

## 28 Strategic report **We are Vedanta**

# Principal risks and uncertainties

Vedanta's businesses are exposed to a variety of risks inherent to an international oil & gas mining and resources organisation. The nature of operations for resource companies operations is long-term, resulting in the identification of several ongoing risks. Resource companies also carry a significant element of constantly-evolving risks.



Our risk management framework is designed to be a simple, consistent and clear format for managing and reporting risks from the Group's businesses to the Board.

It is essential to have in place necessary systems to manage these risks, while balancing the relative risk/reward equations demanded by stakeholders. Our management systems, organisational structures, processes, standards, and code of conduct together form our internal control systems, which govern how we conduct the Group's business and manage all associated risks. Materiality and tolerance for risk are key considerations in our decision-making.

Risk management is embedded in our critical business activities, functions and processes. It helps Vedanta meet its objectives through aligning operating controls with mission and vision. Our risk management framework is designed to be a simple, consistent and clear format for managing and reporting risks from the Group's businesses to the Board. It is a multi-layered risk management framework, aimed at effectively mitigating the various risks our businesses are exposed to over the course of their operations and in their strategic actions.

We identify risk at the individual business level for existing operations as well as for ongoing projects through a consistently applied methodology, using the Turnbull risk matrix. At least once a quarter, formal discussions on risk management take place in business level review meetings throughout the Group. At these meetings, each business reviews its risks, and any change in the nature and extent of the major risks since the last assessment, also control measures established for the risk and further action plans. Control measures in the Turnbull risk matrix are also periodically reviewed by business management teams to verify their effectiveness.

All Vedanta risk management review meetings are chaired by business chief executive officers and attended by COO/CFO, senior management and functional heads. Risk officers are formally nominated at all operating businesses, and Group level. The role of the risk officer is to create awareness of risk at senior management level and to develop and nurture a risk management culture within all businesses.

Risk mitigation plans form an integral part of the KRA/KPI process of process owners. Structured discussion on risk management also happens at SBU levels on their respective risk matrix and mitigation plans. Governance of the risk management framework in the businesses is anchored with their leadership team.

The Board of Directors has the ultimate responsibility for management of risks and for ensuring the effectiveness of internal control systems. The Audit Committee aids the Board in this process by identifying and assessing any changes in risk exposure, reviewing all risk control measures and approving remedial actions, where appropriate.

The Audit Committee is supported by the Risk Management Committee, which helps evaluate the design and operating effectiveness of the risk mitigation programme and control systems.

Additional key risk governance and oversight committees include:

- CFO Committee – has an oversight on any treasury-related risks. This committee comprises the Group Chief Financial Officer, business Chief Financial Officers and Treasury Heads at respective businesses.
- Group Capex Sub-Committee – evaluates capex risks while reviewing any capital investment decisions, and institutes a risk management framework in all expansion projects.
- Vedanta Board Level Sustainability Committee – looks at sustainability related risks. This committee is headed by a Non-Executive Director, and other members are the Group Chief Executive Officer and other business leaders.

Every business division in the Group has developed its own risk matrix of Top 20 risks, which are reviewed at Business Management Committee level. Business divisions have developed individual risk registers, depending on the size of their operations and the number of SBUs/locations. These risks are reviewed in SBU level meetings.

Our principal risks have been assessed according to impact and likelihood, and are described on the following pages. 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. While our risk management framework is designed to help Vedanta meet its objectives, there can be no guarantee that our risk management activities will mitigate or prevent these or other risks from occurring.

Risk	Impact	Mitigation
<p>Delay in commencement of production facilities in aluminium business</p>	<p>Some of our projects have been completed (pending commissioning) or are nearing completion. The timing, implementation and cost of these expansion projects is subject to a number of risks, including a delay in obtaining necessary approvals, which may delay or prevent us from commencing commercial operations at some of these projects, availability of power at commercially reasonable rates etc.</p>	<p>We continue our efforts to secure key raw material linkages for our alumina/aluminium business. We are also pursuing multiple options for bauxite sourcing with the Government of Odisha. Volumes are gradually ramping up across our Aluminium and Power businesses and we have received the approval to start our 1,200MW power plant in Korba. We are pursuing the deemed CPP route under the Electricity Act to resolve availability of power at Jharsuguda on commercially viable terms.</p> <p>Infrastructure-related challenges are being addressed, with requisite approvals for the commencement of production facilities being pursued.</p> <p>A strong management team is in place and continues to work towards sustainable low production costs, operational excellence and securing key raw material linkages.</p>
<p>Challenges in resumption, continuation of Iron Ore business</p>	<p>The iron ore business has faced temporary suspension and Goa iron ore is yet to commence its operation.</p>	<p>The Honourable Supreme Court (The Court) in India lifted the ban on mining in the State of Goa, in April 2014, subject to certain conditions.</p> <p>The Indian Ministry of Environment and Forests has also revoked its earlier order, which had kept environment clearances for iron ore mines in Goa in abeyance. Vedanta has been allocated with an interim annual mining quantity of 5.5mt of saleable ore based on the state wide cap of 20mtpa for FY2015 which the Group expects to be progressively increased in the coming years.</p> <p>Mining is expected to commence post monsoons, after receipt of remaining approvals from the Indian Government. We are working towards securing the necessary permissions for commencement of operations.</p> <p>Aggressive cost reduction initiatives are also under way at our Iron Ore business.</p>
<p>Transitioning of zinc and lead mining operations from open pit to underground mining</p>	<p>Our zinc and lead mining operations in India are transitioning from an open pit mining operation to an underground mining operation. Difficulties in managing this transition may result in challenges in achieving stated business milestones.</p>	<p>We are working with internationally renowned engineering and technology partners towards ensuring a smooth transition from open pit to underground mining, with a major focus on safety aspects.</p> <p>Technical audits are being carried out by independent agencies.</p> <p>Reputed contractors have been engaged to ensure completion of the project on indicated time lines.</p> <p>These mines will be developed using best-in-class technology and equipment, and ensuring the highest level of productivity and safety.</p> <p>We are inducting employees and contractors in our system with underground mining expertise. Our employees are also gaining experience working abroad in underground mines to accentuate skill development.</p> <p>Stage gate process is in place to ensure we frequently review risk and remedy. Robust quality control procedures have also been implemented to check safety and quality of services, design, and actual physical work.</p> <p>Additional output from cut V of the open pit as well as ramp up from some of the mines is expected to smoothen this transition.</p>

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Risk	Impact	Mitigation
Operational turnaround at KCM	Lower production and higher cost at KCM may impact our profitability.	<p>We are reviewing our operations and engaging with all stakeholders in light of operating challenges, issues in VAT refunds and a new Mineral Royalty Tax regime. We are committed to improving KCM operating performance.</p> <p>We are implementing the pivot strategy at Konkola to focus on profitable areas of production and reviewing operations and engaging with all stakeholders. Government authorities are proceeding in resolving policy tangles in the resources industry and enabling faster approvals.</p> <p>Our focus is on improving equipment availability to increase extraction rates, and experienced operators are being introduced into critical positions.</p> <p>Several cost-saving initiatives and restructuring reviews are also under way at KCM to preserve cash.</p>
Discovery risk	The increased production rates from our growth oriented operations places demand on exploration and prospecting initiatives to replace reserves and resources at a pace faster than depletion. A failure in our ability to discover new reserves, enhance existing reserves or develop new operations in sufficient quantities to maintain or grow the current level of our reserves could negatively affect our prospects. There are numerous uncertainties inherent in estimating ore and oil & gas reserves, and geological, technical and economic assumptions that are valid at the time of estimation. These may change significantly when new information becomes available.	<p>Our strategic priority is to add to our reserves and resources by extending resources at a faster rate than we deplete them, through continuous focus on drilling and exploration programmes.</p> <p>In order to achieve this we have developed an appropriate organisation and allocated adequate financial resources for exploration. International technical experts and agencies are working closely with our exploration team to build on this target.</p> <p>We continue to work towards long-term supply contracts with mines.</p>
Extension of Production-Sharing Contract of Cairn beyond 2020 or extension at less favourable terms	Cairn India has 70% participating interest in Rajasthan Block. The Production-Sharing Contract (PSC) of Rajasthan Block runs till 2020. Challenges in extending Cairn's Production-Sharing Contract beyond 2020, or extension at less favourable terms, may have implications.	We are in continuous dialogue with the Indian Government and relevant stakeholders. The Production-Sharing Contract has certain in-built options for extension; Cairn has already applied for an extension and the matter is being pursued with all stakeholders.
Reliability and predictability in operational performance	Our operations are subject to conditions and events beyond our control that could, among other matters, increase our mining, transportation or production costs, disrupt or halt operations at our mines, smelters and power plants and production facilities for varying lengths of time or even permanently. These conditions and events include disruptions in mining and production due to equipment failures, unexpected maintenance problems and other interruptions, non-availability of raw materials of appropriate quantity and quality for our energy requirements, disruptions to or increased cost of transport services or strikes and industrial actions or disputes.	<p>Asset utilisation and cost of production (CoP) continues to be a priority. We carry out periodic benchmarking of CoP and other operational efficiencies with the objective of being in the top decile in all the businesses on CoP. We have employed reputable consultancy firms to advise on improving overall operational efficiencies.</p> <p>A structured asset optimisation programme operates in the Group, and the role of the asset optimisation function in each business has been enlarged and elevated in the organisation structure.</p> <p>We are also pursuing savings and synergy initiatives in procurement and marketing in order to reduce costs and improve performance of our operations. The procurement initiatives include aspects such as optimising supplier portfolio and combining purchasing at Group level, combining logistics activities, improve asset flexibility to process a wider range of commodities and develop closer relationships with key vendors to get benchmark performance.</p>

Risk	Impact	Mitigation
<p><b>Fluctuation in commodity prices (including oil)</b></p>	<p>Prices and demand for the Group's products are expected to remain volatile/uncertain and strongly influenced by global economic conditions. Volatility in commodity prices and demand may adversely affect our earnings, cash flow and reserves.</p>	<p>The Group has a well-diversified portfolio which acts as a hedge against fluctuations in commodities and delivers cash flows through the cycle.</p> <p>Vedanta considers exposure to commodity price fluctuations to be an integral part of the Group's business and its usual policy is to sell its products at prevailing market prices and not to enter into price hedging arrangements other than for businesses of custom smelting and purchased alumina, where back-to-back hedging is used to mitigate pricing risks. In exceptional circumstances we may enter into strategic hedging but only with prior approval of the Executive Committee. The Group monitors the commodity markets closely to determine the effect of price fluctuations on earnings, capital expenditure and cash flows. The CFO Committee reviews all commodity-related risks and suggests necessary courses of action as needed by business divisions. Our focus is on cost control and cost reduction.</p>
<p><b>Currency exchange rate fluctuations</b></p>	<p>Our assets, earnings and cash flows are influenced by a variety of currencies due to the diversity of the countries in which we operate. Fluctuations in exchange rates of those currencies may have an impact on our finances.</p> <p>Although the majority of the Group's revenue is tied to commodity prices that are typically priced by reference to the US dollar, a significant part of its expenses are incurred and paid in local currency. Moreover Group borrowings are significantly denominated in US dollars while a large percentage of cash and liquid investments are held in other currencies, mainly in the Indian rupee. Any material fluctuations of these currencies against the US dollar could result in lower profitability or in higher cash outflows towards debt obligations.</p>	<p>Vedanta does not speculate in forex. We have developed robust controls in forex management to hedge currency risk liabilities on a back-to-back basis.</p> <p>The CFO Committee reviews our forex-related matters periodically and suggests necessary courses of action as may be needed by businesses from time to time, and within the overall framework of our forex policy.</p> <p>We seek to mitigate the impact of short-term movements in currency on the businesses by hedging short-term exposures progressively based on their maturity. However, large or prolonged movements in exchange rates may have a material adverse effect on the Group's businesses, operating results, financial condition and/or prospects.</p>
<p><b>Political, legal and regulatory risk</b></p>	<p>We have operations in many countries around the globe, which have varying degrees of political and commercial stability.</p> <p>The political, legal and regulatory regimes in the countries we operate in may result in higher operating costs, restrictions such as the imposition or increase in royalties or taxation rates, export duty, impact on mining rights/ban and change in legislation pertaining to repatriation of money.</p> <p>We may also be affected by the political acts of governments including resource nationalisation and legal cases in these countries over which we have no control.</p>	<p>Vedanta, together with its business divisions, monitors regulatory and political developments on a continuous basis. Our focus has been on communicating responsible mining credentials through representations to Government and industry associations.</p> <p>We continue to demonstrate the Group's commitment to sustainability through actively engaging with proactive environmental, safety and CSR practices, including local community, media and NGOs.</p> <p>We are SOX and SEC-related compliant organisations. We have an online portal for compliance monitoring. Appropriate escalation and review mechanisms are in place. Competent in-house legal organisation exists at all the businesses. A framework for monitoring against Anti-Bribery and Corruption guidelines is also in place.</p>
<p><b>Tax related matters</b></p>	<p>Our businesses are in a tax regime and change in any tax structure may impact our profitability.</p>	<p>Vedanta has a robust organisation in place at business and Group level to handle tax-related matters. We engage, consult and take opinion from reputed tax consulting firms. Reliance is placed on appropriate legal opinion and precedence. Recently the Government has taken an aggressive stance against some of our Group companies in regards to their tax matters.</p> <p>We continue to take appropriate legal opinions and actions on these matters to mitigate the impact of these actions on the Group and its subsidiaries.</p>



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Risk	Impact	Mitigation
Breaches in information/IT security	Like many other global organisations, our reliance on computers and network technology is increasing. These systems could be subject to security breaches resulting in theft, disclosure or corruption of key/strategic information. Security breaches could also result in misappropriation of funds or disruptions to our business operations. A cyber security breach could have an impact on business operations.	<p>Appropriate organisation is in place at respective businesses for information and IT security. IT security policies and procedures are defined at individual businesses.</p> <p>We seek to manage cyber security risk through increased standards, ongoing monitoring of threats and awareness initiatives throughout the organisation. An IT system is in place to monitor logical access controls.</p> <p>We continue to carry out IT security reviews by experts periodically and improve IT security standards.</p>
Community relations	The continued success of our existing operations and future projects are in part dependent upon broad support and a healthy relationship with the respective local communities. Failure to identify and manage local concerns and expectations can have a negative impact on relations with local communities and therefore affect the organisation's reputation and social licence to operate and grow.	<p>Establishing and maintaining close links with stakeholders is an essential part of our journey as a sustainable business. Our endeavour is to integrate our sustainability objectives into long-term planning.</p> <p>Vedanta's approach to community development is holistic, long-term, integrated and sustainable, and is governed by two key considerations; the needs of the local people, and the development plan in line with the UN Millennium Development Goals.</p> <p>The Board's Corporate Social Responsibility (CSR) Committee decides the focus areas of all CSR activities, budget and programmes to be undertaken by businesses.</p> <p>Our business leadership teams have periodic engagements with all local communities to establish relations based on trust and mutual benefit. Our focus is on local consent prior to accessing resources. We seek to identify and minimise potential negative operational impacts and risks through responsible behaviour – acting transparently and ethically, promoting dialogue and complying with commitments to stakeholders.</p> <p>We implement sustainability controls through the Vedanta Sustainable Development Framework aligned to IFC, ICMM and OECD standards. We work with and partner with global think tanks and institutional bodies such as WBCSD, CII and IUCN, and have introduced structured community development programmes to reduce water, energy and carbon consumption.</p> <p>We help communities identify their priorities through need assessment programmes and then work closely with them to design programmes that seek to make progress towards improvement in quality of life of the local communities.</p> <p>Further details of the Group's CSR activities are included in the Sustainability section.</p>

Risk	Impact	Mitigation
<p><b>Health, safety and environment (HSE)</b></p>	<p>The resources sector is subject to extensive health, safety, and environmental laws, regulations and standards. Evolving regulations, standards and stakeholder expectations could result in increased cost, litigation or threaten the viability of operations in extreme cases.</p>	<p>Health, Safety and Environment (HSE) is a high priority for Vedanta. Compliance with international and local regulations and standards, and protecting our people, communities and the environment from harm and our operations from business interruptions, are our key focus areas.</p> <p>Vedanta's Board Sustainability Committee is chaired by a Non-Executive Director and includes the Group Chief Executive Officer, and meets periodically to discuss HSE performance.</p> <p>We have appropriate policies and standards in place to mitigate and minimise any HSE-related occurrences. Structured monitoring and a review mechanism and system of positive compliance reporting is in place.</p> <p>We have implemented a set of standards to align our sustainability framework in line with international practices. A structured sustainability assurance programme continues to operate in all business divisions. It covers environment, health, safety, community relations and human rights aspects, and embeds our operational commitment to HSE.</p> <p>HSE experts are also inducted from reputed Indian and global organisations to bring in best-in-class practices.</p> <p>Each business has an appropriate policy in place for occupational health-related matters, supported by structured processes, controls and technology. Our operations ensure the issue of operational health and consequential potential risk/obligations are carefully handled. Depending on the nature of the exposure and surrounding risk, our operations have different levels of processes, controls and monitoring mechanisms. There is a strong focus on safety during project planning/execution with adequate thrust on contract workmen safety.</p> <p>Fatal accidents and injury rates have declined. We are implementing programmes to eliminate fatalities and control injuries. Our leadership remains focused on a zero-harm culture across the organisation. Consistent application of 'Life-Saving' performance standards and quantitative risk assessments for all the critical areas/formal identification of process safety risks and focusing on the management of controls. We continue to improve on our safety investigations and follow-up processes. Further details of our HSE-related activities are included in the Sustainability section.</p>

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Risk	Impact	Mitigation
Talent/skill shortage risk	<p>The Company's efforts to continue its growth and efficient operations will place significant demand on its management resources. Our highly skilled workforce and experienced management team is critical to maintaining its current operations, implementing its development projects and achieving longer-term growth. Any significant loss or diminution in the collective pool of Vedanta's executive management or other key team members could have a material effect on its businesses, operating results and future prospects.</p>	<p>We continue to invest in initiatives to widen our talent pool. We have a talent management system in place to identify and develop internal candidates for critical management positions and processes to identify suitable external candidates.</p> <p>Our performance management system is designed to provide reward and remuneration structures and personal development opportunities to attract and retain key employees. A structured programme maps critical positions and ensures all such positions are filled with competent resources.</p> <p>Our progressive HR policies and strong HR leadership have ensured that career progression, job rotation and job enrichment are focus areas for our businesses.</p> <p>We have established the Mining Academy in Rajasthan to develop an employee pool with enhanced underground mining skills. We also have a structured programme to develop a technically proficient employee pool.</p>
Loss of assets or profit due to natural calamities	<p>Our operations may be subject to a number of circumstances not wholly within the Group's control. These include damage to or breakdown of equipment or infrastructure, unexpected geological variations or technical issues, extreme weather conditions and natural disasters, any of which could adversely affect production and/or costs.</p>	<p>Vedanta has taken appropriate Group insurance cover to mitigate this risk. We have appointed an external agency to review the risk portfolio and adequacy of this cover and to assist us in our insurance portfolio. Our underwriters are reputed institutions and have capacity to underwrite our risk. There is an established mechanism of periodic insurance review in place at all entities.</p> <p>However, any occurrence not fully covered by insurance could have an adverse effect on the Group's business.</p>
The Group's reported results could be adversely affected by the impairment of assets	<p>The change in carrying value of assets depends on various assumptions. The change in any of those assumptions may impact the useful life and its carrying value.</p>	<p>We maintain a close watch on various business drivers that could impact impairment assessment. There is continuous focus, monitoring and periodic review of our assets.</p> <p>We also periodically review the assumptions, carry out testing and reassess the useful life of these assets with the help of reputable firms.</p> <p>Vedanta reviews the carrying value of its assets and long-term price assumptions. In view of the steep drop in oil prices, the Company has impaired US\$4.5 billion (net of tax) of carrying values.</p>

Risk	Impact	Mitigation
<p>Liquidity risk</p>	<p>The Group may not be able to meet its payment obligations when due or be unable to borrow funds in the market at an acceptable price to fund actual or proposed commitments. A sustained adverse economic downturn and/or suspension of its operation in any business, effecting revenue and free cash flow generation, may cause some stress on the Company's financing and covenant compliance and its ability to raise financing at competitive terms. Any constraints on upstreaming of funds from the subsidiaries to the Group may affect the liquidity position at the Group level.</p>	<p>The Group generates sufficient cash flows from current operations which, together with the available cash and cash equivalents and liquid financial asset investments, provide short-term and long-term liquidity.</p> <p>The volume ramp up and our efforts to optimise opex and capex are expected to provide cash flow that will reduce gearing in the medium term. Cairn India has announced a reduction in capex, which will help to maintain positive free cash flows at current oil prices and retain the flexibility to invest in growth projects as oil price improves and costs are further optimised.</p> <p>Anticipated future cash flows and undrawn committed facilities are expected to be sufficient to meet the ongoing capital investment programme and liquidity requirement of the Group in the foreseeable future. The Group has sufficient experience in raising and refinancing debt (c.US\$35 billion over the past decade) and has in the past been able to tap diverse sources of funding to meet its needs. This will help mitigate the execution risk around this risk.</p> <p>The Group has a strong Balance Sheet that gives sufficient flexibility to raise further debt should the need arise.</p> <p>The Group is further committed to further simplify the structure which will help improve cash fungibility and hence lower liquidity risk.</p>