



Tracking the trends 2010

A look at 10 of the top issues
mining companies will face

“The past 12 months have reinforced the importance of taking a ‘stronger for longer’ view in the mining industry. To survive ongoing volatility, companies need to enhance their operational excellence and plan for varying potential scenarios. Putting band-aids over endemic issues will not make them disappear. Instead, organizations must take active steps to strengthen their business fundamentals.”

Tony Zoghby, Global Mining Leader, Deloitte Touche Tohmatsu (South Africa)

Contents

In mining, as in life, nothing lasts forever	1
1. Securing local supply.....	2
2. Commodities, currencies and cost.....	3
3. Ramping back up.....	4
4. The spread of sustainability	6
5. No easy money	10
6. Contending with a changing climate.....	12
7. Extreme mining.....	14
8. The valuation abyss.....	16
9. Big brother is watching	18
10. No bridge to cross	19
Where do we go next?.....	20

In mining, as in life, nothing lasts forever

Volatility seems a mild word to apply to what's been happening in the mining sector over the past year. After reaching record highs in March 2008, metals prices collapsed in response to the global financial crisis, losing 41% of their value by mid-2009.

Caught by surprise, many mining companies pushed cost management to the top of the corporate agenda and began cutting down across the board – shedding non-core (and, in some cases, high-quality) assets, halting production, scaling back workforces and putting deals on hold.

Just when much of the industry had settled in for a long flat stretch; commodity prices began to rebound. Bolstered by re-emerging demand from China and growth markets like India, along with government stimulus packages and an ongoing need to invest in infrastructure, the industry recovered much of its losses. Although new mine development remains a shaky proposition, producers are seeing a return to profitability. The question topmost on executives' minds now is: how long will this one last?

It's a good question, because it underscores an essential fact about the mining sector: nothing lasts forever. In an industry as notoriously cyclical as mining, organizations must have sufficiently flexible strategies to weather both market upswings and downswings. Too conservative a view can hamper organizational ability to capitalize on opportunities as they arise. At the same time, miners should be the first to recognize that all that glitters is not gold. As the market rebounds, this means companies must resist the urge to place fundamental challenges on the backburner. Companies still need to manage their regulatory risks, engage in sustainable development, address environmental issues, attract top talent and explore strategies for growth.

To help your organization balance these competing needs, Deloitte's Mining practitioners from around the world identified ten of the top issues emerging in the global mining sector. Some issues from last year's report (Tracking the trends 2009: The top 10 global mining issues) remain, although their focus has changed. New issues also exist. While each organization will be affected differently by these trends, one thing is clear: by gaining a better understanding of these critical factors, you will be better placed to develop a more effective response.

1 Securing local supply

Is the demand from growing nations sustainable?

Many countries have long considered natural resources as assets strategic to the state. In the past year, however, their true strategic value has been reinforced as countries like China accelerate the pace at which they acquire these commodities.

Flush with over US\$2 trillion in foreign reserves, China has been on a buying spree. Although China's overseas direct investment was down 60% year-over-year as of October 2009; Chinese investors still completed 30 outbound mining deals for the year with a total disclosed deal value of US\$5.2 billion.

Driven by both the conviction that natural resources are an issue of national security and the need to secure local supply, China is investing in iron ore, gold, silver, copper, aluminum and coal in countries around the world. And China is not alone. As of August 2009, Vietnamese companies were set to invest \$1.5 billion outside of Vietnam, with a majority of those funds slated for investment in oil, power and mining.

In a bid to protect supply to its local population, Indonesia has scaled back its coal exports. Russia, too, continues to retain majority ownership of key assets like uranium and gold. Other countries lacking rich domestic reserves, including India, increasingly are casting their eyes to global supplies.

This trend is doing more than raising concerns about the sale of sovereign assets to foreign investors. It also may be driving up short-term demand artificially. On the one hand, industry stakeholders speculate that this stockpiling is unsustainable. On the other hand, people point to the astonishing underlying demand likely to resurge as China, India and the world's emerging nations continue to modernize, urbanize, industrialize and automate. Given the plausibility of both scenarios, mining companies need the strategic flexibility to adapt to either one – as well as the range of other potential outcomes they may face in the coming year.

“As foreign companies buy into domestic markets, majors are facing unprecedented competition in their own backyards. This trend is set to rise as countries try to secure access to strategic resources.”

Glenn Ives, North American Mining Leader, Deloitte & Touche LLP (Canada)

2 Commodities, currencies and costs

The rollercoaster ride continues

One of the strengths of the mining sector is its boundless optimism for the future. When commodity prices were hitting record highs barely two years ago, that optimism was expressed by almost giddy expansion, as companies rushed to develop and build even marginal – and often technically complex – assets. The result was a precipitous increase in costs for raw materials, energy, equipment, supplies and labour.

When commodity prices dropped, the industry's usual optimism was revealed to have a double edge. Saddled with committed capital expenses at suddenly uneconomic prices, mining companies turned cost containment into a mantra.

Now, commodity prices are rebounding again. By August 2009, base metal prices already had returned to profitable 'mid-cycle' levels, recovering at a faster pace than most industry participants predicted. From a low of US\$1.25/lb last fall, copper climbed to over

US\$3/lb. In October, surged to a new high in excess of \$1,200 per ounce in November, displaying its ongoing value as a quasi-currency. Silver is demonstrating similar buoyancy. These moves seem to indicate that, despite recent declines, long-term demand remains set to rise and could potentially outstrip supply once more.

In the face of this long-term outlook, industry stakeholders are watching with bated breath to determine how well mining companies have learned their lesson. As demand fundamentals pick up, organizations must take heed to expand with caution. Rather than reigniting a cycle of spiralling costs, companies will need to manage their risks more effectively. This is particularly true in today's economy, which is characterized by ongoing US dollar weakness. More than ever before, commodity prices have revealed themselves to be fickle masters and companies must explore ways to hedge against currency and commodity volatility.

“Commodity prices recovered remarkably quickly to quite a strong level, making the mining sector more buoyant than people had expected. While it is hugely encouraging to see prices move back up, companies must consider very carefully whether demand fundamentals can sustain prices at these levels.”

Seelan Naicker, Director, Deloitte Consulting Pte Ltd. (Singapore)

3 Ramping back up

Success hinges on effective demand management

The trouble with reacting to commodity price fluctuations is that you're always looking over your shoulder instead of facing ahead. In many ways, the mining sector fell prey to this mentality in the wake of the global economic crisis. Faced with plummeting demand, lower prices and capital constraints, many organizations shut down locations to avoid holding inventory, put exploration on hold and reduced the flow of new projects to a trickle.

In Canada, precious metals producers slowed production as demand for luxury goods declined. In the US, coal producers were stymied by the introduction of more stringent regulations and more onerous permitting requirements. In Russia, Polyus Gold pushed out its date for full production of the Natalka deposit from 2015 to 2025 when funding to increase power generation and build new infrastructure fell through.

“Until mining companies understand what’s driving demand, they will have difficulty thinking ahead of the curve, planning exploration and development investments and differentiating themselves in the global commodities marketplace.”

Carl Hughes, Head, Energy, Infrastructure and Utilities,
Deloitte LLP (United Kingdom)



Admittedly, not every company put on the brakes. Most industry majors continued to invest in their tier-one projects throughout the down cycle. Many gold companies also maintained production to take advantage of current high prices, with several mining marginal shafts – sometimes at the expense of profitability. Absent advance planning, however, many companies are bound to experience project delays, talent shortages and spiralling costs when demand ultimately recovers. This may be good news for organizations interested in pushing prices higher again, but it only dooms the industry to continuously re-living an endless series of boom and bust cycles.

Help wanted

To succeed over the long term, mining companies must do more than master the supply and demand dynamics of the world's commodity markets. They also must understand the fluctuating demand dynamics of the world's labour markets.

While much has been written about declining international birth rates, populations nearing retirement and shifting workforce expectations, the entire challenge can be distilled to one central fact: without an immediate and concerted effort to attract new talent to the mining sector, organizations will very soon face a severe skilled labour shortage. This challenge will become particularly acute as organizations begin ramping up to meet the anticipated upward trajectory in market demand.

While the current down market might seem like an ideal opportunity to attract skilled labour, the truth is not quite so simple. Many of the jobs shed in the past 18 months were of less skilled workers, leaving an ongoing gap in access to experienced geologists, mining engineers and technical experts. A lack of coordination between companies and universities has exacerbated this situation, resulting in a slower flow of mining engineer graduates. To complicate matters, many experienced people simply are not prepared to work in the mining sector's increasingly remote locations.

This trend potentially can limit a mining company's ability to meet its production targets and maintain profitability – pushing workforce optimization higher up the corporate agenda for mining organizations across the globe.

“In many countries, the mining sector is poised on the edge of a looming talent crisis. Universities aren't graduating mining engineers like they used to. Workers with families often are not attracted to the idea of working in remote regions or challenging climates. These factors all point towards the prospect for a serious skills shortage.”

Debbie Thomas, Partner, Deloitte LLP (United Kingdom)

4 The spread of sustainability

Earning a social license to operate requires an integrated approach

Mining companies are no strangers to the concept of corporate social responsibility. Until recently, however, many businesses approached sustainability as a public relations issue. In an environment characterized by the need to innovate, gain operational efficiencies and reduce enterprise costs, this is no longer a feasible stance. This is particularly true in the face of heightened regulation, more vocal investor activism and changing consumer expectations.

There was a time when the mining sector could confine its sustainability activities to narrowly defined areas, such as worker safety and energy management. That time has now passed. Looking toward the future, mining companies increasingly will need to broaden their definitions of sustainable development. For instance, those organizations that operate

in parts of the world with limited access to energy, infrastructure and water will need to collaborate more effectively with communities and non-governmental organizations (NGOs) to protect both corporate and local citizen interests. Similarly, shareholder and regulatory pressure for improved transparency and disclosure mandates a more mature governance approach. At the same time, companies must determine how to leverage these activities to drive not only environmental and social value, but economic value as well.

While no one can map what the future holds, sustainability in the mining sector is likely to revolve around issues such as biodiversity loss, water shortages, climate change, demand for energy, resource scarcity and population growth. Companies will need strategies to

“Sustainability now encompasses the creation of business processes that benefit all stakeholders. Mining companies are responding by seeking to understand how they can integrate these actions into their strategy and operations to drive economic, environmental and social value.”

Valerie Chort, Partner, Corporate Responsibility & Sustainability, Deloitte & Touche LLP (Canada)

promote greater reliance on clean air and water and renewable energies – a focus that also can help them address concerns around accessing energy supply in remote mining locations. Although approaches may vary, mining companies that take proactive steps to enhance their sustainable practices are likely to realize common benefits, including improved operational and environmental performance, a stronger social license to operate, enhanced regulatory compliance, healthier community relations and long-term bottom line results.

Ten principles for sustainable development

Various organizations around the globe have developed guidelines companies can follow to enhance their sustainability initiatives. The following ten principles guide company members of the International Council on Mining & Metals (ICMM):

- 1 Implement** and maintain ethical business practices and sound systems of corporate governance.
- 2 Integrate** sustainable development considerations within the corporate decision-making process.
- 3 Uphold** fundamental human rights and respect cultures, customs and values in dealings with employees and others who are affected by our activities.
- 4 Implement** risk management strategies based on valid data and sound science.
- 5 Seek** continual improvement of our health and safety performance.
- 6 Seek** continual improvement of our environmental performance.
- 7 Contribute** to conservation of biodiversity and integrated approaches to land use planning.
- 8 Facilitate** and encourage responsible product design, use, re-use, recycling and disposal of our products.
- 9 Contribute** to the social, economic and institutional development of the communities in which we operate.
- 10 Implement** effective and transparent engagement, communication and independently verified reporting arrangements with our stakeholders.

5 No easy money

The cost of capital dampens growth

No matter how you cut it, mining is an exceptionally capital-intensive industry. When the debt markets shut down and equity deals started falling through last year, the mining sector was disproportionately affected. Many exploration companies were forced to put a hard stop to operations and junior companies around the world began to fold. Even major companies and state-owned enterprises had greater difficulty accessing capital, although many were sufficiently cash-rich to continue financing existing production from internal cash flow.

As commodity prices began to rebound, credit markets eased open, although access to capital remains a challenge. In many jurisdictions, mining companies now must hold higher reserve accounts than in the past. In Australia, for instance, capital adequacy ratios rose from 8% to 10%, making it more difficult for organizations to attract debt financing. Even then, lending terms remain exceptionally onerous and the cost of capital has risen dramatically.

“Although the credit markets are opening slowly, there is still no easy money available. Funding continues to go to the best projects first, pitting other organizations in a battle against each other to gain access to capital.”

William Joseph Ballantyne, Partner, Deloitte Touche Tohmatsu (Brazil)

In more stable times, the equity markets may have offered a solution. In the wake of the global financial crisis, however, equity financing has lost much of its lustre. Liquidity challenges on London's AIM have slowed deal flow through that market, and while Toronto's TSX has been recovering, equity financing mostly remains confined to classes of commodities, such as copper, gold and silver.

Struggling with a hangover of high debt ratios accumulated during better times, more complex loan negotiations and the risk of facing vastly altered terms upon renewal, mining companies are seeking alternative financing options. In some cases, Asian buyers and sovereign wealth funds have stepped forward to fill the gap. In others, companies are turning to private equity players. In all cases, organizations must remain laser-focused on capital efficiency if they hope to weather the current downturn and position themselves for sustainable growth into the future.



6 Contending with a changing climate

The risks to the mining industry are rising

For many years, mining companies considered climate change a purely environmental risk that potentially could hamper productivity due to unpredictable drought or flooding. Those days are done. Beyond the environmental impacts of climate change, the issue poses real risks to the mining industry more broadly.

These include:

- **Regulatory** risks, such as the potential costs of compliance and reporting requirements across different jurisdictions and regulations.
- **Physical** operations risks, such as the potential for operational and infrastructure impacts due to extreme weather events, rising annual temperatures and altered precipitation patterns.
- **Financial** risks, such as those related to carbon liabilities.
- **Market** risks that may arise due to changing demand patterns.
- **Strategic** risks related to accounting for uncertainty, such as future regulation, technology availability and the price of carbon.
- **Supply chain** risks, as suppliers factor in increased costs for compliance and energy.
- **Litigation** risks, as affected communities or non-governmental organizations challenge companies or specific projects on the basis of their greenhouse gas (GHG) emissions.



Carbon-emitting companies will need to take steps to reduce their emissions, better measure and report their output and engage in carbon offset trading. Even companies that are not large emitters will need to adopt energy management programs to limit their electricity consumption, which remains the primary contributor of GHGs in the mining industry. Although many of these challenges cannot be resolved in the short term, mining organizations must continually refine their climate change strategies to keep pace with changing industry dynamics.

“Environmental regulations, changing climatic conditions, heightened risk and an emphasis on cutting carbon have become more prominent in the mining sector. To keep energy costs under control and avoid environmental damage, organizations need to plan for various alternative scenarios in the development of their climate change strategies.”

Trevar Thomas, Principal, Deloitte Consulting LLP
(United States)

7 Extreme mining

Searching for the industry's next frontier

With so many organizations sticking to their knitting in a tough economic climate, the pace of exploration has slowed in recent months. As international demand begins to pick up, however, mining companies once again will face an endemic industry challenge: finding quality assets.

With each passing year, the easy-to-reach deposits are depleting, forcing mining companies to consider more extreme locations. Already, some organizations have expanded from the frozen lands of the Arctic and Greenland to the Nigerian deserts in search of new assets. Since the discovery of seafloor sulfides and hydrothermal vents, some companies are exploring the feasibility of following the oil and gas industry's lead in an effort to commercialize underwater

mining. And while it remains challenging to forecast the viability of mines located in harsh climates, mining companies continue to make efforts to expand their operations across some of the world's most remote and inhospitable regions.

Keeping pace with this shift requires mining companies to better harness the power of technology to access difficult-to-reach reserves and navigate complex geological structures. Although many obstacles to this expansion remain, technological advances proceed apace. Today, technology already exists to enable mining companies to upgrade the quality of their products, making it more economically feasible to mine previously questionable deposits. As this innovation continues, extreme mining is bound to become more mainstream.

“Now that mining companies have cherry-picked the easier deposits to mine and process, they will have to cast their eyes towards harsher geographic climates and overcome rising metallurgical challenges.”

Dr. Eric Lilford, Partner, Deloitte Touche Tohmatsu (Australia)

8 The valuation abyss

The need to merge still exists, but the desire does not

If one word could characterize the near-term prognosis for mining industry mergers and acquisitions, it would be cautious. Burned by the breathtaking drop in value across the world's markets, many would-be acquirers are hesitant about entering new deals with one notable exception; China.

While China's outbound merger and acquisition deal value decreased in 2008 and 2009 due to the global financial crisis, Chinese companies still engaged in a considerable number of transactions. In May, Guangdong Rising Assets Management Co., Ltd. became the largest shareholder in Australian copper producer Pan Australian, with an investment of US\$140 million. In June, Wuhan Iron and Steel Group acquired a 20% stake in Consolidated Thompson Iron Mines for US\$240 million. In the same month, China Sci-Tech Holdings completed a US\$211 million purchase of the Martabe gold and silver mine

in Indonesia owned by OZ Minerals. This was followed by two additional deals in July – Ansteel's A\$534 million investment to finance an iron ore project in Australia and CIC's acquisition of a 17.2% stake in Teck Resources for C\$1.7 billion.

Despite this flurry of activity, the pace of mergers and acquisitions in other areas of the market is likely to remain slow. One would imagine the case would be different for cash-rich companies, which have an exceptional opportunity to acquire quality assets from struggling organizations – many of which are looking to divest assets or be acquired. But that hasn't panned out. Given the volatile economic climate, it would appear that buyers and sellers cannot find a middle ground on valuations. In some ways, this challenge contributed to the failure of Xstrata Plc's bid for Anglo American.

In light of this cautious environment, many companies are taking advantage of the lull to get their financial houses in order in advance of the next wave of mergers. Organizations that have prepared for alternative scenarios (as both buyers and sellers) will be better placed to act decisively in the face of built-up pressure for consolidation in the sector.

“The need to merge still exists, but the desire to merge does not. Buyers are trying to take advantage of lower market valuations to acquire quality assets, while sellers are trying to ignore the stock market on the belief that they simply are undervalued. This is making it nearly impossible to find a middle ground.”

Jeremy South, Partner, Global Sector Leader, Mining, Financial Advisory,
Deloitte & Touche LLP (Canada)





Big brother is watching

Government intervention takes a toll

Despite the need for improved collaboration between the mining industry and national governments, tensions often still exist. This is especially true in the areas of permitting, politics and tax. As mining companies expand farther afield, they frequently must contend with challenges beyond earning a license to operate. In some countries, shifting tax and royalty policies target the mining sector and eat into profitability. With so many governments short on cash following the global recession, this may become a bigger risk going forward.

In other countries, precipitous government actions can result in even more severe consequences. Some mining companies have seen their licenses withdrawn or faced the prospect of nationalization. Others have been caught in the midst of civil violence and wars.

And, in many emerging nations, the risk of corruption remains. In September 2009, for instance, police in the Democratic Republic of Congo (DRC) sealed off a copper mine owned by Canada's First Quantum Minerals Ltd., forcing the company to halt construction and lay off 700 people. The shutdown followed a decision made by the DRC government in August to cancel First Quantum's contract.

To anticipate and hedge against this kind of risk, mining companies will need to engage in more sophisticated scenario planning so they can make informed decisions about how to respond to intervention by governments in the countries where they operate.

“As mining companies search for new deposits in many of the world's emerging nations, political risk is bound to rise.”

David Quinlin, Partner, Deloitte AG (Switzerland)

10 No bridge to cross

Infrastructure costs are on the rise

The mining sector has long relied on access to adequate infrastructure for production and distribution – from power generators and transmission lines to ports and railways. As mining companies move into more remote regions, however, lack of infrastructure threatens to endanger operations.

Russia, for instance, which has one of the world's largest infrastructure funds, remains hesitant to extend its reach into less hospitable regions of the country. Yet the facilities it has built in recent years – including a new coal port in eastern Russia – are already running at nearly full capacity.

As the industry's need for infrastructure outstrips its availability, companies are being forced to bear the costs of infrastructure development. In countries like Vietnam, the Philippines and Indonesia, companies are forming consortia to raise the capital necessary to finance infrastructure builds. Public-private partnerships and similar initiatives also are being struck to fill the gap.

If the trend continues in this direction, mining companies may find themselves investing in and managing an entirely new class of assets. While this move may support local communities in some areas, it also mandates considerably more collaboration with government stakeholders around the world.

“Mining companies are coming to understand that, unless they invest in new infrastructure like railway lines, port facilities and generation plants, they will be unable to unlock key assets.”

Reinhard Arndt, Director, Representative Office, Deloitte & Touche (Russia) RCSL

Where do we go next?

A roadmap for the coming 12 to 18 months

Given the complexities and interdependencies influencing the global mining sector, it may seem the height of hubris to suggest that a single roadmap exists for companies mining different minerals and metals, in different jurisdictions, at different stages of development. Can one vision accommodate the almost endless variation of challenges and opportunities mining companies will face in the coming months?

Of course not. So why is it that so many mining companies pin their prospects for long-term success on one strategy that contemplates only a handful of likely outcomes?

If your strategic planning is not sufficiently flexible to accommodate a range of potential scenarios, the future of your business may be at risk. Five-year plans that hinge on the occurrence of a specific set of events ultimately derive their value from the strength of your crystal ball. If your predictions don't come to pass, you need alternatives.

That's what strategic flexibility is all about. Given the uncertainties facing the mining sector, the time is ripe for organizations to assess the entire industry landscape, both domestically and globally, to understand the implications of today's challenges on your business. Your ultimate aim is to develop a wide range of strategic options that you can choose to pursue if specific trigger events come to pass.

This level of strategic planning requires more than budget forecasting and traditional blue-sky analysis. Instead, it requires a holistic approach, an integrated view of your entire enterprise and the reliance on established methodologies. Many tools already exist to help mining companies tackle the specific issues they face. For instance, when considering sustainability initiatives (including those related to issues such as community engagement, workforce, local suppliers, biodiversity and the environment, resettlement, health, primary education and electricity), many companies struggle to assess the financial value of these investments. However, intuitive tools to help mining companies estimate expected net present values (NPVs) for these projects are available. As a result, companies can access a framework that will help them prioritize, structure, time and resource their sustainability investments.

Models also exist in the areas of capital allocation and cost control. In an environment of severe resource constraints and illiquidity, companies must ensure optimum allocation of their limited capital. Too often, however, those projects that are developed aren't linked to corporate strategy or fail to generate maximum value at either a portfolio or individual project level. By aligning your capital investments with corporate strategy, optimizing your portfolio of investments and reviewing the capital efficiency of your individual projects, you can gain the level of cost control you need to navigate ongoing volatility.

In fact, mining companies can manage volatility even more effectively by adopting a forward-thinking approach that encourages executives to define responses to a range of anticipated futures. By mastering the area of uncertainty management, you can do more than identify strategic innovations. You can also align your executive team to move towards clearly defined long-term objectives.

Mining companies already understand the value of contingency planning for major incidents, such as health and safety. Strategic flexibility simply extends the concept of scenario planning to operational issues. Beyond the examples cited above, this positions companies to articulate clear responses to the full range of challenges they currently face – from political risk, commodity price uncertainty and talent shortages to resource scarcity or becoming the target of a hostile bid. By envisioning multiple scenarios, this process can help you maximize your success no matter what the future holds.



“The availability of liquidity should not be left to chance. To smooth out cyclicalities, mining companies must engage in active planning, maintain strong balance sheets and carefully manage both information and risk. This will enable them to engage in sufficient scenario planning before making investments. Only in this way can they gain the transparency they need to develop capital management programs, which weather both upturns and downturns.”

Peter Bommel, Global Energy & Resources Leader, Deloitte Touche Tohmatsu

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