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Tracking the trends 2012

The top 10 trends mining companies may face in the coming year

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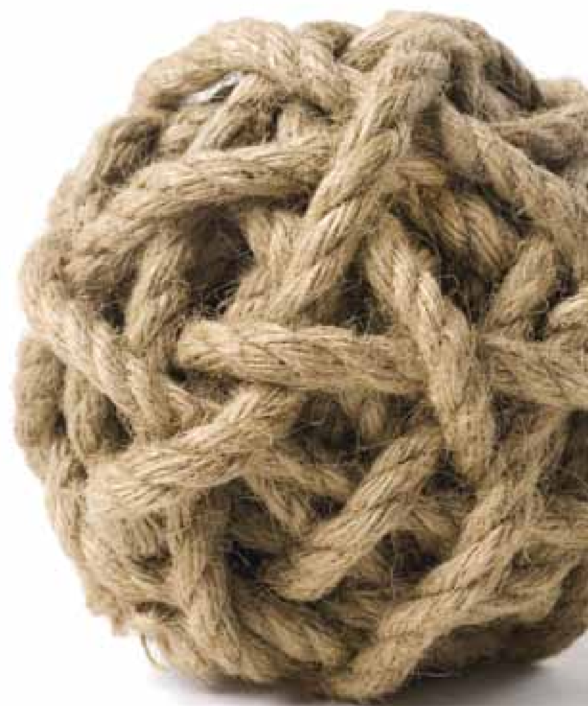
As nations around the world industrialize and populations strive to improve their standards of living, mining has come to take a more central role on the world stage. Gone are the days when conversations about commodity prices were confined to industry analysts. Today, mining is front page news – every day and across the globe. For mining companies, this greater visibility comes with greater responsibility.

Glenn Ives, Americas Mining Leader, Canada



It's not raining; it's pouring

It could be argued that the burning issues facing the mining industry tend to remain largely unchanged over time. While this may be factually correct, it fails to take into account the extent to which shifting social, economic and political trends affect the mining sector. Looked at in isolation, each challenge may seem familiar. Looked at through a macroeconomic and geopolitical lens, however, it becomes clear that the difficulties afflicting the industry are rapidly reaching an unprecedented level of extremity.

Cost inflation is not new, but it is higher. Changes to fiscal and government policy have been occurring for years, but their volume, unpredictability and associated costs are on the rise. Commodity price volatility is greater than ever, driven in part by market uncertainty and the unparalleled demands of Asian governments and consumers. Issues around sustainability, the environment and human rights have escalated into more frequent episodes of community activism and social unrest. Labour shortages continue to mount. Corporate cash holdings have increased, resulting in spiralling shareholder expectations. Capital project portfolios are bulking up. And through it all, the regulatory environment continues to tighten.

So-called 1-in-100-year events also are occurring with frightening regularity. Beyond the long-term effects of the global financial crisis that continue to play out across the U.S. and Europe, destructive weather events are taking their toll, from the disastrous earthquake and tsunami in Japan to flooding in Australia and Asia.

As these global forces converge, mining executives must look beyond the traditional scenarios they have used in their planning. To prepare for previously unanticipated risks, companies must begin to incorporate more complex scenarios into their strategic planning. They also must be willing to seek unconventional solutions to their conventional challenges if they truly hope to resolve some of the industry's most endemic issues.

This 2012 edition of *Tracking the trends* was developed specifically to help mining companies reach these goals by managing today's risks. This year, Deloitte's global network of mining professionals dug deep to identify not only the top trends facing the industry but also to uncover leading practices that companies can adopt to take advantage of opportunities and address challenges. Some strategies will be familiar. Some may seem less orthodox. Either way, we hope these ideas will provoke discussion, suggest alternatives and help you validate your strategic direction in the year to come.

Most companies base their plans on the assumption that their forecasts may vary by 5% to 10% next year, not that things will change by 50%. Yet the factors influencing the global mining industry are moving to a new level of extremity, impelling companies to consider more sweeping scenarios than ever before.

Philip Hopwood, Global Mining Leader, Australia

1 The cost of doing business

What goes up does not always come down

With commodity prices surging to all-time highs, accelerated production has become the mantra of most mining companies. The result is as onerous as it is predictable: costs are going up across the board. Bumper profits have fuelled labour unrest, driving unions to demand higher wages. An explosion of new taxes and royalties is pushing up regulatory compliance costs. By mid-2011, the price of haul truck tires alone had tripled, touching $100,000 on the spot market.[1] Energy and power prices are also on the rise – Brent crude prices rose 45% year-over-year as of June 2011, at the same time electricity prices in South Africa climbed by 25%.[2]

Even gold producers, blessed with a commodity that topped $1,900 USD per ounce in September 2011, have not been unaffected. At the end of Q1, the average cash cost of gold production rose to over $620 per ounce, marking a year-over-year cost increase of 12.5%.[3]

Capital expenditures, too, are reaching a new peak. In the rush to produce, mining companies continue to expand in more challenging provinces. This does more than trigger spending on new and replacement equipment. It also mandates significant long-term infrastructure investment, including railways, ports, community housing and schools. In fact, in some mining provinces, investments in water, transportation and energy are expected to account for 82% of project spending.[4] To exacerbate the situation, global political uncertainty and ongoing currency volatility are causing significant and unpredictable foreign exchange gyrations, making it exceptionally difficult to contain costs in dollar terms.

With significant cash at their disposal, many mining companies can absorb the effects of these cost increases. Yet, most organizations understand that this does not represent a sustainable strategy. History shows that, as prices fall, input costs are not likely to decline by an equivalent proportion. As a result, cost management remains a critical priority, impelling forward-thinking companies to use this time to institute long-term optimization and efficiency measures in an effort to foster more resilient operations into the future.

High commodity prices are driving shortages in equipment, labour and other key inputs, pushing costs up. This means mining companies must walk a tightrope between ramping up volumes to meet demand and containing their costs.

Tony Zoghby, South African Mining Leader, South Africa

Getting costs under control

Mining companies have an inconsistent history of introducing cost cutting measures while commodity prices are peaking. Yet those companies that buck historical trends stand to realize outsized benefits – even if commodity prices maintain their lofty heights. Here are some strategies to consider:

- **Understand your cost drivers.** Absent a clear understanding of the manner in which specific cost fluctuations affect EBITDA, mining companies risk being surprised by unpredictable cost variations. Enhancing performance management through business intelligence (BI) can help with the analysis of expenses on a per item basis, to keep costs – and shareholder expectations – on track.

- **Enhance energy efficiency.** As the costs of diesel, bunker fuel, electricity and other energy inputs rise, mining companies need to gain a solid understanding of both current and forecast energy usage – across geographies, lifecycle phases, equipment and fuel types. While aggregating this data can be challenging, particularly where companies operate disparate international systems, it is essential to gain a holistic overview of energy usage and build flexibility into the energy mix in order to reduce both current expenses and the impact of future cost fluctuations.

- **Improve capital project management.** To reduce the risks associated with time overruns – including exchange rate fluctuations and shifting government policies – mining companies must factor measures beyond IRR into their business cases in an attempt to accelerate their payback period. Increasingly, this requires sophisticated capital project staging that takes into account competing local infrastructure projects (both inside and outside the industry) that may divert resources away from a project.

- **Lock in supply.** Major miners are taking advantage of the superior bargaining power of their purchasing centres of expertise to enter long-term direct sourcing contracts with key suppliers. Junior companies that lack this negotiating clout may find themselves at a distinct disadvantage, priming the pump for a new wave of consolidation.

- **Spend to save.** To reduce costs over the long term, many companies are investing in automation (including autonomous drilling) as a way both to lower labour expenses and improve worker safety. Others are taking advantage of current weaknesses in the shipping industry by purchasing transport vessels at steep discounts to reduce future transport costs, cut fuel costs with newer vessels that burn less fuel or average down the cost basis of their fleet, particularly if it was purchased at market highs. Although hovering in the US$50 million range, cape-sized vessels are now half the price they were just a few years ago.

Mining companies cannot afford to launch large capital projects without understanding the competing infrastructure builds taking place across each country in which they operate. Massive industrialization is sucking up critical resources around the world, threatening to drive capital costs to unsustainable levels if improperly managed.

Jürgen Beier, Canadian Deputy Mining Leader, Canada

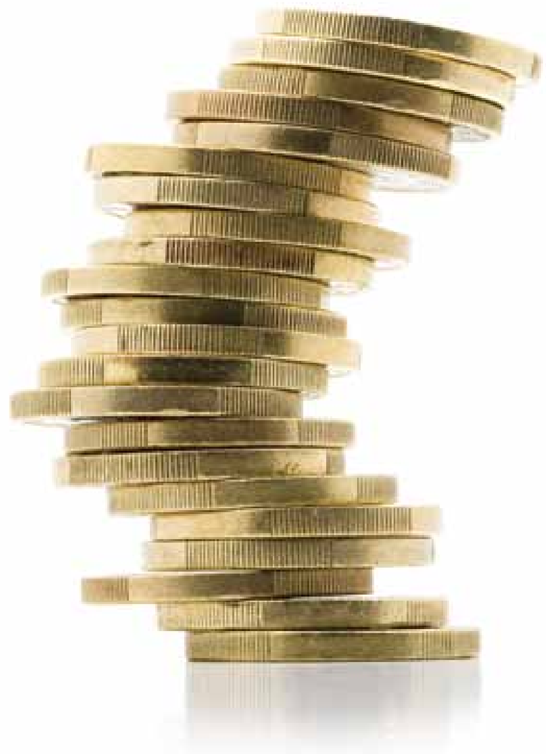
2 Commodity price chaos

No price stability without greater transparency

Have commodity prices been reset at a higher level or are we at the top of a bubble that's about to burst? The answer to that question dictates whether or not current mining projects will be profitable. Unfortunately, indisputable indicators are sorely lacking.

On the one hand, no one can refute the emerging markets' drive towards industrialization. Demand in China, India and even across Africa has been rising at break-neck speed and long-term forecasts seem to point to rising demand for decades to come. China alone already accounts for 37% of world demand for copper and 44% of global demand for aluminium – figures that exceed the combined total consumption of the United States, Western Europe and Japan.[5]

On the other hand, declining U.S. domestic spending, a shaky European debt market, political instability and rising interest rates in Asia continue to take a toll on commodity prices, leading to an unprecedented level of volatility. Commodity trading and speculation are also creating a short-term dislocation between physical supply and demand realities, obfuscating even the most earnest efforts to predict price movements. Add in the weakening U.S. dollar, recent monetary-tightening measures from China's central bank and reported dips in the country's construction activity and steel consumption at the end of Q2, and it's no wonder industry watchers remain stymied.



The picture is further obscured when you scratch the surface of China's demand equation. Simply stated, no one really knows the pace at which China plans to modernize. There has been speculation that the country has been understating its steel production, while precise quantities of stored commodities are unclear. This lack of transparency carries over into other market sectors as well. Given the volume of China's migrant worker population, for instance, population figures for Beijing have been known to vary from 25 million people to 18 million people – a differential of 7 million.

Making informed decisions in this highly uncertain market environment requires a level of forecasting many companies lack. Despite mature scenario planning capabilities, mining companies simply cannot include a provision for every possible future. One strategic option that may help is called Strategic Flexibility,[6] a tool that supplements traditional scenario planning techniques by defining a strategy that includes appropriate actions regardless of which scenario actual events resemble. While this tool may not be right for every mining company, enhanced scenario planning skills will become increasingly critical over time.

China's voracious appetite for commodities has convinced many analysts that the country represents a one-way ticket to long-term commodity price buoyancy, despite anticipated dips along the way. But things in China don't happen in a straight line, making this type of prediction dangerous.

Jeremy South, Global Leader, Mining M&A, China

3 The battle to keep profits

Government taxes target the mining sector

Resource sector profits have long been tempting to governments around the world. This is particularly true at a time when so many nations continue to struggle to repay record levels of debt. In the past year alone, mining royalties increased in Australia,[7] Chile, Peru, South Africa, Ghana, Tanzania and Burkina Faso, while new export duties were introduced in India, Kazakhstan and Russia. In Indonesia, the world's largest exporter of seaborne thermal coal, miners are now obligated to help the country meet its energy commitments before they can gain access to lucrative Asian export markets. More worrying, rumours of greater government participation in the mining industry surfaced across countries as diverse as Venezuela, South Africa, Guinea and Mongolia.

Notably, the bid to increase national revenues now extends beyond the introduction of new tax legislation. In addition to mining royalties, which tend to be charged against revenues rather than profits, many governments have begun to impose super-profit taxes, discovery bonuses, resource rents, licence fees, indigenization quotas, environmental levies and reconstruction tolls. Amid these rising levels of resource nationalism, some countries are even threatening to renegotiate existing tax stability agreements, throwing mining company financial projections into disarray and heightening political risk.

For companies already invested in potentially fiscally-unstable regimes, this new level of taxation is bound to affect project profitability. At the same time, it is spurring mining companies to think long and hard about where to situate their future activity. Considered from an international perspective, mining investment is increasingly mobile. To maximize investor returns and manage political uncertainty, companies must engage more consistently in financial modeling when choosing jurisdictions. To ensure all stakeholder interests are taken into account, these financial models also must strike a balance between social, economic and environmental imperatives.

Companies also need to engage at a political level to help influence government policy. This extends beyond disconnected lobbying efforts. By speaking with one voice at an industry-wide level, mining executives can encourage governments to take into account the wide-ranging effects of their taxation policies – not only on short-term national revenues but on potential long-term losses should companies divert their investments to alternative locations. Examples of countries that continue to keep taxes in line in an effort to attract greater investment – including certain Canadian provinces, Mexico, Colombia and Nigeria – support the argument.

This is not to suggest the adoption of an aggressive or combative stance. Instead, it requires a proactive, collaborative approach that illustrates to all stakeholders the extent to which mining activities, and mining profits, already contribute to the well-being of both local communities and society at large.

Governments around the world are reassessing their approach to the mining sector. It's not simply about taxes anymore. It's about governments striving to take a greater share in every area of the industry. As time goes on, this may drive mining companies to invest in regions based not only on their political stability, but also on the stability of their fiscal regime.

Robert Noronha, Senior Director, India

4 Restless stakeholders

The demand for heightened corporate social responsibility

As mining company activity catches the international spotlight, industry stakeholders find themselves subject to higher levels of activism than ever before. In 2011 alone, mining workers walked off the job in Australia, South Africa, Indonesia, Chile and Argentina – despite the fact that many of these workers are among the best compensated employees in the world.

Similarly, community involvement is on the rise; beyond demanding higher levels of local investment, community stakeholders expect an open and transparent dialogue, longer-term social commitments and enhanced environmental performance. Companies that fail to deliver risk facing more vocal opposition, difficulty obtaining project approvals and even riots similar to those that broke out in Papua New Guinea and Peru this past year.

Environmental stewardship – most recently bolstered by the involvement of internationally-renowned celebrities and non-governmental organizations – is also taking its toll. As more mining projects go underground, companies struggle to limit the impact on local water tables. To avoid conflicts with communities around water use, companies increasingly must access coastal water suppliers, mandating investment in sophisticated pumping technologies and desalination plants. Concerns around carbon also continue apace, particularly now that the risks of nuclear power are back in the spotlight following the nuclear reactor crisis in Japan.

In response, monitoring and standards-setting bodies continue to tighten their regulatory mandates. Mining companies must now comply with numerous significant guidelines such as those from the International Council of Mining and Metals (ICMM), the Global Reporting Initiative (GRI), the UN Convention on Human Rights (which is endorsing the adoption of FPIC, the principle of free, prior and informed consent), the International Cyanide Code, the Extractive Industries Transparency Initiative (EITI) and a host of local rules, such as the Prospectors and Developers Association of Canada (PDAC) e3 Plus (Environmental Excellence in Exploration) guidelines. The intensity of these implementation requirements and the lack of integration among the various standards-setting bodies is having a profound effect on management's ability to track and deliver on all their performance expectations.

In the face of this pressure, mining companies clearly understand the business imperative of embracing sustainability, enhancing energy efficiency and improving water utilization. A review of the latest annual reports of some of the world's largest mining companies reveals that the environment, sustainable development practices and community engagement remain top priorities. In fact, virtually every mining company in the world holds similar mandates.

Leading companies are also acknowledging the need to alter their business practices to meet the imperatives of sustainability, sparking the adoption of new operating models, governance structures and measures of wealth.

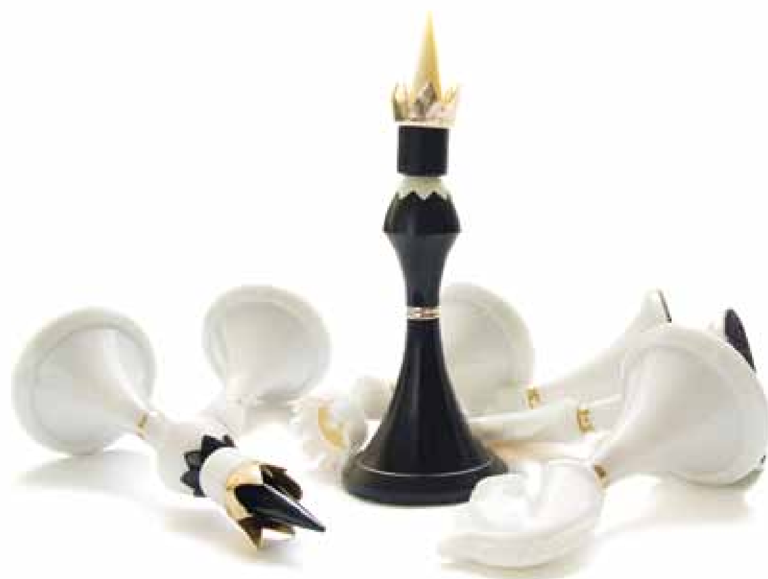
Yet, despite this focus, the expectations of workers, local communities, environmentalists, NGOs, analysts and even investors continue to intensify. To meet these demands, mining companies will need to integrate risk-based corporate social responsibility (CSR) strategies and develop and track KPIs with the same diligence they use to track production. Until CSR registers as a direct business risk, mining companies will struggle to minimize the probability and financial impacts of those risks.

Investments in social responsibility ultimately translate into the ability to bring projects on-stream more rapidly or avoid production interruptions caused by community unrest. Avoiding and managing these issues also may require miners to leverage the same mobile technology communication tools that their target communities rely on.

Eduardo Tavares Raffaini, Mining Leader, Brazil

Often, mining company investment in local communities does not address the full spectrum of stakeholder needs. In some cases, this signals a broken link between a company's intentions and outcomes. Communities are becoming increasingly sophisticated in their engagement strategies and now expect investments that extend beyond mere financial commitments. Instead, they are demanding that mining officials engage in meaningful dialogue to understand their citizens' needs and include local representatives in the planning process.

Valerie Chort, Sustainability & Climate Change Leader, Canada



Strategic sustainability solutions

The CSR imperative is on the rise on corporate agendas and mining companies are approaching sustainability initiatives with greater rigour than in the past. This is leading to the adoption of more sophisticated analysis and approaches to respond to spiralling stakeholder demands. Here are some strategies to consider:

- **Build sustainability into operations management systems.** To optimize risk intelligence, innovative companies are enhancing or overhauling their current management systems and frameworks to focus on operations management. The aim is to adopt an integrated, common platform through which the environment, human health and safety, process safety, community engagement, asset integrity and enterprise risk all can be managed. To succeed, this type of framework also should be supported by a clear functional governance structure, a well-integrated internal assurance program and a robust data management system.

- **Connect community investments to financial drivers.** When deciding on an optimal portfolio of sustainability investments, mining companies must take into account both the direct costs/benefits (value creation) and the value of mitigating risks such as delays in planning, construction and operations, lawsuits or potential project cancellation (value protection). To help companies put a dollar value on the investments that mitigate social risk, the International Finance Corporation (IFC) teamed up with Deloitte and leading mining industry participants to develop a tool that enables mining companies to articulate reasonable NPV ranges for return on their sustainability investments.[8] Beyond supporting more concrete business cases for community investment, this tool can help facilitate more informed decisions about the initiatives most likely to deliver the most valuable social returns.

- **Review commitments critically.** Signing onto a multitude of CSR standards and guidelines is easy. Ensuring effective and efficient compliance is much harder – and lack of adherence affects both credibility and reputation. Before choosing to become a signatory, mining companies should review each guideline's requirements from both a strategic and risk-informed perspective and have an explicit reason for endorsing it. They will also need a clear roadmap to implementation.

- **Streamline and improve reporting and disclosure.** Sustainability disclosure is the act of communicating performance relating to financial, environmental, social and governance activities. It also involves regulatory reporting, such as disclosure of environmental liabilities or mandatory greenhouse gas (GHG) reporting, as well as voluntary disclosures, such as corporate responsibility reports. To be effective, however, these sustainability disclosures must meet diverse stakeholder expectations, which is possible only if companies commit to aggregating information and disseminating it consistently and credibly across all communication channels – from annual and sustainability reports and regulatory compliance reports to MD&A and AIF. Essential elements include adopting a 'horizontal' strategy for sustainability disclosure that aligns your CSR, IR, Finance and HR teams and is supported by integrated processes and a robust data management system.

5 Labour pains

Bridging the precarious talent gap

Behind all the tomes, articles, statistics and reports written about the talent and skills shortages facing the mining industry lies one stark fact: there simply are not enough people to power projected mining company growth. For 2011, mining capital expenditures are estimated at US$113 billion, 50% above previous year levels.[9] In Australia alone, new capital expenditure for the industry is expected to reach AUS$55.5 billion for 2010-11, rising to AUS$73.7 billion in 2011-12.[10]

Given the acute shortage of key talent, delivering on all these projects may be nearly impossible. With every passing year, skill gaps extend to a wider range of functions – from capital project designers and mining geologists to truck drivers and machine operators. While some mining companies have turned to technology as a way to diminish the impact of workforce shortages – including driverless trucks, remote operations centres, autonomous haulage systems, automated mine-to-port operations and security control and data acquisition systems (SCADA) – these solutions alone cannot replace the need for skilled talent.

In truth, the challenge is a macro-economic one: the drastic shortage of engineers in critical geographies has put a strain on existing workers, resulting in a host of widespread consequences. Labour costs, already high, are rocketing upwards, propelled in part by strikes and walkouts at mining sites around the world. This past May in South Africa, for instance, the National Union of Mineworkers demanded a 14% wage hike for gold miners,[11] while mining salaries in Argentina rose 33% following a short strike.[12] Labour turnover is also climbing sharply – reaching as high as 40%[13] – fuelled in part by competitive poaching. Additionally, with several years of itinerant living under their belts, mine workers are increasingly less interested in re-locating to the distant regions where new projects are coming online, making it harder for companies to attract and retain on-site talent.

Given the severity of this challenge, it is time for mining companies to tackle this issue in a more systematic fashion. While collaboration with universities, program funding and internships remain important tools in their arsenal, mining companies now must pursue longer-term, farther-reaching and perhaps less conventional solutions or they may find themselves facing imminent operational disruptions.

As mines continue to be located in more remote regions, companies must determine how to make these locations more attractive places for families to live. Experience shows that workers may be willing to fly in and out of a mine for short periods of time, but they won't do it forever. However, if the mining industry collaborates to build more permanent communities – with schools, hospitals, housing and the infrastructure families expect – it is more likely to result in a more stable workforce.

Tim Richards, National Mining Lead, Australia

Finding willing workers

Labour shortages have plagued the mining industry for decades. Yet, in some ways, mining companies continue to respond in the same manner each year while expecting different results. Certainly, traditional industry responses to the talent gap remain valid. And as time goes on, more extensive solutions may be called for. Here are some strategies to consider:

- **Apply science to workforce planning.** As competition for talent heats up across the mining sector, workforce planning has become increasingly sophisticated. Companies bound to win the race are those capable not only of identifying their global resource requirements, but also of understanding where to source their human capital supply. This extends beyond identifying replacement workers for people slated for retirement to factoring in turnover rates, the number of graduating candidates, requisite leadership skills and potential supplier gaps in each planned or operational geography.

- **Introduce industry-level cross-training.** Mining companies need talent; millions of people around the world need jobs. Can the mining industry pool labour resources in an effort to enhance industry-wide skill sets? It's already happening informally. Some mining companies have begun to cross-train people from other industries (i.e., automotive, manufacturing). Others have stepped up recruitment efforts in countries that lack a mature mining industry (such as Ireland) or that continue to suffer from high unemployment. Still others are hoping latent talent will arise from rapidly-growing regions in Africa and Asia, or from aboriginal or local populations already living in remote locations. Hiring foreign talent is not a cure-all: governments still limit the number of expat workers permitted within their borders. Similarly, the mining industry cannot risk entirely pulling talent away from other critical sectors. Yet a move in this direction would be a positive one, promoting more investment in skills training while dissuading competitive poaching.

- **Build a global culture.** To attract key talent and reduce turnover, some mining companies have begun to develop global processes to ensure consistency in their compensation packages, hiring practices and conditions of employment. This type of enterprise-wide approach does more than solidify the business case; it can also help companies differentiate themselves from their competition. Taking it one step further, some companies are exploring ways to build mature communities in the remote sites where they operate to better attract workers and their families for longer terms of employment.

Mining executives must consider how to attract Generation Y into the sector. What will drive good people to want to work in Mongolia or Papua New Guinea? On the one hand, the solution may lie in building even stronger relationships with universities and tertiary institutions to encourage higher enrollment in mining engineering programs. On the other hand, it also requires greater effort to counter some of the potential negative perceptions associated with career paths within the industry – not only among university students but perhaps also among younger children who ultimately will populate the graduate programs.

John Woods, Mining & Metals Partner, UK

6 Capital project quandaries

Project risk rises as the supply/demand gap widens

As countries around the world continue their push towards massive industrialization and infrastructure renewal, the number of capital projects across the globe is mounting. This certainly has been the case in the mining sector, as commodity prices continue to fluctuate and the gap between supply and demand widens. At the same time, declining assets across the sector and lower ore grades mandate investment in new development and exploration projects, particularly in light of the escalating safety risks associated with aging mines.

But executing on this significant number of capital projects gets harder every year. Talent gaps plague the industry, epitomized in this case by a global shortage of project designers. Winning community approvals takes considerable time, while government intervention in some countries often slows permitting and licensing to a crawl. And while rising costs make it imperative for companies to raise additional capital project funding, limited access to financing is putting some companies in the unenviable position of having to go back to the market to raise more money – funds that are less likely to be forthcoming in the face of missed project deadlines and cost overruns.

Weak infrastructure in countries around the world also hampers corporate ability to bring capital projects to fruition and requires miners to invest in core infrastructure builds in the locations where they operate. This is leading to a spate of cost escalation associated not only with rising engineering, procurement and construction management (EPCM) expenses but also with the sheer cost of estimated infrastructure spends. According to Merrill Lynch, emerging markets alone will invest $6 trillion in infrastructure over the next three years – from roads and railways in Brazil and power plants in India and South Africa to water distribution and environmental development in China. To complicate the matter, infrastructure builds take decades, during which time they will continue to divert resources away from mining projects, exacerbating the talent shortage.

As a result of this trend, mining companies are being forced to focus on managing the key risks that, if realized, could interfere with their ability to safely meet steady-state production objectives. This includes:

- Adopting strategic project management and governance practices as a way to effectively manage major project risks at a portfolio level. This includes understanding and managing global and local shifts in critical success factors, such as the need for creative supply chain strategies to address lack of access to construction resources or the need to acquire partners/suppliers to increase the certainty of supply, reduce cost and improve the schedule for critical inputs to the mine development and extraction process.

- Considering creative project owner team staffing blends.

- Maintaining continuity in relationships as a key to gaining permission and access to develop local resources.

- Conducting a holistic review of mine development costs across geographic or product groupings to implement targeted cost cutting measures, including supplier rationalization, operating model redesign, process improvements, increased IT automation, enhanced commercial management and renegotiation of significant contracts. Going beyond the usual Critical Path Method (CPM) as a standard tool for project control by focusing on what lies on the critical path. For instance, the development of overland rail and port access sits right on the critical path of many of the world's largest capital projects, mandating companies to gain skills to develop infrastructure in developing economies.

- Assure delivery by taking time to set up the project for success and reviewing the build in the construction stage to see that it meets the requirements of the original business case.

In the next few years, escalating costs, talent shortages and competing infrastructure builds will make it very difficult for mining companies to complete their capital projects on time and on budget. These types of cost and time overruns can create significant risks for miners, including the danger of scaring off potential investors. To navigate this challenge, companies must adopt more innovative capital project management solutions with an eye towards cost reduction through improved industry collaboration and greater automation.

David Quinlin, European Mining Lead, Switzerland

7 Non-traditional financing

New sources of funding require new levels of knowledge

Armed with bumper profits as a result of higher commodity prices, mining companies would appear to have a range of spending options – from bolstering dividends to using their cash holdings to buy back their own shares. Yet, despite the cash companies have on hand, finding sufficient capital to fuel growth remains difficult. This explains why many companies are maintaining high cash reserves in a bid to finance future growth, engage in acquisitions and/or invest in new capital projects.

With each passing year, it becomes clearer that the global financial crisis reset the rules of the financing game. In many jurisdictions (except, perhaps, Australia) debt remains costly and difficult to come by, especially as companies attempt to underpin their growth by moving into riskier territories, entering earlier-stage alliances and investing in commodities they don't typically hold.

Despite Glencore's record IPO on the London Stock Exchange, equity markets also remain hard to crack – particularly for development and exploration companies. Investors, still leery in the face of commodity price volatility, the debt crisis across the OECD nations and well-publicized governance debacles, have shied away from all but the best projects. At the same time, many are choosing to invest in exchange-traded funds (ETFs), diverting capital away from corporate coffers.

As a result of these trends, the industry's financing profile is shifting. Some companies are turning to alternative options, such as private equity, sovereign wealth funds, hedge funds, project financing and innovative metals steaming arrangements. Others continue to pursue joint ventures, mergers and acquisitions. And companies in almost all jurisdictions continue to rely on the voracious appetites of Asian investors for minerals and resources.

Despite ongoing Chinese investment in overseas destinations, however, China cannot finance the entire mining industry. To attract necessary funds over the long term, companies may have to look farther afield than they ever anticipated. As mining companies expand to more far-flung regions of the world, their funding sources are following suit – putting them in the challenging position of seeking financing in unfamiliar locales, from Korea and Japan to Russia.

The key to success in these efforts hinges on the ability of mining companies to build the relationships they require to gain access to foreign markets, while gaining better insight into those regions. In the search for global sources of revenue, the spoils will go to the companies that take the time in advance to understand local markets, adopt alternative ways of doing business and build business cases that resonate with unfamiliar financiers.

Many Eastern and Asian companies frequently have cash, but lack expertise. Conversely, Western companies have expertise, but lack access. So both parties have things to give each other. Yet mining companies cannot hope to exploit these opportunities without an understanding of local cultures. To grow into the future, they need to engage with the people who can help them finance their projects – no matter where those people happen to be located geographically.

Kelly Allin, Partner, CIS

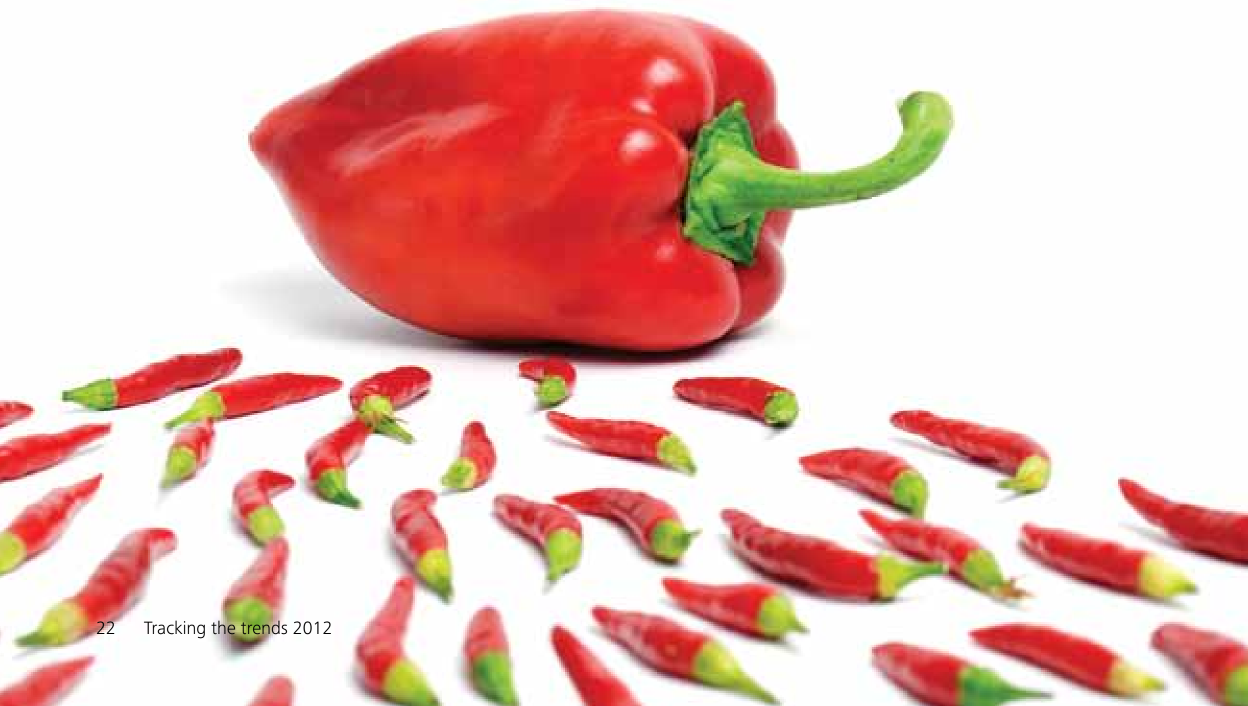
8 The big get bigger

Risk multiplies as companies diversify

While geographic diversification is nothing new for the mining industry, as the big get bigger, they also are diversifying in other directions. Some of the world's state-owned companies, for instance, have begun exploring the benefits of vertical integration in an attempt to control the entire commodity value chain – from coal mining to steel production to power generation. In a somewhat less ambitious scenario, some producers are expanding by adding trading functions to their component businesses, positioning them to compete with specialist mining investment funds and sovereign wealth funds alike. For their part, China's investors continue to eye global resources, spurring ongoing Chinese investment in markets around the world.

Dwindling access to deposits, deteriorating grades, spiking global demand and lofty commodity prices have all conspired to heighten mining company appetite for geographic and economic risk. As a result, mining companies are straying from established mining nations like South Africa, Australia and Chile to increasingly remote locales, including Eritrea, Papua New Guinea, the Democratic Republic of Congo, Liberia, Afghanistan, Mongolia and Kazakhstan.

Major miners, many flush with cash, are broadening their exposure to international markets both by funding new capital projects and by stepping up their transactional activity. Junior players, once at the vanguard of global expansion, now have become prime acquisition targets following the debt crisis that left many of them floundering. This is evidenced by a flurry of mergers and acquisitions that is hollowing out the mid-market to fuel big company growth.



Despite the business case that can be made for global growth, risks abound. Few companies possess the internal skills to grow their capital project portfolios aggressively or to operate in unfamiliar regions. Safety concerns are mounting as miners move to more remote locales, go deeper underground and try new exploration methods. Resource nationalism plays a rising role as well, contributing to greater operational uncertainty.

To counter these risks, mining companies must do more than enhance their understanding of local languages and cultures. They must put proper financing arrangements into place to prevent financial impairment in the event of project delays. They must adopt standardized internal controls and systems capable of monitoring their disparate foreign investments. In some cases, they will need to enhance their safety measures to protect their people and assets – a step many are already taking by relying more extensively on predictive analytics to identify activities, geographies and functions that represent the greatest safety hazards. And in all cases, they need an owner's team with the skills and experience to keep the project running on time, on budget and in alignment with production forecasts.

A lot of the advice expanding companies need sounds like motherhood and apple pie: understand your regulatory exposures; focus on the quality of your assets and reserves; integrate local operations into your global culture; put enterprise-wide systems in place. Yet while this may sound simple, some companies still face unexpected surprises when investing internationally, which have the potential to result in lost time, lost money and lost opportunity.

Trevear Thomas, Energy & Resources M&A Leader, United States

Volatility is the new stability

Planning for the unforeseeable

While risk planning requires executives to peer into the future, it traditionally does not demand that they plan for highly-unlikely occurrences. Unfortunately, the stepped-up incidence of implausible events is turning conventional scenario planning on its head. From the widespread effects of the global financial crisis and worldwide political instability to the tsunami in Japan and flooding in Australia, Brazil and South Africa, mining companies find themselves facing the unexpected on a frighteningly regular basis.

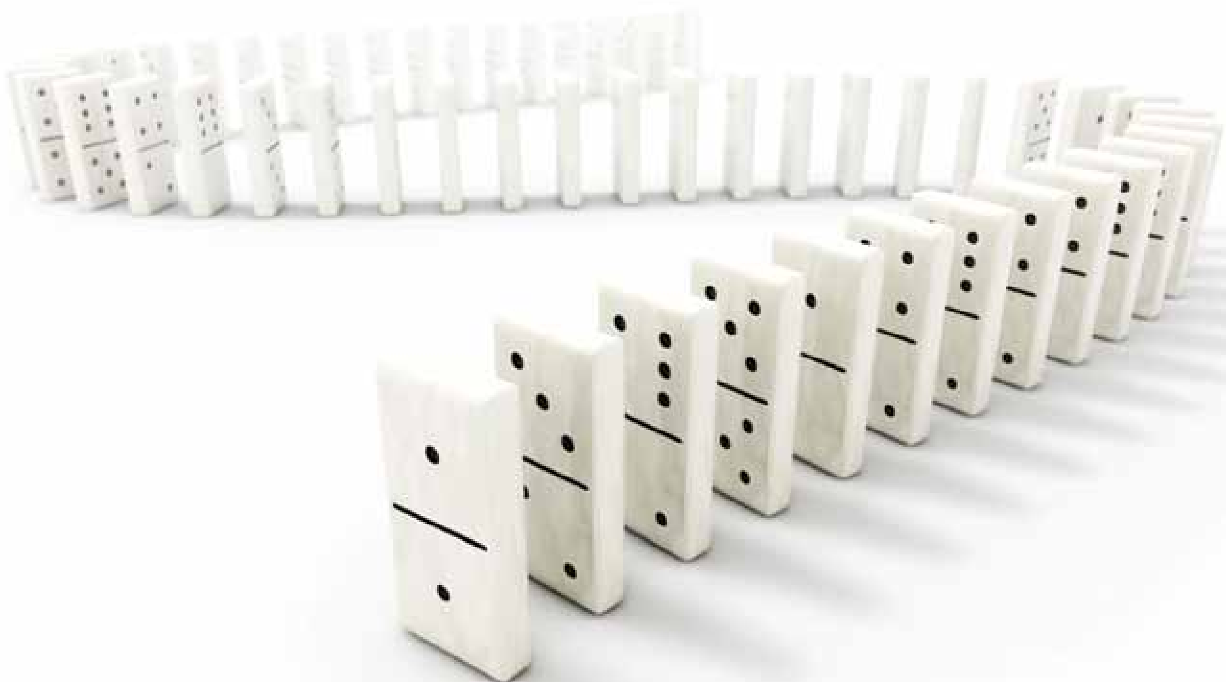
Although these so-called "black swan events" are, by definition, rare, high-impact and hard to predict, they are finding their way onto corporate agendas, fuelled in part by boards of directors that fear ambush by issues that never appeared on their radar screens. Preparing for these unanticipated surprises – whether they are harbingers of risk or opportunity – may require more of a creative licence than mining companies are accustomed to exercising.

On some level, the process must begin by considering the organization's vulnerability to extremely unlikely, but potentially catastrophic, incidents – those considered worst-case scenarios. The aim is to challenge existing business assumptions by asking questions that consider myriad sources, from geopolitical movements to volatile weather patterns. What happens, for instance, to remote sites if foreign governments become more dictatorial? If systemic financial challenges rapidly push commodity prices down? If demand from China evaporates overnight, perhaps due to a hidden economic crisis or unexpected weather disaster? If demand for a specific commodity dramatically falls off? If open cut mines in a particular country become flooded? If a tailings dam collapses? If sites are subjected to prolonged rainfall, earthquakes, tsunamis or volcanic eruptions? If local water sources dry up?

Once the ramifications of a worst-case scenario are understood, the ripple effects this type of event would generate can then be mapped out to identify both the add-on risks and the unexpected opportunities that may arise. From there, mining companies can develop mitigation plans to interrupt the chain reaction of events before it even occurs. Notably, integrating this process into existing risk planning procedures can help with the identification of emerging opportunities, thereby facilitating the turning of a potential risk into profit.

Every company needs to consider what incidents can cause catastrophic damage to their operations. Without understanding the risks, it is impossible to mitigate worst-case scenarios. To be fair, most mining companies already engage in sophisticated scenario planning. They just need to extend their thinking in an effort to anticipate, and respond to, more extreme events.

Carl Hughes, Global Leader – Energy & Resources, UK



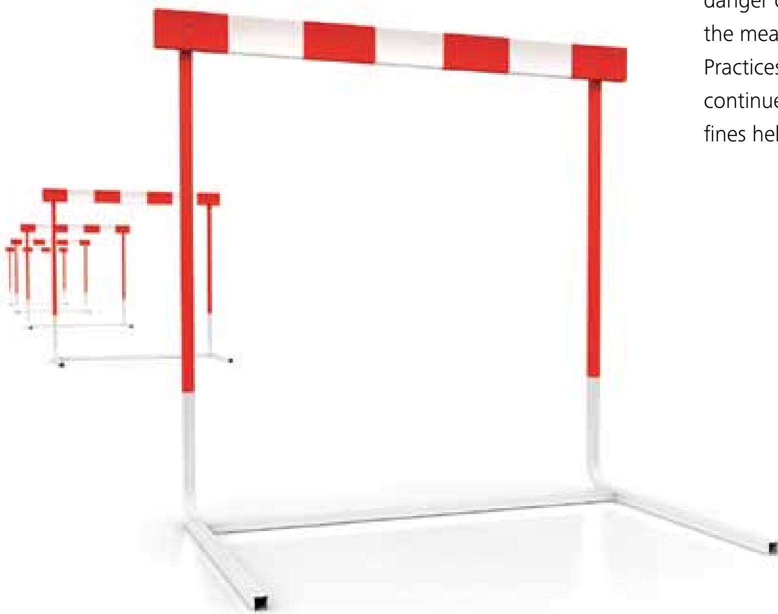
10 Legislative Olympics

Countries compete to become the world's toughest regulators

Mining companies are no strangers to regulatory pressures. In recent years, however, nations around the world have been loading their regulatory firearms – and many have placed the mining industry squarely in their crosshairs.

In Australia, for instance, a new carbon emissions trading scheme will see heavy emitters pay a carbon tax set to escalate through 2015. The EU and China plan to introduce similar schemes in the next few years. Similarly, stricter emissions regulations introduced by the U.S. Environmental Protection Agency (EPA) are leading to the shut-down of coal-fired power plants across the country, with recent studies estimating that the U.S. coal ash industry could lose US$110 billion in economic activity and 300,000 jobs over the next 20 years.[15]

Concerns around bribery and corruption are increasingly taking centre stage. The UK Bribery Act 2010, which came into force in July 2011, introduces two new offences: bribing a foreign public official and failing to prevent a bribe being paid by someone associated with the organization. With extra-territorial application, this latter offence means UK companies, as well as foreign companies doing business in the UK, are liable for prosecution no matter where a bribe is paid, unless they can prove they have adequate procedures in place to prevent bribery. As mining companies – a large number of which are listed in the UK – expand to less regulated, and potentially corrupt, jurisdictions, they face greater danger of running afoul of these rules. In the meantime, U.S. Foreign Corrupt Practices Act (FCPA) enforcement actions continue unabated, particularly as related fines help to bolster national revenues.



Two provisions tagged onto the back of the *Dodd-Frank Act* also threaten to affect mining companies. Section 1502 requires SEC registrants to disclose whether their products use conflict minerals emanating from the Democratic Republic of Congo or its nine neighbouring countries – a mandate that will see manufacturers requiring mining companies to disclose the source of a list of designated metals, including gold, tungsten and tantalum. Section 1504 requires all extractive industry companies that file annual returns with the SEC to disclose all payments made to governments for the commercial exploration and development of oil, gas and mineral resources.

Even export controls, which have existed for decades, are being enforced more stringently. Mining equipment with legitimate industrial uses, such as drills and heat exchangers, could potentially fall under product or end-use controls if perceived to have military or mass destructive uses. Destination controls, including sanctions against targeted countries, can also affect miners as they expand to riskier locales.

These inexorable trends heighten the need for mining companies to review their regulatory compliance procedures. This is especially important for companies that invest in local communities around the world. Depending on how those investments are structured, regulators could potentially perceive them as bribes rather than legitimate investments in support of business. To avoid these risks, leading organizations have begun enhancing their anti-bribery frameworks and adopting enterprise-wide compliance procedures that allow them to use common systems and programs to meet the full range of their regulatory requirements.

There has been a lot less focus on mining companies than on oil and gas companies under anti-bribery legislation. But regulatory resolve to address corruption is on the rise, and mining groups around the world present easy targets – especially under legislation with global reach, such as the *UK Bribery Act*. The worst response to regulatory challenges is for mining companies to sit still and just wait for something to happen. Instead, they should take steps to implement stronger compliance processes and policies.

Flip Stander, Partner, UK

From competition to collaboration

Industry-wide issues require an industry-wide response

As the issues facing the mining industry reach a new level of extremity, it has become eminently clear that resolution requires a new type of response. To be sure, traditional solutions remain critical; in addressing current industry challenges, mining companies must continue to rein in costs, enhance capital project management, improve their scenario planning, strengthen their internal controls, engage in more focused workforce planning and pursue many of the other solutions discussed in this report.

Beyond these steps, it is becoming increasingly incumbent upon mining executives to broaden their purview by fostering improved collaboration – across their own organizations, among industry players and with communities and governments around the world.

From an internal perspective, it may help to begin by adopting enterprise-wide processes capable of creating a cohesive culture among disparate international locations. These types of processes can run the gamut – from global labour practices, worker safety programs and supply chains through integrated financial reporting, business intelligence systems and regulatory compliance practices. No matter the adopted solution, the end goal is the same: to ensure consistent practices and communication across the entire global enterprise.

> Companies that are growing, particularly through acquisition, frequently lack the sophistication they need to deal with their overseas counterparts. To overcome common challenges and realize the full upside of their strategies, they need controls in place capable of monitoring their global operations and integrating their international investments. They also need to understand that success often hinges on their ability to share information and experiences with other mining companies.

Kevin Ng, Partner, China

From an external perspective, industry-wide collaboration is also becoming paramount. On the plus side, widespread joint ventures, partnerships and alliances make it clear that collaboration among companies already occurs. But it is rarely approached at an industry level. By banding together through more formal associations, mining companies can likely collaborate more efficiently to address common regional issues, vault regulatory hurdles and optimize value for all industry participants through shared infrastructure and logistics investments. This is particularly important as companies come to realize that the lowest common denominator tends to affect the reputation of the entire industry. Strengthening collaboration can help to improve talent attraction and enhance community relations, benefiting the entire industry.

Last, but by no means least, it is time for mining companies to work together to enhance community and government relations around the world. The task will require significant effort; companies will need to jointly communicate the ways in which they bring value to both individual nations and the international community. Fortunately, the payoff for the effort can be profound, ultimately positioning mining companies as critical partners in developing local communities, mitigating environmental damage and enhancing the health and safety of both workers and their families.

With each passing year, mining companies will need to devote a greater amount of time to improve government and community relations. This is much more than a mere marketing exercise. Communities want to speak with executives directly and participate in proposed future developments. Governments need to understand the role mining companies will play in their jurisdictions. To earn an ongoing licence to operate, mining companies must engage local communities much more intimately than ever before.

Daniel Joignant, Energy & Resources Leader, Chile

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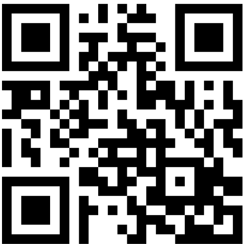

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