



**Top 10 business
risks facing mining
and metals
2017-2018**

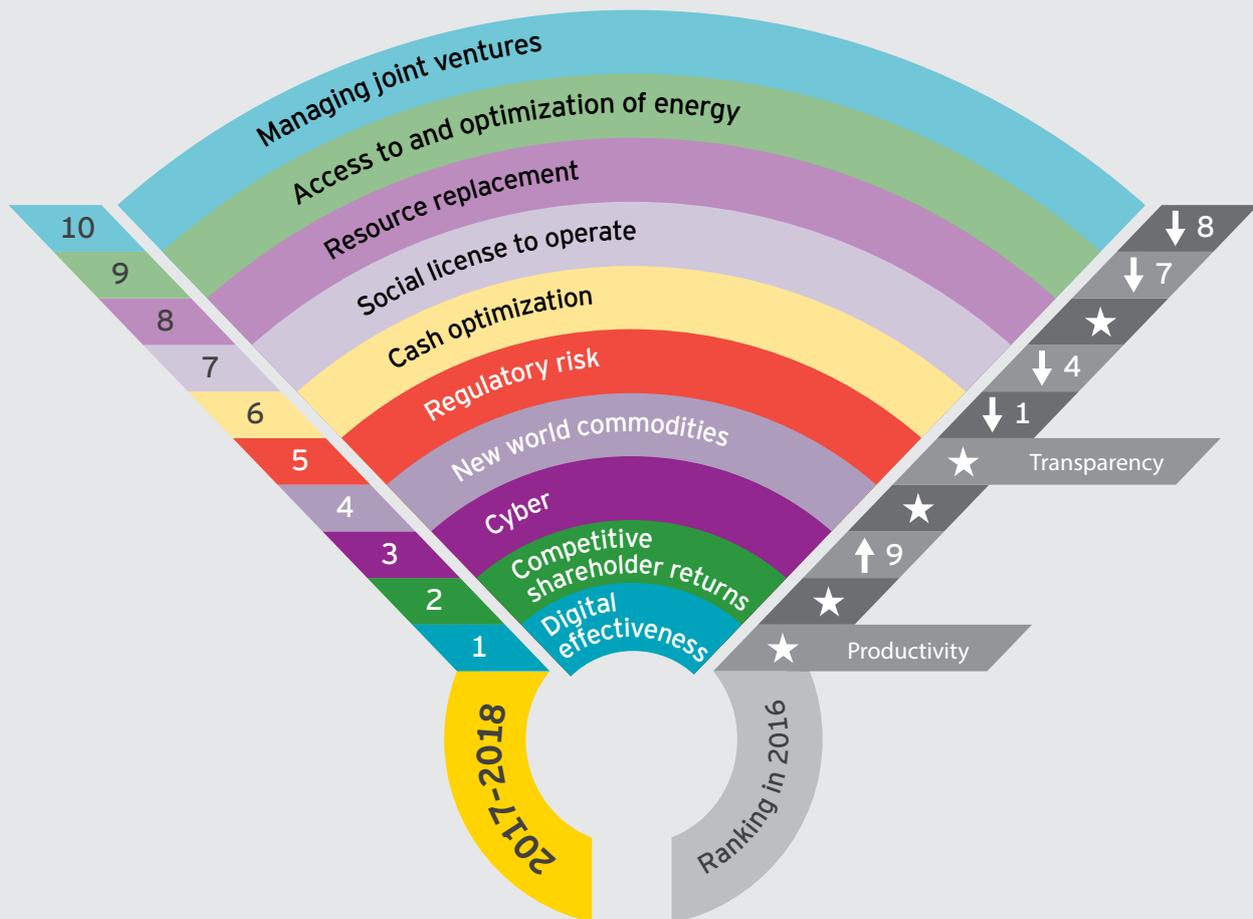


EY

Building a better
working world

Risk radar for mining and metals

Top 10 business risks



↑ Up from 2016 ↓ Down from 2016 — Same as 2016 ★ New to the radar

“This year’s business risks report clearly reflects the positive uptick in the market – volatility has eased off in a number of commodities, and balance sheets are in a better position. It is now all about how you stay ahead of the competition – gaining competitive advantage and being at the lower end of the cost curve is key. Managing the risks will assist mining and metals companies to do this.”

Paul Mitchell,
EY Global Mining & Metals Advisory Leader

Executive summary

Our number one risk this year is digital effectiveness. While the concept of digital mining is not new, there is disconnect between the potential from digital transformation and the successful implementation of new technologies. We believe that digital transformation will be a critical enabler to address the sector's productivity and margin challenges. Companies risk being left behind by their competition if they are not at the forefront of this.

Competitive shareholder returns is a new risk at number two as it has exponentially increased in relevance over the last six months. With cash being generated at significant levels again, the level of shareholder activism in the sector is increasing on the back of the fear that it won't be sustained. Mining and metals companies need to differentiate themselves – by investing capital properly and getting a good return compared with the rest of the market. Ultimately, they need to be a leader in the market to attract capital.

Cyber risk has moved up to the number three position as a result of increased digital transformation and the convergence of information technology (IT) and operational technology (OT), which makes companies more vulnerable to the continued rogue activity in the sector.

New in at number four is new world commodities as disruption in other sectors, particularly with increased focus on sustainability, is having a major impact on commodities. The end of petroleum cars will impact a significant part of platinum demand: almost half of global platinum production is used in catalytic converters to remove diesel pollution. Other commodities, such as cobalt, lithium and nickel, will benefit from the increased demand for battery storage.

Regulatory risk is new and comes in at number five, although it includes elements of transparency risk. While transparency is still important, there has been a sharp upturn in regime risk in developing countries as commodity prices improve and countries seek their fair share of improved returns. Licensing requirements have also increased as a result of environmental accidents.

Also new to the risk radar is risk eight: resource replacement that needs to be addressed now to future-proof your organization. With leverage across the sector significantly reduced, and cash flow improved as a result of better capital allocation and higher commodity prices, shareholders expect higher returns than the sub-5% on average over the last five years. Until these returns are met, investing for growth will remain a marginal activity rather than the central strategy that defined the first decade of this millennium.

“Digital transformation, ongoing innovation and a focus on new world commodities are bringing a different kind of volatility to the mining and metals sector. Companies will have to be increasingly flexible and agile in their business models to remain competitive.”

Miguel Zweig,
EY Global Mining
& Metals Leader

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Top 10 risks	2017-2018		Over 10 years	2008 (peak of the supercycle)	
	01	Digital effectiveness		01	Skills shortage
	02	Competitive shareholder returns		02	Industry consolidation
	03	Cyber		03	Infrastructure access
	04	New world commodities		04	Social license to operate
	05	Regulatory risk		05	Climate change
	06	Cash optimization		06	Rising costs
	07	Social license to operate		07	Pipeline shrinkage
	08	Resource replacement		08	Resource nationalism (regulatory risk)
	09	Access to and optimization of energy		09	Access to energy
	10	Managing joint ventures		10	Increased regulation (regulatory risk)

01 (New)

Digital effectiveness

Digital is having significant impact in the sector as companies seek to use new technologies to support efforts to improve productivity and margin. An EY poll earlier this year with over 700 industry representatives revealed the majority have started the digital journey.

In our experience, the bulk of these digital activities have been initial “no regrets” projects on a small scale as many companies have had mixed experiences with new technologies in the past and want to limit capital expenditure.

Digital goes beyond adopting technology though – it needs to be solving a business issue and is key to resolving the sector’s number one operational challenge: improving productivity across the value chain. Companies need to be pragmatic when targeting digital enhancements. New tools can be OK, but investing in integration and expanding usage of current applications can also generate a lot of value. Using digital provides access to additional data and ways of analyzing that data to enhance asset management, improve reliability and consistency, and also introduce predictive capability. For example, you make subtle but important changes to your operations in

wet weather. Digital enablement could help determine optimal run rates under different conditions, such as the maximum loads and driving speeds in wet weather, and preempt truck breakdowns. There is a massive opportunity through digital.

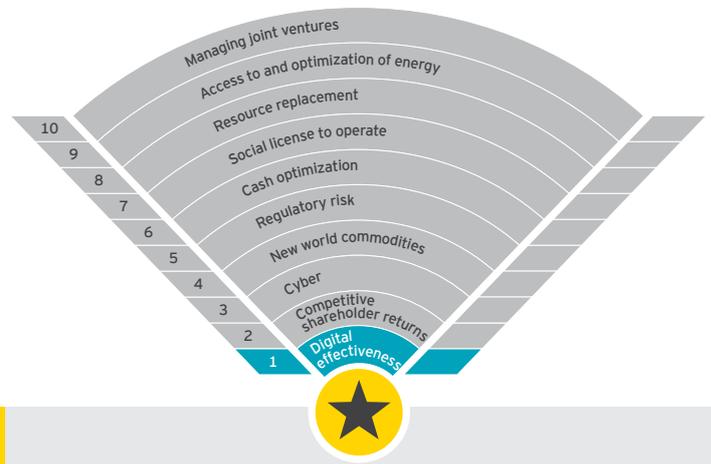
Much of the sector focus on digital has been on driving the productivity agenda, but wider themes may fundamentally change how the sector works. For example:

- ▶ **Blockchain** – Secure distributed ledger approaches may offer pathways for contract automation, reducing transaction costs and improving Internet of Things (IoT) security.
- ▶ **How we buy** – Direct linkages between machine health and virtual warehouses

can optimize working capital, and analytics will help to identify spend and cost-reduction opportunities.

- ▶ **How we sell** – Analytics for customer insights and optimization tools will drive greater real-time sales to match production profiles.
- ▶ **New world assets** – Rio Tinto’s New Ventures business is focused on investments in new and emerging commodities.
- ▶ **Disruption** – In the future, technology players bringing innovation to mining with automation and Artificial Intelligence will disrupt traditional structures.

We believe that new business models will need to be developed, so agility is key.

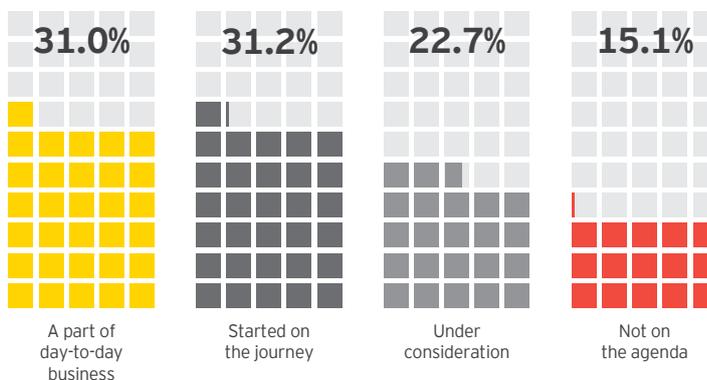


Key thought

The focus should be on using digital to solve the most urgent business problem: improving productivity and margins across the value chain.

How high on the agenda is digital in your organization?

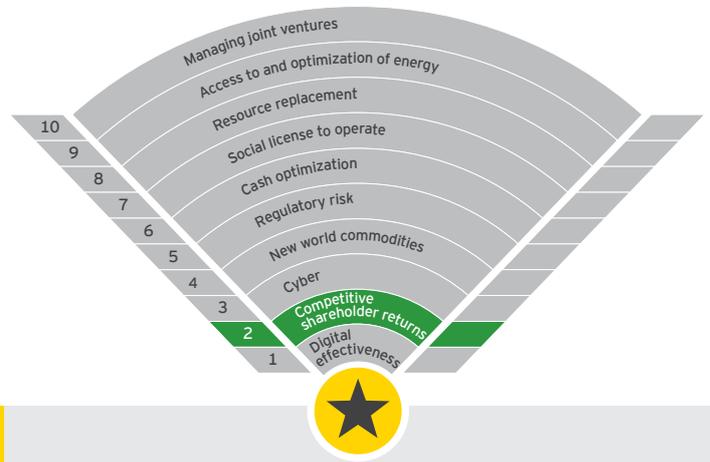
Percentage of respondents



Source: EY “Preparing for tomorrow’s digital mine today” webcast poll, with more than 700 participants, February 2017

02 (New)

Competitive shareholder returns



Key thought

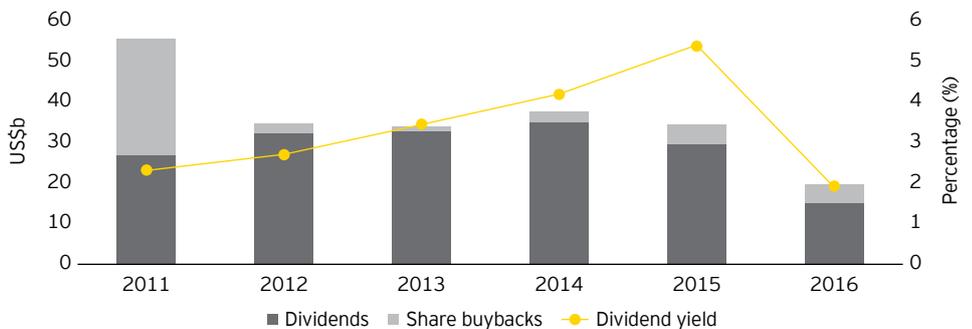
Balancing short-term shareholder returns with long-term value can be both difficult but key.

Video insight



Lee Downham, EY Global Mining & Metals Transactions Leader, discusses shareholder returns in mining and metals and key considerations.

Shareholder returns



Average of the top 50 miners by market capitalization
Source: S&P Capital IQ

The sector has consistently underperformed in terms of returns to shareholders in recent years. It's now focused on rebalancing that equation through the allocation of capital to dividends and share repurchases, ahead of reinvestment in longer-term growth projects.

Strong cash generation through 2016 has seen companies clarifying dividend policies and returning cash to shareholders through share buyback programs and special dividends. We would argue that this was a necessary step to regain shareholder confidence on the back of poor capital allocation in recent years. But, as a long-

term strategy, it is clearly not sustainable as the sector ultimately needs capital investment targeted into higher returning projects. With shareholders now focused on strategic investment decisions, there is a growing chorus of investor activism, focused at the industry and ready to intervene where capital allocation decisions are not focused on optimal returns. Going forward, it will be increasingly important to balance capital discipline with the growth agenda. The dilemma rests in missing out on growth opportunities while waiting for greater pricing visibility before executing on new projects. The expectation is that players with a healthier balance sheet will now carefully return to growth, even if it means executing on only a limited number of projects.

Should miners prioritize dividends over growth?

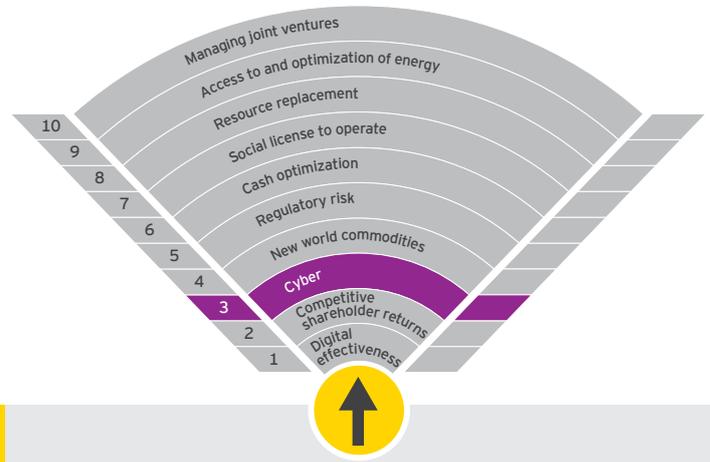
Due to significant project overruns and poorly timed M&A, there have been significant impairments across the industry, and management remains cautious about allocating cash for expansion projects. But simply returning cash to shareholders is not a long-term strategy – ultimately, good projects executed effectively will offer better returns for shareholders in the long run. Therefore, selecting an optimal portfolio as well as exercising good judgment in investment opportunities are crucial actions toward offering shareholders a unique value proposition.

We believe that the return to growth will bring opportunities for value creation. This calls for mining and metals companies to build resilient, multicycle portfolios that offer sustainable returns to shareholders.

03

Cyber

(from 9 in 2016)



Key thought

Could “cyber risk” be the downfall of all the productivity gains and digital advancement aspirations for a mining organization?

Video insight



Mike Rundus, EY Oceania Mining & Metals Advisory Leader, discusses cyber risk in mining and metals and key considerations.

Cyber risk has moved up in our risk ranking as a result of increased digital transformation and the convergence of information technology (IT) and operational technology (OT), which makes companies more vulnerable to the continued rogue activity in the sector. The world is experiencing an unprecedented number of cyber attacks every year, and the sector has not been immune to data breaches and lost revenue as a result.¹

The convergence of IT and OT has seen many organizations extend their “crown jewels” assessments from the enterprise applications to cover critical operational technology that enables automation, process control, and health, safety and environment (HSE). As OT becomes more prevalent, the risk increases as it doesn’t have the same controls environment. An additional challenge is that the attack surface is only getting larger with the increasing investment in digital and reliance on control systems for efficient operations. The large number of connected devices across an operating environment can make the footprint significant. For example, a mining company will have thousands of connected devices, many in physically secure environments, such as the port, some in more controlled environments at mine sites, and others in public areas, such as railway signals.

The emerging risk associated with OT is therefore being closely assessed and prioritized globally. However, while cyber risk has become a board-level issue, we haven’t seen a step change in cybersecurity awareness, and the security culture within the mining and metals sector is needed to resolve

the gaping hole that the “human factor” exposes to potential cyber attacks. The urgency becomes more critical when you accept the ideology that it is no longer “if” but “when” a cyber attack will occur.

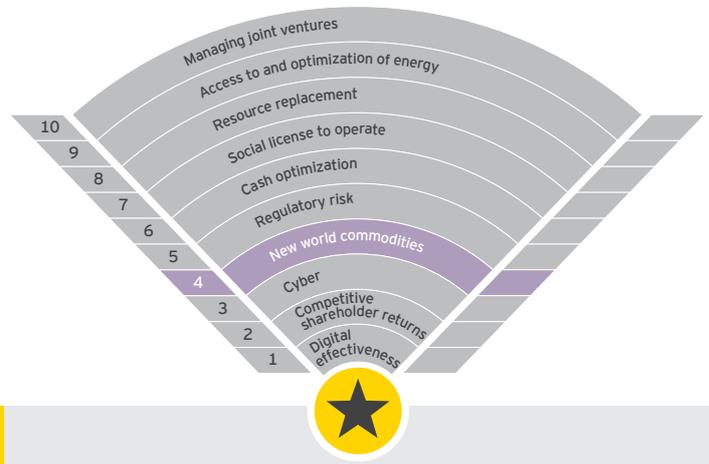
A step toward cyber protection

Mining and metals companies need to have a clear plan – their digital road map needs to be cognizant of cyber risk, or they risk facing a major incident. There needs to be a recognition that cybersecurity firstly requires the organization to establish a baseline of “basic” cyber controls maturity supported by a risk-based approach to prioritize strategic, long-term cyber investment for the subset of top cyber threat scenarios. Companies need to apply a cybersecurity framework to identify the critical cyber control gaps that need to be closed to achieve the target cyber risk profile. The sector shares similar cyber threat profiles to “critical national infrastructure” and technologies utilized within the energy sector. These organizations generally started their “step change” cybersecurity journey nearly two to five years ago, depending on where they operate. It is critical that the mining and metals sector accelerates its cyber program.

¹ “Cyber threats to the mining industry,” *Trend Micro*, accessed 29 September 2017.

04 (New)

New world commodities



Key thought

Understanding the impact of changing attitudes and technologies is vital in keeping a balance between old and new world commodities in portfolios.

Video insight



Lee Downham, EY Global Mining & Metals Transactions Leader, discusses new world commodities in mining and metals and key considerations.

Changing attitudes and the dynamics of new technology are causing significant disruption to mining and metals companies. Understanding the impact of these changes on their portfolios and keeping a balance between new and old world commodities has become a complex task in such a rapidly changing environment.

Future of coal

How quickly renewables will step up and replace the need for fossil fuels is the question hanging over the coal market. Future demand dynamics for coal are largely being driven by innovation associated with emission-reducing technology. The volume of coal deals has increased as miners make a bet on coal's future either through the acquisition of higher-grade coals found in Australia or through the divestment of lower-grade coal from their portfolios. There are conflicting views on the future of coal in the energy market, but with the increased prevalence of low-emission coal technologies, it will continue to play a role.

Rise of electric vehicles (EVs) and battery storage solutions

UBS estimates that the combined production of pure EVs and plug-in hybrid EVs will increase from around 1m vehicles in 2017 to around 14m in 2025.² As a result, a 12-fold increase in battery power will be needed by 2025. This will boost global cobalt demand for plug-in vehicles at an average rate of around 20% per annum for the next five years.³ Lithium demand is also set to rise by 16% per year over the course of the next decade, quadrupling by 2025 to 750kt. As a result, prices of key commodities associated with making batteries have exploded.

There will also be a positive effect for more traditional commodities, such as copper, that not only have cobalt as a by-product but will also be required for electric cars in greater volumes than petroleum cars. This demand has raised the question for miners over the value of entering these markets if they don't already hold assets. For others who do hold assets, the imperative rises to optimize operating assets to take advantage of higher prices or to push projects forward with greater speed to hit production to secure higher returns.

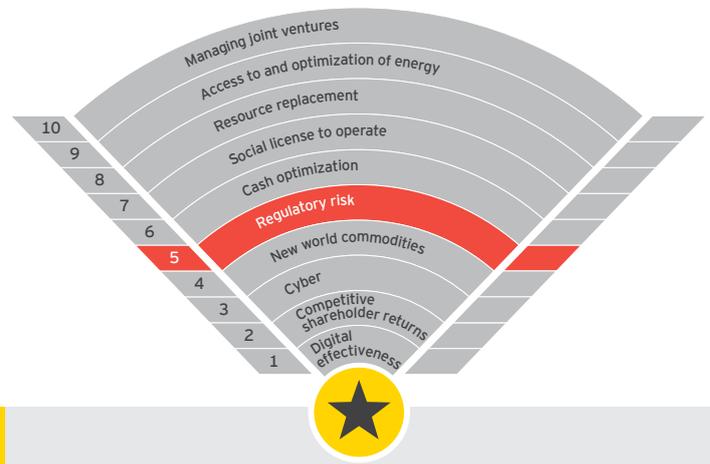
Companies also need to consider which commodities will be negatively impacted and how to manage the effect of lower demand for certain commodities on the value of their portfolios. A good example of this is where almost half of platinum produced globally is used in catalytic converters to minimize diesel pollution. Some estimates suggest that the adoption of EVs will result in a 7.5% decline in platinum demand by 2025.

Clearly the energy mix in Australia will be different to that in the US and China, as will demand for EVs in emerging versus developed markets. Decisions around where to invest and allocate capital will need to be taken long in advance. Miners will therefore need to adopt a level of flexibility in their business models to be agile to change and regularly review their portfolios, considering all future growth assets – new and old.

² "Nickel: big winner from electric vehicles?" UBS via ThomsonOne, 20 July 2017.

³ "Electric car growth sparks environmental concerns," *Financial Times*, 7 July 2017.

05 (New) Regulatory risk



Key thought

Regulatory risk has increased for the sector as governments demand a greater return from, and oversight of, their natural resources.



Andrew van Dinter, EY Global Mining & Metals Tax Leader, discusses regulatory risk in mining and metals and key considerations.

Governments and regulators in developing countries have intensified their focus on implementing new laws aimed at greater local participation which has brought uncertainty and risk to the sector.

Many governments and tax authorities have a new view of resource nationalism and will seek to increase the level of tax raised from the sector through controversy and disputes, with a shifting of focus to the way businesses are structured rather than what was attempted in the earlier part of this decade, through creating new mining taxes or increasing royalty rates. In addition, transparency initiatives continue to gain momentum as governments seek to comply with both sector initiatives (such as the Extractive Industries Transparency Initiative (EITI)) and non-sector-specific initiatives (such as OECD Base Erosion and Profit Shifting (BEPS)).

As commodity prices and profits improve, regulatory risk has surged, particularly in developing nations as they seek to take a fair share of their natural resources. This is increasingly linked to a social license to operate as miners seek to be regarded as good corporate citizens who contribute their "fair share." New and changing regulations regarding beneficiation, export bans, taxes and tariffs have impacted supply and increased price volatility, as well as potentially reduced the level of future investment. These actions can depreciate the value of an asset either through the inability to operate optimally or through forced divestment.

Recent regulatory activity includes:

- ▶ Brazil's new regulatory framework currently under discussion which could impact operations in Brazil by

increasing taxation and royalties levied on the mining sector

- ▶ A mineral export ban and increased government ownership of mining sector operations in Indonesia
- ▶ The implementation of environmental reviews and mining bans in the Philippines
- ▶ New mining laws in Tanzania, which give the government a 16% stake in mining projects, increased royalties and a ban on unrefined mineral exports
- ▶ In South Africa, the Department of Mineral Resources' suspension of the implementation of the third edition of the Mining Charter, pending a High Court hearing in December 2017. The Department's decision follows the Chamber of Mines' ongoing court challenge of the charter. Among others, the Mining Charter seeks to increase local black ownership from 26% to 30%, introduce new levies, royalties and certain preferential dividend distributions, as well as more demanding local Broad Based Black Economic Empowerment (B-BBEE) procurement, employment and management requirements⁴

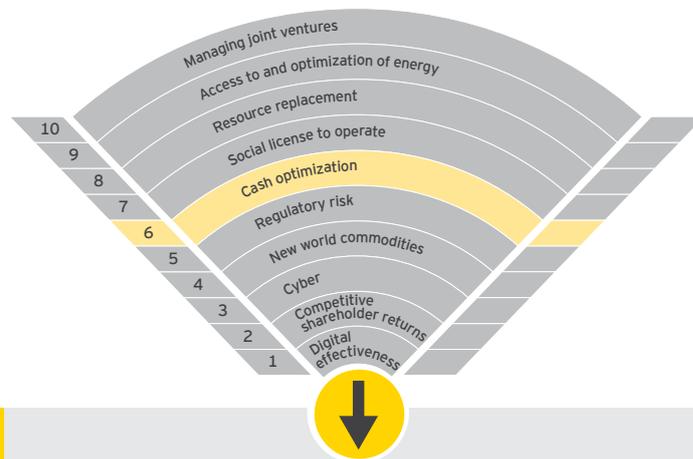
A change in the regulatory framework can cause significant uncertainty to companies in situ and possibly impact foreign investment. It is therefore critical to keep abreast of proposed regulatory changes and maintain open and transparent communications to all levels of government and their regulatory agencies.

⁴ "Unilaterally designed Charter will destroy investment and jobs to the benefit of select few," Chamber of Mines of South Africa media release, 8 August, 2017.

06

Cash optimization

(from 1 in 2016)



Key thought

This risk now turns to allocation of capital and managing the competing demands of shareholders vs. growth projects.



Hopewell Mauwa, EY Global Mining & Metals Senior Analyst, discusses cash optimization in mining and metals and key considerations.

A recovery in commodity prices and the relentless cost-cutting exercises have resulted in higher margins and improved cash generation. However, new risks are emerging as the industry switches to growth. While there will be relatively less cash commitments for debt reduction purposes, mining and metals companies have signaled intentions to return cash to shareholders.

Further, a return to growth will likely drive increased production, which will in turn require investment into working capital and capital investments. These changes will play an important role in decisions around capital allocation and how in turn this optimizes cash.

On the back of price volatility, revenues will remain susceptible to unpredictable fluctuations. Global markets remain awake to potential headwinds from the chance of a slowdown in China, the possible aftershocks of a post-Brexit Europe and increasing pressures from inward-looking policies led by the US under the Trump administration.

The curtailment of sustaining capex, which helped companies optimize cash, is unlikely to continue as aggressively as in recent years. Companies resorted to cutting both growth and sustaining capital expenditure during the downturn. Most will now find themselves in a situation where those cuts will no longer be sustainable. Further, the level of divestments seen over the last three years will fall dramatically, removing another lever that management pulled during the downturn to free up capital.

While gains in working capital performance have been achieved in recent years, further improvement in this area will be key to

optimize cash, with more strategic initiatives needed to drive through working capital efficiencies that are capable of being embedded for the long term. We expect working capital efficiencies to continue but overall working capital levels to increase across the sector as companies increase production and expand supply chains in order to gain greater margin per unit.

At the same time, shareholders have a critical eye on portfolios, which will drive management to review and enhance portfolios to improve returns on invested capital. While organizations have begun to pay back cash to shareholders, concerns still linger over the sustainability of total shareholder returns if new projects are not commissioned.

All these forces will no doubt mean a greater need to optimize cash for mining and metals companies. Industry participants therefore face a strategic imperative not only to prioritize effectively their cash commitment, but also to continuously improve their cost structures to cushion themselves from adverse price movements and anticipated extra expenditure.

07

Social license to operate (SLTO)

(from 4 in 2016)

Managing the needs and expectations of communities, governments, employees and other stakeholders who provide mining and metals companies with their SLTO can be a delicate balancing act of agendas and issues. Environmental accidents, employee strikes and worker fatalities suffered by some companies can result in collateral damage for the whole industry.

Organizations may be investing millions of dollars in sustainability and community investment initiatives, but according to a recent EY study in Chile,⁵ there needs to be a shift from a reactive and compensation model of social investment to one that is far more strategic and collaborative. The study identified a number of reasons for social conflict around mines, including involuntary resettlement, traditional land rights and environmental impacts. In addition, responsible miners may be contributing to the economy, but due to weak legislation, the wealth may not be reaching the local communities.

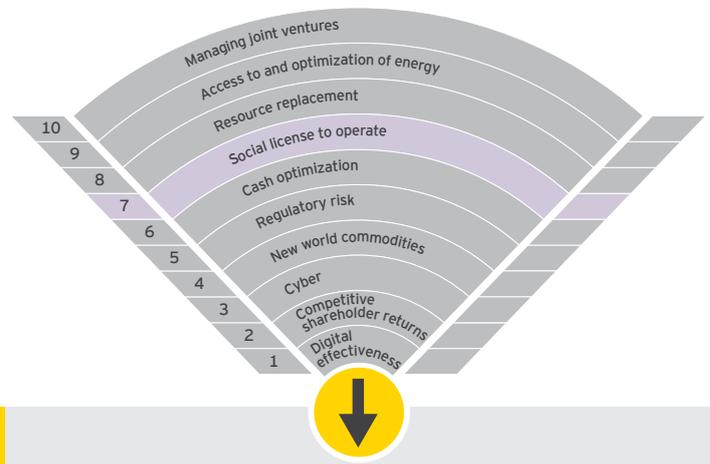
There is often an expectation gap between what a mining and metals company offers and what a community wants, and, as a result, several miners have had to abandon projects. For example:

- ▶ Newmont has deferred near-term investment in its US\$5b copper-gold Conga project in Peru in 2016 due to community opposition.⁶
- ▶ The Guatemalan Government revoked Tahoe Resources' mining license for its flagship Escobal mine due to a long-running dispute with local groups, resulting in a collapse in its share price. A court has since reinstated the license but the company has been unable to restart operations due to a blockade at the mine.⁷

- ▶ Canada's Gabriel Resources sued the Romanian Government for US\$4.4b in alleged losses when it refused to approve the long-stalled Rosia Montana gold and silver project following community protests.⁸

To earn an SLTO from communities, mining and metal companies should:

- ▶ Engage early and openly with communities to understand and address concerns around mining operations and implement strategies to reduce impacts, with the view to create lasting value for both the community and the organization
- ▶ Identify how operations can be adjusted to create more value for communities and consequently increase the value to the company
- ▶ Develop community engagement and development programs with a clear strategic focus, linking to a well-defined business case that has considered both risk and opportunity
- ▶ Measure and clearly report on the impact and outcomes of community engagement and development initiatives, so that value is demonstrated to stakeholders and decisions on investment can be targeted toward the initiatives providing the greatest value



Key thought

SLTO is a privilege that needs to be earned through strong collaboration with the local community and a range of stakeholders.

⁵ "Visión de la Comunidad sobre la Inversión Social de la Minería," Ernst & Young Ltda, 2016.

⁶ "Newmont drops Conga gold project in Peru amid political, social opposition," *SNL Metals & Mining Daily*, 20 April 2016.

⁷ "Tahoe's licence for Escobal reinstated, but blockade remains," *The Northern Miner via Factiva*, 18 September 2017.

⁸ "Gabriel seeks US\$4.4b in damages from Romania," *National Post via Factiva*, 30 June 2017.

08 (New)

Resource replacement

Exploration was the first cost to be cut as prices declined but hasn't been the first to be reinstated. It is, however, essential for future sector growth.

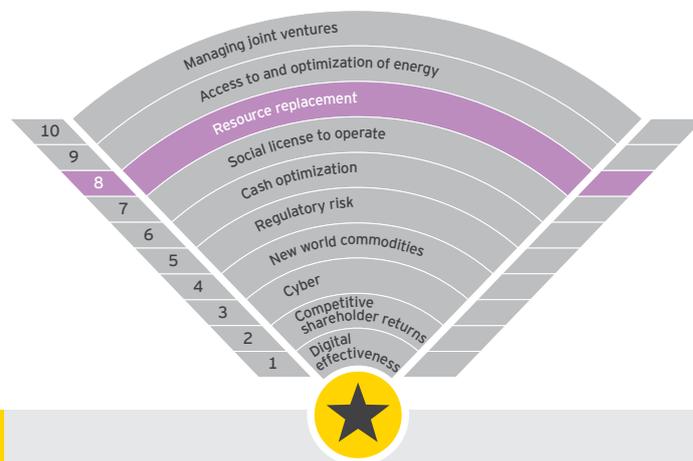
Over the last five years, capex spent on resource replacement has declined by 66% from US\$20.5b to US\$6.8b due to lower commodity prices and returns.⁹ Now that growth is back on the agenda, mining and metals companies are allocating more sustaining or growth capital to get the most out of current projects. However, we have yet to see a significant increase in exploration capex. And while recent data shows that global drilling has increased, budgets are still off levels at the peak of the supercycle and aren't evenly spread across regions or minerals.

Exploration has also become more expensive as reserves are harder to access, more remote or on environmentally sensitive land. In the gold sector in 1995, some US\$1.4b was spent for 19 discoveries, and in 2005, around US\$1.6b

was spent for 11 discoveries. In 2015, just under US\$2b was spent for a single discovery.¹⁰

To overcome some of these challenges, in addition to increasing exploration spending, mining and metals companies are:

- ▶ Forming strategic partnerships with junior miners to expand their reserve base, e.g., Newmont has invested in Canadian and Australian properties owned by junior explorers to strengthen its long-term growth pipeline¹¹
- ▶ Entering joint ventures, e.g., Goldcorp and Barrick have partnered to develop gold mines in Chile¹²
- ▶ Acquiring existing projects or mines
- ▶ Improving technology to achieve higher exploration success rates



Key thought

Resource depletion is a concern – we've stopped spending on exploration. This is equivalent to technology companies not spending on innovation.

⁹ "World exploration trends: A Special Report for the PDAC International Convention," *S&P Global Market Intelligence*, March 2017.

¹⁰ "Strategies for gold reserves replacement," *SNL Metals and Mining*, July 2016.

¹¹ "Junior thinks big," *MiningNews.net*, 18 September 2018, "Newmont Secures Rights to Explore and Develop Prospective New Yukon Gold District," Newmont press release, 6 March 2017.

¹² "Goldcorp spends nearly \$1 billion to get into Chilean joint venture with Barrick Gold," *Financial Post*, 28 March 2017.

09

Access to and optimization of energy

(from 7 in 2016)

Mining and minerals-processing operations require a large quantity of electricity. Remote area mining operations have unique challenges in developing, maintaining and operating stand-alone power systems. Operations fortunate enough to have major grid supplies are often significant customers in the electricity system such that their consumption can have a material influence on the electricity networks and energy markets in which they operate. Access to grid supply can provide pricing benefits but comes with increased complexity in assessing options, risks and benefits.

In some countries, mining and metals companies are faced with rising tariffs for traditional sources of energy, e.g., in Australia and Zambia, or with having to pay more to secure the energy to extract deeper, lower-quality ore that requires more processing. In Chile, copper mining, smelting and refining use one-third of the country's electricity, and this demand is expected to increase at a compound annual growth rate of 4% to 2026.¹³

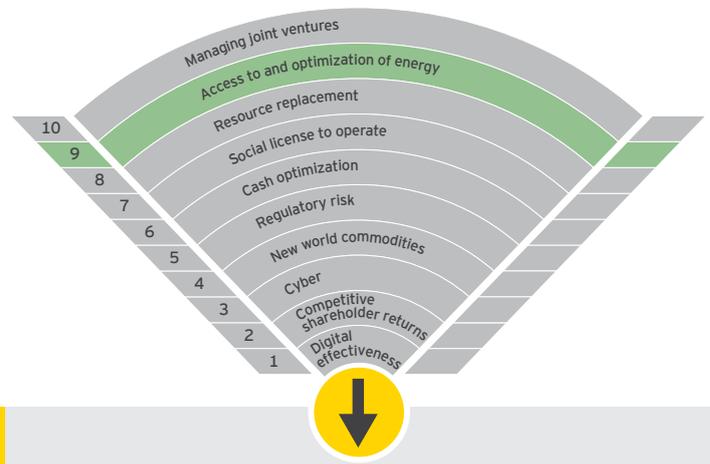
To minimize fuel price volatility and secure supply, companies are opting for a mix of energy sources – fossil fuels, hydroelectricity and renewable energy. The use of alternative energy sources is not only reducing operating costs but is also being supported in some countries (e.g., Canada) by government incentives and favorable policies to reduce greenhouse gases.¹⁴

Traditional forms of electricity are usually more expensive in remote locations. In Australia, the cost of electricity at some mine sites can be over A\$300/MWh. Renewables can deliver cheaper, more predictably priced power, as well as reduce fuel supply risk to remote sites.¹⁵ It is therefore not surprising

that the use of microgrids and renewable energy for power, and to supplement diesel at isolated mining operations, is increasing. For example, Iamgold is developing a 15MW solar photovoltaic plant in Burkina Faso to cut costs and increase energy security for its mine.¹⁶

The decision on energy sources also has reputational and social implications for organizations that are facing increased scrutiny on the extent of their emissions and water usage.

Organizations are realizing that the adoption of renewables could yield social benefits, such as access to energy for local communities and general development of the solar market in the region.¹⁷ Aluminium and copper producers are highlighting their use of solar and hydro energy to both maintain their reputation as a "green" metal but also to obtain a premium with industrial customers wishing to reduce their carbon footprint.¹⁸ Furthermore, the most effective way of reducing emissions is by avoiding the consumption of that next electron. Energy-efficiency opportunities may be identified through improved metering and data analytics that can now be provided at significantly lower cost than in the past.



Key thought

Cost and security of energy supply are important factors in the choice of energy sources.

¹³ "Copper-Rising Energy Costs," *AME Research*, May 2017.

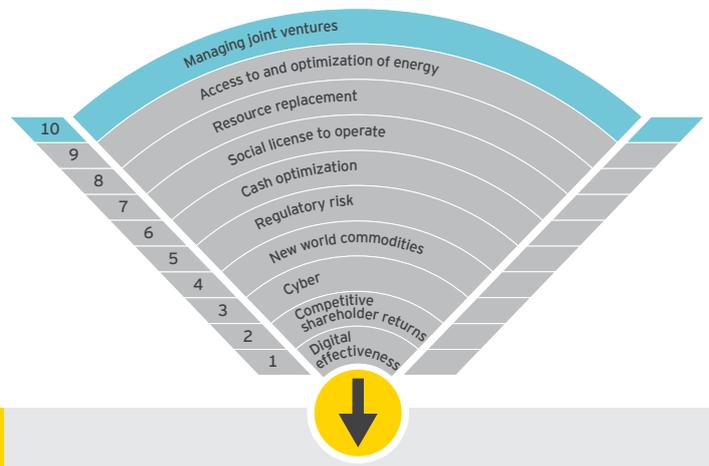
¹⁴ "Canada's gold miners to embrace green energy to control costs," *mining.com*, 11 January 2017.

¹⁵ "Renewing energy generation to improve mine site efficiency," *Australian Mining*, 9 August 2017.

¹⁶ "Implementation of hybrid renewable-diesel microgrids set to increase," *Mining Weekly*, 30 June 2017.

¹⁷ "SUNSHINE FOR MINES: IMPLEMENTING RENEWABLE ENERGY FOR OFF-GRID OPERATIONS," The Carbon War Room, Johns Hopkins SAIS, March 2014.

¹⁸ "Hydro-powered smelters charge premium prices for 'green' aluminium," *Reuters*, 2 August 2017.



Key thought

This is often seen as a way to mitigate risk but, if managed incorrectly, can become a significant risk.

10

Managing joint ventures

(from 8 in 2016)

Companies enter into joint venture (JV) arrangements for a variety of reasons, including capital intensity, risk mitigation, access to resources and technology, supply chain optimization, market positioning, regulatory requirements or political sensitivities.

When JVs are managed well, they have the potential to deliver substantial value to stakeholders, significantly enhancing the value of company portfolios and access to reserves and capabilities. However, when these relationships go wrong, they can be extremely disruptive, particularly to project schedules and key decision points. Aside from the disruption to the core business, arbitration and legal proceedings relating to any failure can be costly and time-consuming distractions for management of both the JV and the parent organizations.

Non-operators may be particularly vulnerable to operating risks as they have very limited say in the day-to-day operations at mine sites. Any decisions by the operator could diminish value creation for the non-operator or even result in large penalties or liabilities in the event of accidents or other operational issues. In the last few years, operational risks have become so complex and dynamic that it is almost impossible for an operator or a non-operator to reasonably factor in risk at the start of a project.

Non-operating JV partners need to consider what mitigation strategies should be put in place to protect their investments, such as conducting non-operator audits or embedding non-operator management to provide increased visibility. Regular challenges by active investors will remove complacency and demand a greater consideration of all stakeholder interests when making operational decisions.

How EY's Global Mining & Metals Network can help your business

The sector is returning to growth but mining and metals (M&M) companies face a transformed competitive and operating landscape. The need to improve shareholder returns will drive bold strategies to accelerate productivity, improve margins and better allocate capital to achieve long-term growth. Digital innovation will be a key enabler but the industry must overcome a poor track record of technology implementations. If M&M companies are to survive and thrive in a new energy world, they must embrace digital to optimize productivity from market to mine.

EY takes a whole-of-value-chain approach to support each client to help seize the potential of digital to fast-track productivity, balance portfolios and set a clear roadmap for their new energy future.

Area contacts

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