay the remaining amount within 12 weeks. TSPL has also filed a second contempt petition on 13 November 2019 in Supreme Court regarding the remaining amount receivable from PSCPL. Supreme Court has issued a notice on 29 November 2019 to PSPCL and next date of hearing is likely in January 2020. The outstanding trade receivables in relation to this dispute is US$ 44 million (31 March 2019: US$ 164 million).

In another matter relating to assessment of whether there has been a change in law following the execution of the Power Purchase Agreement, the Appellate Tribunal for Electricity has dismissed the appeal in July 2017 filed by TSPL. TSPL filed an appeal before the Honourable Supreme Court to seek relief which is yet to be listed. The outstanding trade receivables in relation to this dispute and other matters is US$ 170 million (31 March 2019: US$ 154 million). The Group, based on external legal opinion and its own assessment of the merits of the case, remains confident that it is highly probable that the Supreme court will uphold TSPL's appeal and has thus continued to treat these balances as recoverable.

15. Related party transactions

The information below sets out transactions and balances between the Group and various related parties in the normal course of business for the six months ended 30 September 2019.

Sterlite Technologies Limited ('STL')

(US$ million)

	Six months ended 30 September 2019	Six months ended 30 September 2018	Year ended 31 March 2019
Sales	0	0	0
Management fees expense	1	-	2
Management fees income	-	-	0
Other expenses	-	-	0
Dividend income	-	-	0

(US$ million)

	As at 30 September 2019	As at 31 March 2019
Net amounts receivable	0	0
Net amounts payable	0	2
Investment in equity Share	11	15

Sterlite Technologies Limited is related by virtue of having the same controlling party as the Group, namely Volcan.

Sterlite Iron and Steel Company Limited

(US$ million)

	Six months ended 30 September 2019	Six months ended 30 September 2018	Year ended 31 March 2019
Net Interest Received	0	0	0

(US$ million)

	As at 30 September 2019	As at 31 March 2019
Net amounts receivable	0	2
Loan given/(repaid)	0	0
Advances given/(received) during the period	0	0
Loan balance receivable	1	0
Net advance outstanding	2	-

Sterlite Iron and Steel Limited is a related party by virtue of having the same controlling party as the Group, namely Volcan.

Cairn Foundation

(US$ million)

	Six months ended 30 September 2019	Six months ended 30 September 2018	Year ended 31 March 2019
Donation	2	2	3

(US$ million)

	As at 30 September 2019	As at 31 March 2019
Net amounts payable	2	1

Sterlite Power Transmission limited ('SPTL').

(US$ million)

	Six months ended 30 September 2019	Six months ended 30 September 2018	Year ended 31 March 2019
Sales	60	88	131
Purchases	-	-	0
Reimbursement	-	0	0
Net Interest Received	1	0	1

(US$ million)

	As at 30 September 2019	As at 31 March 2019
Investment in equity Share	2	2
Net amounts receivable	5	1
Net amounts payable	0	1

Sterlite Power Transmission limited ('SPTL') is related by virtue of having the same controlling party as the Group, namely Volcan.

Volcan Investments Limited

(US$ million)

	Six months ended 30 September 2019	Six months ended 30 September 2018	Year ended 31 March 2019
Dividend paid	122	73	73
Recovery of expenses	0	0	0
Interest paid on bonds held by Volcan	0	1	1
Investments redeemed during the period	639*	-	-
Bonds redeemed during the period	-	-	8

(US$ million)

	As at 30 September 2019	As at 31 March 2019
Net amount receivable	13	0
Value of bonds held by Volcan	13	13
Purchase of structured investment	-	541
Deferred consideration payable	-	299
Fair Value of structured investment at period end	-	690
Guarantees given balance at period end	16	17
Dividend Payable	21	-
Interest payable on bonds held	0	0

Volcan Investments Limited is a related party of the Group by virtue of being an ultimate controlling party of the Group.

* In December 2018, as part of its cash management activities, Cairn India Holdings Limited (CIHL), a step-down subsidiary of the Company, entered into a tripartite agreement with Volcan and one of its subsidiaries. Under the agreement, CIHL purchased an economic interest in a structured investment for the equity shares of Anglo American Plc (AA Plc), a company listed on the London Stock Exchange, from Volcan for a total consideration of US$ 541 million determined based on an independent third-party valuation. The ownership of the underlying shares, and the associated voting interests, remained with Volcan and the investment were to mature in two tranches in April 2020 and October 2020. In addition, CIHL also received a put option from Volcan. During the period ended September 30 2019, the investments have been redeemed for a total consideration of US$ 639 million, representing the actual price Volcan realised from selling the shares of AA Plc to an unrelated third-party net of associated transaction costs. Of the consideration, after settlement of associated liabilities payable to Volcan, US$ 12 million is outstanding balance receivable from Volcan as at 30 September 2019.

Bank guarantee has been provided by the Group on behalf of Volcan in favour of Income tax department, India as collateral in respect of certain tax disputes of Volcan. The guarantee amount is US$ 16 million (31 March 2019 : US$ 17 million).

Volcan Investments Cyprus Limited

(US$ million)

	Six months ended 30 September 2019	Six months ended 30 September 2018	Year ended 31 March 2019
Dividend paid	63	-	-

(US$ million)

	As at 30 September 2019	As at 31 March 2019
Dividend payable	40	-

Volcan Investments Cyprus Limited is a related party of the Group by virtue of being an ultimate controlling party of the Group.

India Grid Trust

(US$ million)

	Six months ended 30 September 2019	Six months ended 30 September 2018	Year ended 31 March 2019
Dividend income	1	-	2

(US$ million)

	As at 30 September 2019	As at 31 March 2019
Investment in equity shares	17	15

India Grid Trust is a related party of the Group on the basis that the ultimate controlling party of the Group, Volcan Investments Limited, exercises significant influence.

Vedanta Medical Research Foundation

(US$ million)

	Six months ended 30 September 2019	Six months ended 30 September 2018	Year ended 31 March 2019
Donation	4	11	14
Stock option expenses/(Recovery)	0	-	-
Reimbursement	0	-	-
Guarantees given during the period (net of relinquishment)	(1)	1	2

(US$ million)

	As at 30 September 2019	As at 31 March 2019
Guarantees given balance at period end	6	7

Vedanta Medical Research Foundation is a related party of the Group on the basis that key management personnel of the Group exercise significant influence.

Details of balance payable at the end of the period to post retirement employee benefit trusts.

(US$ million)

	As at 30 September 2019	As at 31 March 2019
BALCO Employees Provident Fund Trust	1	2
Hindustan Zinc Ltd. Employee Contributory provident fund trust	1	5
Sesa Group Employees Provident Fund	0	1
Sesa Resources Limited Employees Provident Fund	0	0
Sesa Mining Corporate Limited Employees Provident Fund	0	0
HZL Employee group Gratuity Trust	10	9
Sesa Group Employees Gratuity Fund and Sesa Group Executives Gratuity Fund	1	0
Sesa Resources Limited Employees Gratuity Fund	0	0
Sesa Mining Corporation Limited Employees Gratuity Fund	0	0
HZL Superannuation fund	0	0
Sesa Group Executives Superannuation Scheme	0	0
Sesa Resources Limited and Sesa Mining Corporation Limited Employees Superannuation Fund	0	0

16. Subsequent events

(i) Government of India (GOI) vide Office Memorandum ("OM") dated 01 February 2013 allowed for Exploration in the Mining Lease Area after expiry of Exploration period. Further, MoPNG vide letter dated 24 October 2019 provided certain clarifications on the Office Memorandum in respect of recovery of past exploration, development and production costs incurred on new discoveries and the mechanism for recovery of such costs. The clarification allows recovery of both successful and unsuccessful exploration costs, without impacting the Government share of profit petroleum from existing monetized discoveries. The clarification has added the formula as per which the cash settlement in respect of cost recovery will be done with the government. The Group is still assessing the impact of change in mechanism of cost recovery and would make necessary adjustments in the financial statements for the year ending March 31, 2020.

(ii) Vedanta Limited has been awarded Jamkhani coal mine located in the State of Odisha, India through the auction of coal mines conducted by the Government of India in November 2019. The company need to submit the Bank Guarantee of US$ 61 million for obtaining the vesting order and pay US$ 8 million as consideration.

INDEPENDENT REVIEW REPORT TO VEDANTA RESOURCES LIMITED

Introduction

We have been engaged by the Company to review the condensed set of financial statements in the interim results report for the six months ended 30 September 2019 which comprises the condensed consolidated income statement, the condensed consolidated statement of comprehensive income, the condensed consolidated statement of financial position, the condensed consolidated statement of cash flows, the condensed consolidated statement of changes in equity and the related notes 1 to 16. We have read the other information contained in the interim results report and considered whether it contains any apparent misstatements or material inconsistencies with the information in the condensed set of financial statements. This report is made solely to the Company in accordance with guidance contained in International Standard on Review Engagements 2410 (UK and Ireland) "Review of Interim Financial Information Performed by the Independent Auditor of the Entity" issued by the Auditing Practices Board. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the Company, for our work, for this report, or for the conclusions we have formed.

Directors' Responsibilities

The interim results report is the responsibility of, and has been approved by, the directors. The directors are responsible for preparing the interim results report in accordance with the accounting policies set out in note 2.

Our Responsibility

Our responsibility is to express to the Company a conclusion on the condensed set of financial statements in the interim results report based on our review.

Scope of Review

We conducted our review in accordance with International Standard on Review Engagements (UK and Ireland) 2410, "Review of Interim Financial Information Performed by the Independent Auditor of the Entity" issued by the Auditing Practices Board for use in the United Kingdom. A review of interim financial information consists of making enquiries, primarily of persons responsible for financial and accounting matters, and applying analytical and other review procedures. A review is substantially less in scope than an audit conducted in accordance with International Standards on Auditing (UK) and consequently does not enable us to obtain assurance that we would become aware of all significant matters that might be identified in an audit. Accordingly, we do not express an audit opinion.

Basis for Qualified Conclusion

Based on information provided to us by management, the Company is accounting for balances amounting to $1.9 billion, that arose as a result of the loss of control and deconsolidation of KCM, at cost (Note 3(b) (iii)). To conform with the requirements of International Financial Reporting Standards (IFRS) these items should be accounted for at fair value, which we believe would be materially lower than cost. Owing to the inherent uncertainty of the situation as described in Note 3(b) (iii), we have not been able to determine the effect of this departure from applicable IFRS on the interim financial statements.

Qualified Conclusion

Based on our review, with the exception of the matter described in the preceding paragraph, nothing has come to our attention that causes us to believe that the condensed set of financial statements in the interim results report, does not present fairly, in all material respects, the financial position of the company as at 30 September 2019, and of its financial performance and its cash flows for the six month period then ended in accordance with IFRSs.

Ernst & Young LLP
London

24 December 2019

Other information:

Alternative performance measures

Introduction

Vedanta Group is committed to providing timely and clear information on financial and operational performance to investors, lenders and other external parties, in the form of annual reports, disclosures, RNS feeds and other communications. We regard high standards of disclosure as critical to business success.

Alternative Performance Measure (APM) is an evaluation metric of financial performance, financial position or cash flows that is not defined or specified under International Financial Reporting Standards (IFRS).

The APMs used by the group fall under two categories:

- *Financial APMs: These financial metrics are usually derived from financial statements, prepared in accordance with IFRS. Certain financials metrics cannot be directly derived from the financial statements as they contain additional information such as profit estimates or projections, impact of macro-economic factors and changes in regulatory environment on financial performance*

- *Non-Financial APMs: These metrics incorporate non – financial information that management believes is useful in assessing the performance of the group.*

APMs are not uniformly defined by all the companies, including those in the Group's industry. APM's should be considered in addition to, and not a substitute for or as superior to, measures of financial performance, financial position or cash flows reported in accordance with IFRS.

Purpose

The Group uses APMs to improve comparability of information between reporting periods and business units, either by adjusting for uncontrollable or one-off factors which impacts upon IFRS measures or, by aggregating measures, to aid the user of the Annual Report in understanding the activity taking place across the Group's portfolio.

APMs are used to provide valuable insight to analysts and investors along with Generally Accepted Accounting Practices (GAAP). We believe these measures assist in providing a holistic view of the company's performance.

Alternative performance measures (APMs) are denoted by◊ where applicable.

◊ APM terminology*	Closest equivalent IFRS measure	Adjustments to reconcile to primary statements
EBITDA	Operating profit/(loss) from continuing operations before special items	Operating Profit/(Loss) from continuing operations before special items Add: Depreciation & Amortization
EBITDA margin (%)	No direct equivalent	EBITDA from continuing operations divided by Revenue from continuing operations
Adjusted revenue	Revenue from continuing operations	Revenue from continuing operations Less: revenue of custom smelting operations at our Copper India & Zinc India business
Adjusted EBITDA	Operating profit/(loss) from continuing operations before special items	EBITDA from continuing operations Less: EBITDA of custom smelting operations at our Copper India & Zinc India business
Adjusted EBITDA margin	No direct equivalent	Adjusted EBITDA from continuing operations divided by Adjusted Revenue from continuing operations

Underlying profit/(loss)	Attributable Profit/(loss) from continuing operations before special items	The Group's Underlying profit/ loss is the profit/ loss from continuing operations for the period/year after adding back special items, other gains/(losses) [net] and their resultant tax (including taxes classified as special items) and non-controlling interest effects. Attributable profit/(loss) to equity shareholders of the parent Less: Special items and other gains/(losses) (net of tax) Less: NCI share in special item and other gains/(losses) (net of tax) Less: Gains/(losses) on discontinued operations Less: NCI share in loss after tax from discontinued operations.
Project Capex	Expenditure on Property, Plant and Equipment (PPE)	Gross Addition to PPE Less: Gross disposals to PPE Add: Accumulated Depreciation on disposals Less: Decommissioning liability Less: Sustaining Capex
Free cash flow (FCF) post capex	Net cash flow from operating activities	Net Cash flow from operating activities Less: addition of property, plant and equipment and intangibles less proceeds on disposal of property, plant and equipment Add: Dividend paid and dividend distribution tax paid Add/less: Other non-cash adjustments
Net debt*	Net debt is a Non-IFRS measure and represents total debt after fair value adjustments under IAS 32 and IFRS 9 as reduced by cash and cash equivalents, liquid investments and structured investment, net of the deferred consideration payable for such investments (referred as Financial asset investment net of related liabilities), if any.	No Adjustments
ROCE	No direct Equivalent	Not Applicable

*In December 2018, the Group has made a structured investment which is classified as Financial Assets investments. We believe liquidity of the investment makes its comparable to the other assets included previously in the debt calculation; therefore, inclusion gives more reliable and relevant information.

ROCE for and H1 FY2020 is calculated based on the working summarized below. The same method is used to calculate the ROCE for all previous years (stated at other places in the report).

Particulars	**Period ended 30 September 2019**
Operating Profit from continuing operations before Special Items	1,714
Less: Cash Tax Outflow	266
Operating Profit from continuing operations before special Items less Tax outflow (a)	**1,448**
Opening Capital Employed (b)	15,552
Closing Capital Employed (c)	15,326
Average Capital Employed (d)= (b+c)/2	**15,439**

ROCE (a)/(d)	**9.38%**

Adjusted Revenue, EBITDA & EBITDA Margin for FY 2019 and H1 FY2020 is calculated based on the working summarised below. The same method is used to calculate the adjusted revenue and EBITDA for all previous years (stated at other places in the report).

Particulars	**Period ended 30 September 2019**
Revenue from continuing operations	6,132
Less: Revenue of Custom smelting operations	(709)
Adjusted Revenue(a) from continuing operations	**5,423**
EBITDA from continuing operations	1,395
Less: EBITDA of Custom smelting operations	(23)
Adjusted EBITDA(b) from continuing operations	**1,417**
Adjusted EBITDA Margin (b)/(a)	**26%**

GLOSSARY AND DEFINITIONS

Adapted Comparator Group

The new comparator group of companies used for the purpose of comparing TSR performance in relation to the LTIP, adopted by the Remuneration Committee on 01 February 2006 and replacing the previous comparator group comprising companies constituting the FTSE Worldwide Mining Index (excluding precious metals)

Adjusted EBITDA

Group EBITDA net of EBITDA from custom smelting operations at Copper India & Zinc India operations.

Adjusted EBITDA margin

EBITDA margin computed on the basis of Adjusted EBITDA and Adjusted Revenue as defined elsewhere

Adjusted Revenue

Group Revenue net of revenue from custom smelting operations at Copper India & Zinc India operations.

Aluminium Business

The aluminium business of the Group, comprising of its fully-integrated bauxite mining, alumina refining and aluminium smelting operations in India, and trading through the Bharat Aluminium Company Limited and Jharsuguda Aluminium (a division of Vedanta Limited), in India

Articles of Association

The articles of association of Vedanta Resources Limited

Attributable Profit

Profit for the financial year before dividends attributable to the equity shareholders of Vedanta Resources Limited

BALCO

Bharat Aluminium Company Limited, a company incorporated in India.

BMM

Black Mountain Mining Pty

Board or Vedanta Board

The board of directors of the Company

Board Committees

The committees reporting to the Board: Audit, Remuneration, Nominations, and Sustainability, each with its own terms of reference

Businesses

The Aluminium Business, the Copper Business, the Zinc, lead, silver, Iron ore, Power and Oil & Gas Business together

Boepd

Barrels of oil equivalent per day

Bopd

Barrels of oil per day

Cairn India

Erstwhile Cairn India Limited and its subsidiaries

Capital Employed

Net assets before Net (Debt)/Cash

Capex

Capital expenditure

CEO

Chief executive officer

CFO

Chief Financial Officer

CII

Confederation of Indian Industries

CO2

Carbon dioxide

COP

Cost of production

CMT

Copper Mines of Tasmania Pty Limited, a company incorporated in Australia

Company or Vedanta

Vedanta Resources Limited

Copper Business

The copper business of the Group, comprising:

- A copper smelter, two refineries and two copper rod plants in India, trading through Vedanta Limited, a company incorporated in India;
- One copper mine in Australia, trading through Copper Mines of Tasmania Pty Limited, a company incorporated in Australia; and
- An integrated operation in Zambia consisting of three mines, a leaching plant and a smelter, trading through Konkola Copper Mines Limited, a company incorporated in Zambia which is treated as discontinued operations and deconsolidated the same w.e.f 21 May2019, affiliation with Zambian government is in progress.

Copper India

Copper Division of Vedanta Limited comprising of a copper smelter, two refineries and two copper rod plants in India.

Cents/lb

US cents per pound

CRRI

Central Road Research Institute

CRISIL

CRISIL Limited (A S&P Subsidiary) is a rating agency incorporated in India

CSR

Corporate social responsibility

CTC

Cost to company, the basic remuneration of executives, which represents an aggregate figure encompassing basic pay, pension contributions and allowances

CY

Calendar year

% Change

It is calculated and presented on absolute numbers. Hence, it would not match with % calculated on face value numbers.

DDT

Dividend distribution tax

Deferred Shares

Deferred shares of £1.00 each in the Company

DFS

Detailed feasibility study

DGMS

Director General of Mine Safety in the Government of India

Directors

The Directors of the Company

DMF

District Mineral Fund

DMT

Dry metric tonne

Dollar or $

United States Dollars, the currency of the United States of America

EAC

Expert advisory committee

EBITDA

EBITDA is a non-IFRS measure and represents earnings before special items, depreciation, amortisation, other gains and losses, interest and tax.

EBITDA Margin

EBITDA as a percentage of turnover

Economic Holdings or Economic Interest

The economic holdings/interest are derived by combining the Group's direct and indirect shareholdings in the operating companies. The Group's Economic Holdings/Interest is the basis on which the Attributable Profit and net assets are determined in the consolidated accounts

E&OHSAS

Environment and occupational health and safety assessment standards

E&OHS

Environment and occupational health and safety management system

ESOP

Employee share option plan

ESP

Electrostatic precipitator

Executive Committee

The Executive Committee to whom the Board has delegated operational management. It comprises of the Chief Executive Officer and the senior management of the Group

Executive Directors

The Executive Directors of the Company

Expansion Capital Expenditure

Capital expenditure that increases the Group's operating capacity

Financial Statements or Group financial statements

The consolidated financial statements for the Company and the Group for the year ended 31 March 2019 as defined in the Independent Auditor's Report to the members of Vedanta Resources Limited

Free Cash Flow

Net Cash flow from continuing operation's operating activities Less: purchases of property, plant and equipment and intangibles Add proceeds on disposal of property, plant and equipment Add: Dividend paid and dividend distribution tax paid

Add/less: Other non-cash adjustments

FY

Financial year i.e. April to March.

GAAP, including UK GAAP

Generally Accepted Accounting Principles, the common set of accounting principles, standards and procedures that companies use to compile their financial statements in their respective local territories

GDP

Gross domestic product

Gearing

Net Debt as a percentage of Capital Employed

GJ

Giga joule

Government or Indian Government

The Government of the Republic of India

Gratuity

A defined contribution pension arrangement providing pension benefits consistent with Indian market practices

Group

The Company and its subsidiary undertakings and, where appropriate, its associate undertaking

Gross finance costs

Finance costs before capitalisation of borrowing costs

HIIP

Hydrocarbons initially-in place

HSE

Health, safety and environment

HZL

Hindustan Zinc Limited, a company incorporated in India

IAS

International Accounting Standards

IFRIC

IFRS Interpretations Committee

IFRS

International Financial Reporting Standards

INR

Indian Rupees

Interest cover

EBITDA divided by gross finance costs (including capitalised interest) excluding accretive interest on convertible bonds, unwinding of discount on provisions, interest on defined benefit arrangements less investment revenue

IPP

Independent power plant

Iron Ore Sesa

Iron ore Division of Vedanta Limited, comprising of Iron ore mines in Goa and Karnataka in India.

Jharsuguda Aluminium

Aluminium Division of Vedanta Limited, comprising of an aluminium refining and smelting facilities at Jharsuguda and Lanjigarh in Odisha in India.

KCM or Konkola Copper Mines

Konkola Copper Mines Limited, a company incorporated in Zambia

Key Result Areas or KRAs

For the purpose of the remuneration report, specific personal targets set as an incentive to achieve short-term goals for the purpose of awarding bonuses, thereby linking individual performance to corporate performance

KPIs

Key performance indicators

KTPA

Thousand tonnes per annum

Kwh

Kilo-watt hour

KBOEPD

Kilo barrel of oil equivalent per day

LIBOR

London inter bank offered rate

LIC

Life Insurance Corporation

LME

London Metals Exchange

London Stock Exchange

London Stock Exchange Limited

Lost time injury

An accident/injury forcing the employee/contractor to remain away from his/her work beyond the day of the accident

LTIFR

Lost time injury frequency rate: the number of lost time injuries per million man hours worked

LTIP

The Vedanta Resources Long-Term Incentive Plan or Long-Term Incentive Plan

MALCO

The Madras Aluminium Company Limited, a company incorporated in India

Management Assurance Services (MAS)

The function through which the Group's internal audit activities are managed

MAT

Minimum alternative tax

MBA

Mangala, Bhagyam, Aishwarya oil fields in Rajasthan

MIC

Metal in concentrate

MOEF

The Ministry of Environment, Forests and Climate change of the Government of the Republic of India

MMSCFD

Million standard cubic feet per day

MT or Tonnes

Metric tonnes

MU

Million Units

MW

Megawatts of electrical power

NCCBM

National Council of Cement and Building Materials

Net (Debt)/Cash

Net debt is a Non-IFRS measure and represents total debt after fair value adjustments under IAS 32 and IFRS 9 as reduced by cash and cash equivalents, liquid investments and structured investment, net of the deferred consideration payable for such investments (referred as Financial asset investment net of related liabilities), if any.

NGO

Non-governmental organisation

Non-executive Directors

The Non-Executive Directors of the Company

Oil & Gas business

Oil & Gas division of Vedanta Limited, is involved in the business of exploration, development and production of Oil & Gas.

OALP

Open Acreage licensing Policy

Ordinary Shares

Ordinary shares of 10 US cents each in the Company

ONGC

Oil and Natural Gas Corporation Limited, a company incorporated in India

OPEC

Organisation of the Petroleum Exporting Countries

PBT

Profit before tax

PPE

Property plant and equipment

Provident Fund

A defined contribution pension arrangement providing pension benefits consistent with Indian market practices

PSC

A "production sharing contract" by which the Government of India grants a license to a company or consortium of companies (the 'Contractor") to explore for and produce any hydrocarbons found within a specified area and for a specified period, incorporating specified obligations in respect of such activities and a mechanism to ensure an appropriate sharing of the profits arising there from (if any) between the Government and the Contractor.

PSP

The Vedanta Resources Performance Share Plan

Recycled water

Water released during mining or processing and then used in operational activities

Return on Capital Employed or ROCE

Operating profit before special items net of tax outflow, as a ratio of average capital employed

Revenue Sharing Contract

A "Hydrocarbon Exploration Licensing Policy" by which the Government of India grants a license to a company or consortium of companies (the 'Contractor") to explore for and produce any hydrocarbons found within a specified area and for a specified period, incorporating a simple and easy-to-administer model (without cost recovery) and more operational freedom for an operator to ensure an appropriate sharing of the revenue arising there from (if any) between the Government and the Contractor

RO

Reverse osmosis

Senior Management Group

For the purpose of the remuneration report, the key operational and functional heads within the Group

SEWT

Sterlite Employee Welfare Trust, a long-term investment plan for Sterlite senior management

SHGs

Self help groups

SBU

Strategic Business Unit

STL

Sterlite Technologies Limited, a company incorporated in India

Special items

Items which derive from events and transactions that need to be disclosed separately by virtue of their size or nature

Sterling, GBP or £

The currency of the United Kingdom

Superannuation Fund

A defined contribution pension arrangement providing pension benefits consistent with Indian market practices

Sustaining Capital Expenditure

Capital expenditure to maintain the Group's operating capacity

% Share in EBITDA

It is % share of respective segment's EBITDA to Vedanta Resources Limited's EBITDA.

TCM

Thalanga Copper Mines Pty Limited, a company incorporated in Australia

TC/RC

Treatment charge/refining charge being the terms used to set the smelting and refining costs

TGT

Tail gas treatment

TLP

Tail Leaching Plant**TPA**

Metric tonnes per annum

TPM

Tonne per month

TSPL

Talwandi Sabo Power Limited, a company incorporated in India

TSR

Total shareholder return, being the movement in the Company's share price plus reinvested dividends

Twin Star

Twin Star Holdings Limited, a company incorporated in Mauritius

Twin Star Holdings Group

Twin Star and its subsidiaries and associated undertaking

US cents

United States cents

Underlying profit/ (loss)

The Group's Underlying profit/ loss is the profit/ loss from continuing operations for the period/year after adding back special items, other gains/(losses) [net] and their resultant tax (including taxes classified as special items) and non-controlling interest effects

Vedanta Limited (formerly known as Sesa Sterlite Limited/ Sesa Goa Limited)

Vedanta Limited, a company incorporated in India engaged in the business of Oil & Gas exploration and production, copper smelting, Iron Ore mining, Alumina & Aluminium production and Energy generation.

VFJL

Vedanta Finance (Jersey) Limited, a company incorporated in Jersey

VGCB

Vizag General Cargo Berth Private Limited, a company incorporated in India

Volcan

Volcan Investments Limited, a company incorporated in the Bahamas

VRCL

Vedanta Resources Cyprus Limited, a company incorporated in Cyprus

VRFL

Vedanta Resources Finance Limited, a company incorporated in the United Kingdom

VRHL

Vedanta Resources Holdings Limited, a company incorporated in the United Kingdom

Water Used for Primary Activities

Total new or make-up water entering the operation and used for the operation's primary activities; primary activities are those in which the operation engages to produce its product

WBCSD

World Business Council for Sustainable Development

ZCI

Zambia Copper Investment Limited, a company incorporated in Bermuda

ZCCM

ZCCM Investments Holdings Limited, a company incorporated in Zambia and a minority shareholder of Konkola Copper Mines Limited

ZRA

Zambia Revenue Authority