

ESG

An overview for CRIRSCO

Opportunities and challenges for trustworthy
and relevant minerals reporting

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CRIRSCO AGM, 17th September 2020



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Outline

- What are Environment, Social, Governance (ESG) issues and what do investors reasonably want to know about ESG performance?
- ESG is all there in the current CRIRSCO Modifying Factors; CPs are already considering this, so why the song and dance?
- Building on SAMESG – what further guidance, support and awareness building about ESG is needed for CPs, investors and companies?
- Discussion:
 - What are the opportunities for CRIRSCO to further drive best practice reporting standards to meet current and future investor expectations?
 - What's the plan....?



What is ESG?

How is it relevant to mining project risk?



Environment

Social

Governance

Environmental

Land use

Biodiversity &
ecosystem
services

Waste

Noise, visual and
vibration

Surface water

Groundwater

Site access

Rehabilitation &
closure

Emergency
response

Climate change

Permits



Social



**Government
relations**

**Health and
safety**

**Stakeholder
engagement**

**Emergency
response**

Resettlement

Site access

Local hiring

**Expectations for
shared value**

**Local
procurement**

Social context

Permits

Governance

Corporate
governance

Board
composition
(diversity)

Management

Stakeholder
engagement

Government &
regulatory
bodies

Business ethics

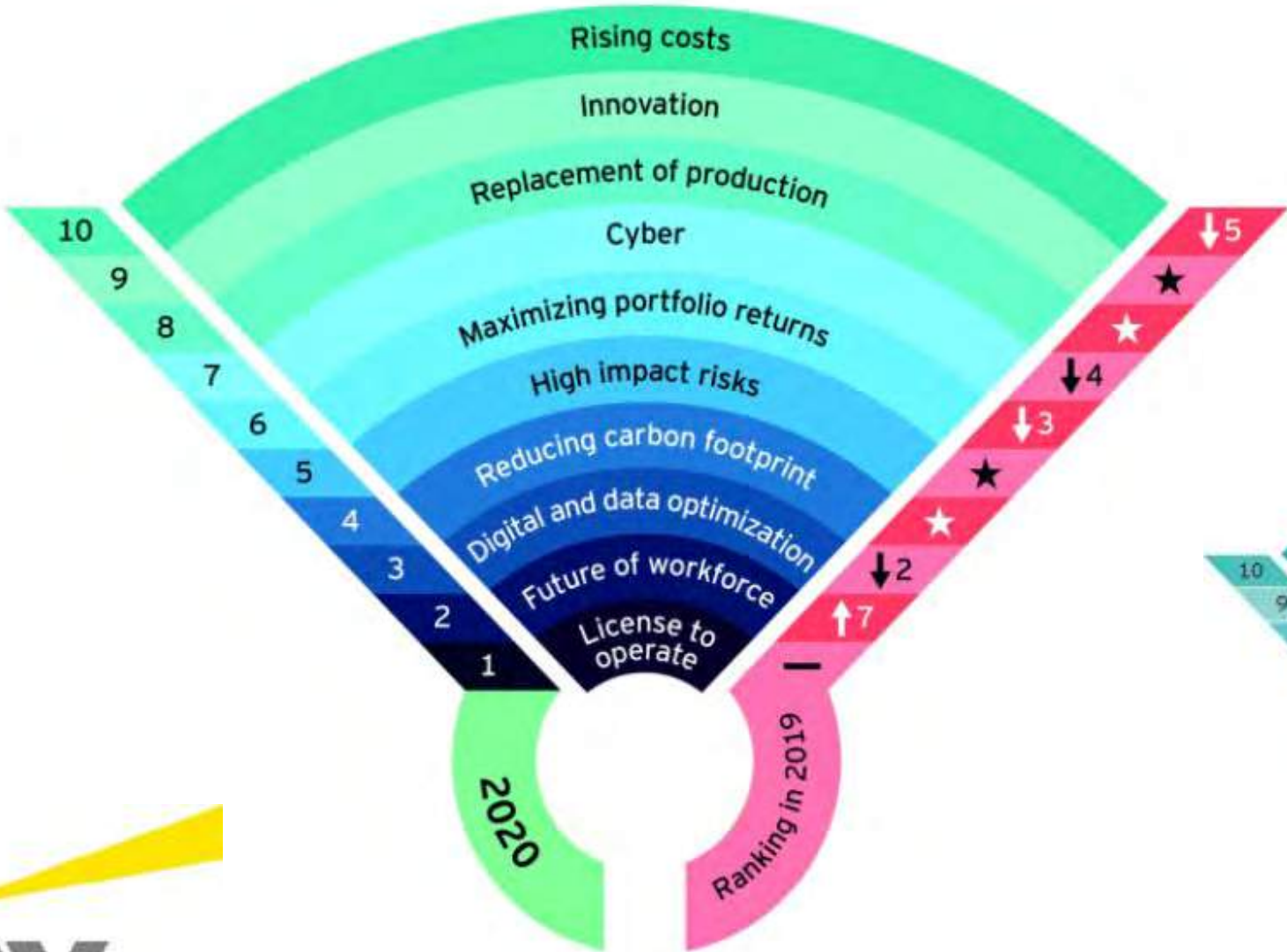
Tax transparency

Compliance

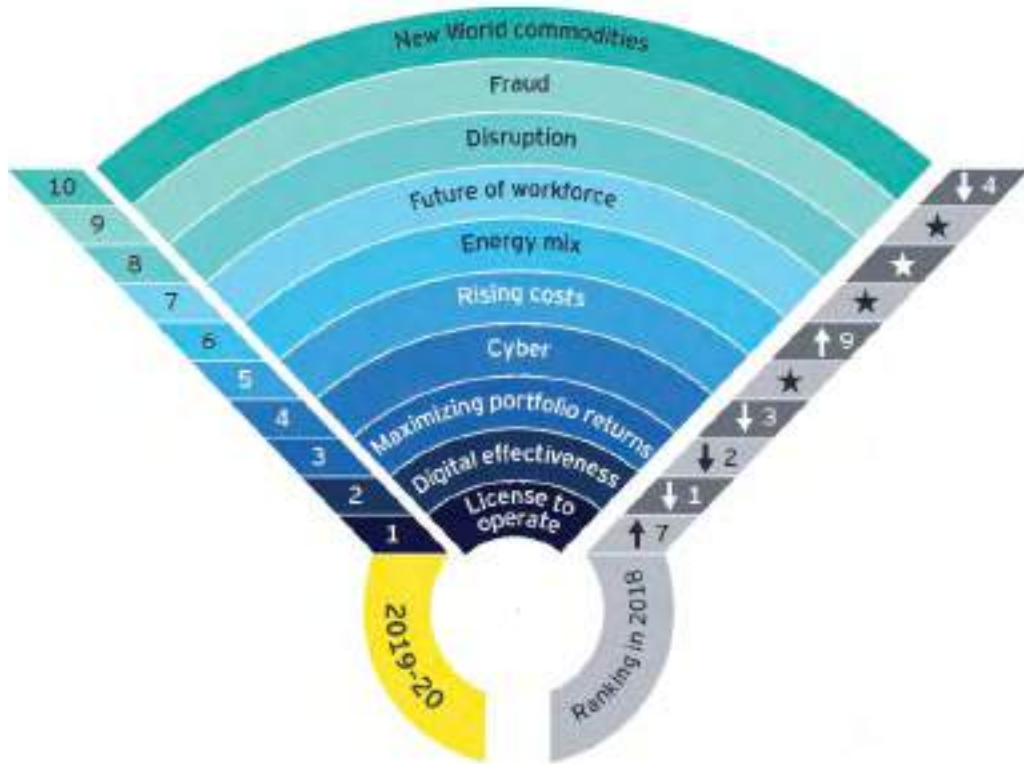
Permits



Top 10 risks facing mining and metals

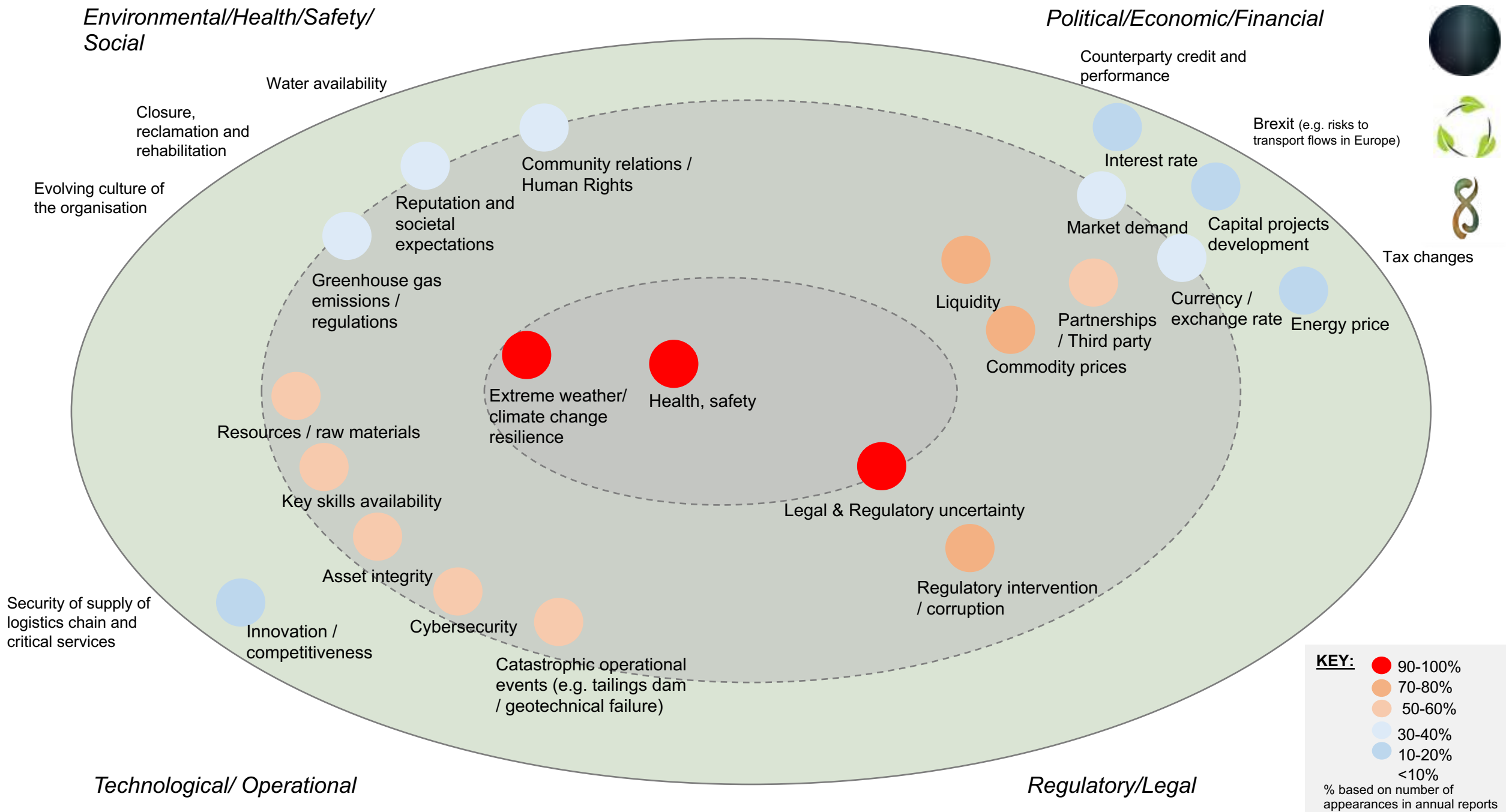


↑ Up from 2019 ↓ Down from 2019 — Same as 2019 ★ New to the radar



↑ Up from 2018 ↓ Down from 2018 — Same as 2018 ★ New to the radar







“The growing palpability of shared economic, environmental and societal risks signals that the horizon has shortened for preventing – or even mitigating – some of the direct consequences of global risks”

Børge Brende, President, World Economic Forum

■ Economic ■ Environmental ■ Geopolitical ■ Societal ■ Technological

Top 5 Global Risks in Terms of Likelihood

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
1st	Infrastructure breakdown	Blow up in asset prices	Asset price collapse	Asset price collapse	Storms and cyclones	Income disparity	Income disparity	Income disparity	Interstate conflict	Involuntary migration	Extreme weather
2nd	Chronic diseases	Middle East instability	China economic slowdown	China economic slowdown	Flooding	Fiscal imbalances	Fiscal imbalances	Extreme weather	Extreme weather	Extreme weather	Involuntary migration
3rd	Oil price shock	Failed and failing states	Chronic diseases	Chronic disease	Corruption	Greenhouse gas emissions	Greenhouse gas emissions	Unemployment	Failure of national governance	Climate action failure	Natural disasters
4th	China hard landing	Oil price shock	Global governance gaps	Fiscal crises	Biodiversity loss	Cyberattacks	Water crises	Climate action failure	State collapse or crisis	Interstate conflict	Terrorist attacks
5th	Blow up in asset prices	Chronic diseases	Deglobalization (emerging)	Global governance gaps	Climate change	Water crises	Population ageing	Cyberattacks	Unemployment	Natural catastrophes	Data fraud or theft



Rio Tinto Juukan Gorge case highlights ESG risks for investors

Environmental, social and governance (ESG) issues are in board examining the company's destruction of a 46,000-year-old rock shelter in WA.

Rio Tinto's (ASX:RIO) case is highlighted in a report titled 'Importance of ESG in the Resources Sector' which states that the importance of ESG in the Resources Sector's risks is increasing amid rising awareness of cultural heritage.

Investor groups have campaigned for Rio Tinto to apologise for the destruction of the Juukan Gorge rock shelters in WA came to be destroyed in May.

"Investor activism on ESG issues is increasingly strident. We expect ESG risks to become more pertinent for mining companies as they implement their projects," said the report's author Paul Bartholomew, S&P Global Platts' Asia-Pacific head of metals news and insight.

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<https://stockhead.com.au/resources/rio-tinto-juukan-gorge-case-highlights-esg-risks-for-investors/>

Rio Tinto misled Juukan Gorge inquiry and 'can't plead ignorance' as a defence, committee chair says

Queensland MP Warren Entsch says the evidence contradicts the mining giant's claims it wasn't aware of the significance of the 46,000-year-old rock shelters at its Brockman 4 minesite in May.

Limp excuses for blunder blow up Rio Tinto's reputation

Calling the destruction of caves at Juukan Gorge a 'misunderstanding' has caused an explosive row with investors

<https://www.telegraph.co.uk/business/2020/09/09/juukan-gorge-rio-tinto/>

Rio Tinto condemned by shareholders for seeking legal advice before blowing up Juukan Gorge

Mining giant briefing lawyers three days before destroying the ancient rock shelters 'beggars belief'

Investors teamed up to roast Rio over rock shelter blast, warn departures are first step

<https://www.theguardian.com/business/2020/sep/07/rio-tinto-condemned-by-shareholders-for-seeking-legal-advice-before-blowing-up-juukan-gorge>



OUTPERFORMANCE

THE RISE AND RISE OF ESG INVESTING

The pandemic has accelerated the momentum of sustainable investment strategies, but widespread adoption will depend on proving that socially responsible investment returns are superior over the long term

INTEREST IN RESPONSIBLE INVESTING HAS GROWN

The last few years have been explosive for ESG investing. Investor interest in sustainability strategies has led to a record number of related assets under management expected in 2020



Morgan Stanley 2019



15%

more investment per month recorded in companies with good sustainability ratings than those with poor ratings between 2016 and 2019

ABN AMRO/Seid Business School 2020

Investors are concerned about Environmental, Social and Governance (ESG) performance...

We see sustainability as a macro thematic trend that is fundamentally reshaping the competitive landscape across all sectors

Old Mutual

More than half of global asset owners are currently implementing or evaluating ESG considerations in their investment strategy

FTSE Russell survey

ESG issues have become much more important for us as long-term investors

CEO of State Street Global Advisors

“Over the long run, COVID-19 could prove to be a major turning point for ESG investing, or strategies that consider a company’s environmental, social and governance performance alongside traditional financial metrics,”

J.P.Morgan

In several instances, rating downgrades and Negative Outlooks have followed major ESG controversies . Growing scrutiny of ESG risks could lead to a higher cost of capital for issuers deemed to have insufficiently managed these risks, particularly those that lack country and business model diversification .

Fitch Ratings



But there is a lack of accessible data to inform their opinions and decisions

Many mine-sites do not disclose site-level data on issues of strong public interest for communities, workers, governments and investors

Responsible Mining Index



Investor dissatisfaction with the information they receive on ESG risks has increased ... Investors surveyed feel more should be done by corporates to provide robust insight into how they identify, assess and manage key climate and other ESG risks

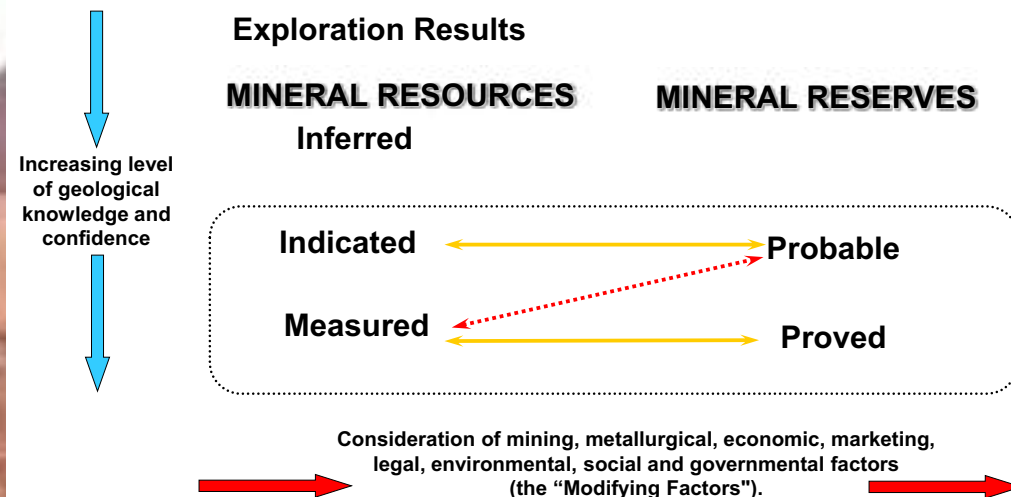
EY

One snag with sustainable indices is they rely on ratings agencies ... to grade companies on their ESG performance, and those scores are largely subjective

Financial Times



ESG is all there in the current CRIRSCO
Modifying Factors; we're already
considering this, so why the song and
dance?



<i>Definition</i>	Public Reports are reports prepared for the purpose of informing investors or potential investors and their advisers on <u>Exploration Results</u>, <u>Mineral Resources</u> or <u>Mineral Reserves</u>.
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A Public Report concerning a company's Exploration Results, Mineral Resources and/or Mineral Reserves is the responsibility of the company acting through its Board of Directors. Any such report must be based on, and fairly reflect the documentation which has been prepared by, a Competent Person or Persons.

ual and quarterly company
moranda, technical papers,
ns.

The Competent Person should complete an overall assessment of the relative importance of the Table 1 items in terms of their possible impact on the future development of the mineral project and the results of this assessment should be presented in the Public Report.

CRIRSCO^[1] classification scheme for reporting of solid minerals

MODELLING AND UNDERSTANDING THE MINERAL DEPOSIT

Geologists with appropriate experience and professional credentials responsible for progression along this axis

Exploration Results

MINERAL RESOURCES

*“A Mineral Resource is a concentration or occurrence of solid material of economic interest in or on the Earth’s crust in such form, grade or quality and quantity that **there are reasonable prospects for eventual economic extraction**”.*

MINERAL RESERVES

*“A Mineral Reserve is the economically mineable part of a Measured and/or Indicated Mineral Resource. ...studies at Pre-Feasibility or Feasibility level as appropriate demonstrate that, **at the time of reporting, extraction could reasonably be justified**”.*

CONSIDERATION AND OPTIMISATION OF MODIFYING FACTORS THROUGH OPTION SELECTION, RISK ASSESSMENT AND MINE DESIGN

Many appropriately qualified professionals (e.g. geologists and mining engineers, geotechnical engineering and specialists in all aspects of ESG, engineering, mineral processing, valuation etc) must be involved in this





EXPLORATION



PROJECT



OPERATION



CLOSURE

GEOLOGY

IS THERE ANY USEFUL ROCK IN THE GROUND?

ENGINEERING

DO WE HAVE THE TECHNICAL EXPERTISE TO EXTRACT IT?

FINANCE

IS THERE DEMAND FOR THE ROCK? (\$)

GOVERNANCE

- PERMITS
- ACCESS TO LAND

- CORRUPTION
- VISA PROCESS
- ASM

- ARE YOU PAYING THE RIGHT TAX?
- ALIGNMENT E.G. SDG

- POSITIVE LEGACY?



ENVIRONMENTAL

- BIODIVERSITY
- CATCHMENT SENSITIVITY

- EASE OF ACCESS

- CARBON FOOTPRINT
- OFFSETS
- COMMODITY BEING MINED
- CLIMATE CHANGE ADAPTATION

- OPPORTUNITIES THROUGH CLOSURE



SOCIAL

- CULTURAL HERITAGE SITES
- PREVIOUS EXPERIENCE OF HEAVY INDUSTRY BY COMMUNITY

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- PREVIOUS EXPERIENCE OF HEAVY INDUSTRY BY COMMUNITY

- DEVELOPMENT AND INVESTMENT IN LOCAL COMMUNITY
- DEVELOPMENT OF HOST NATION

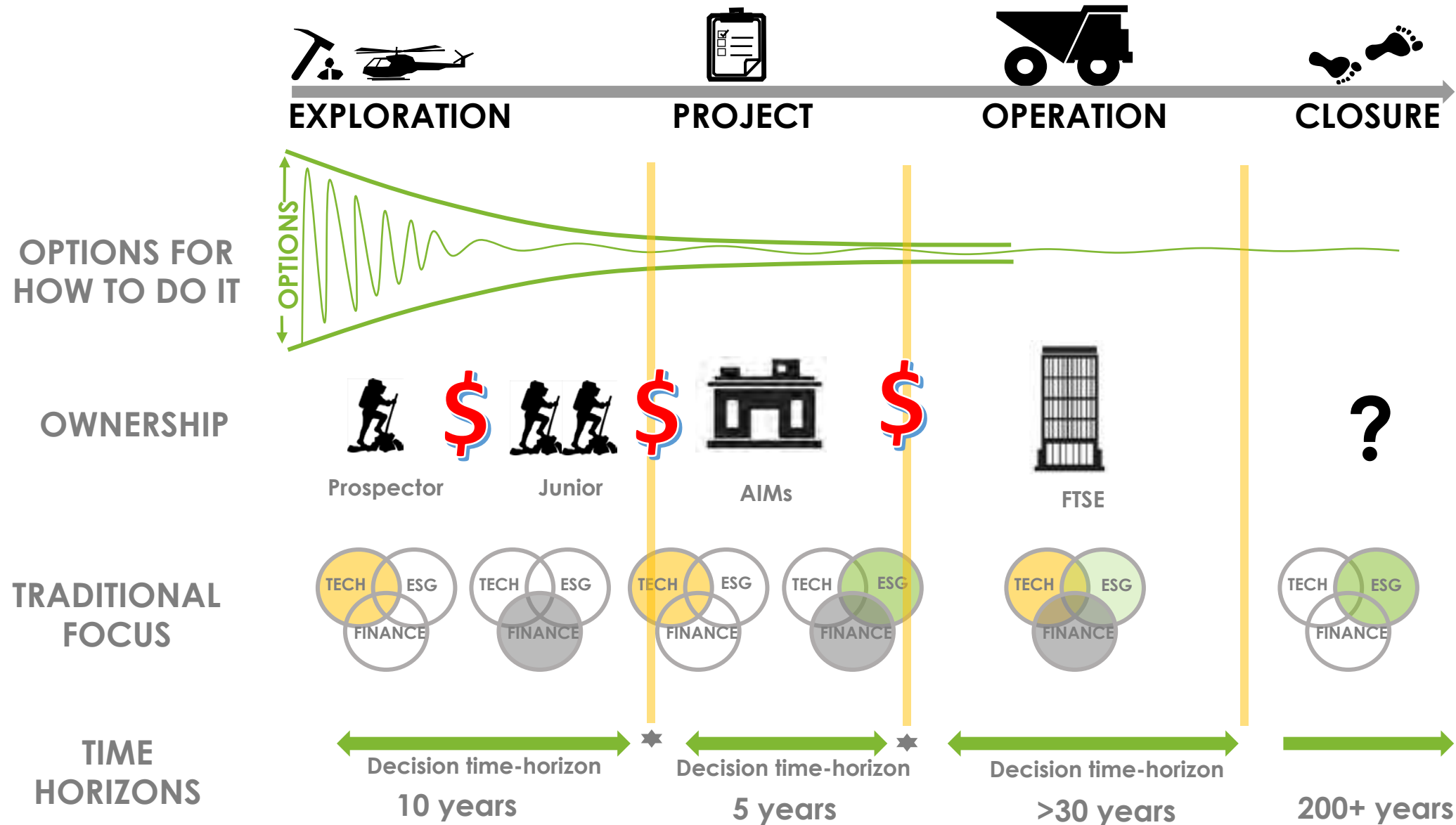
- SELF SUSTAINING COMMUNITY AT A LEVEL OF DEVELOPMENT THAT EXCEEDS PRE-MINING



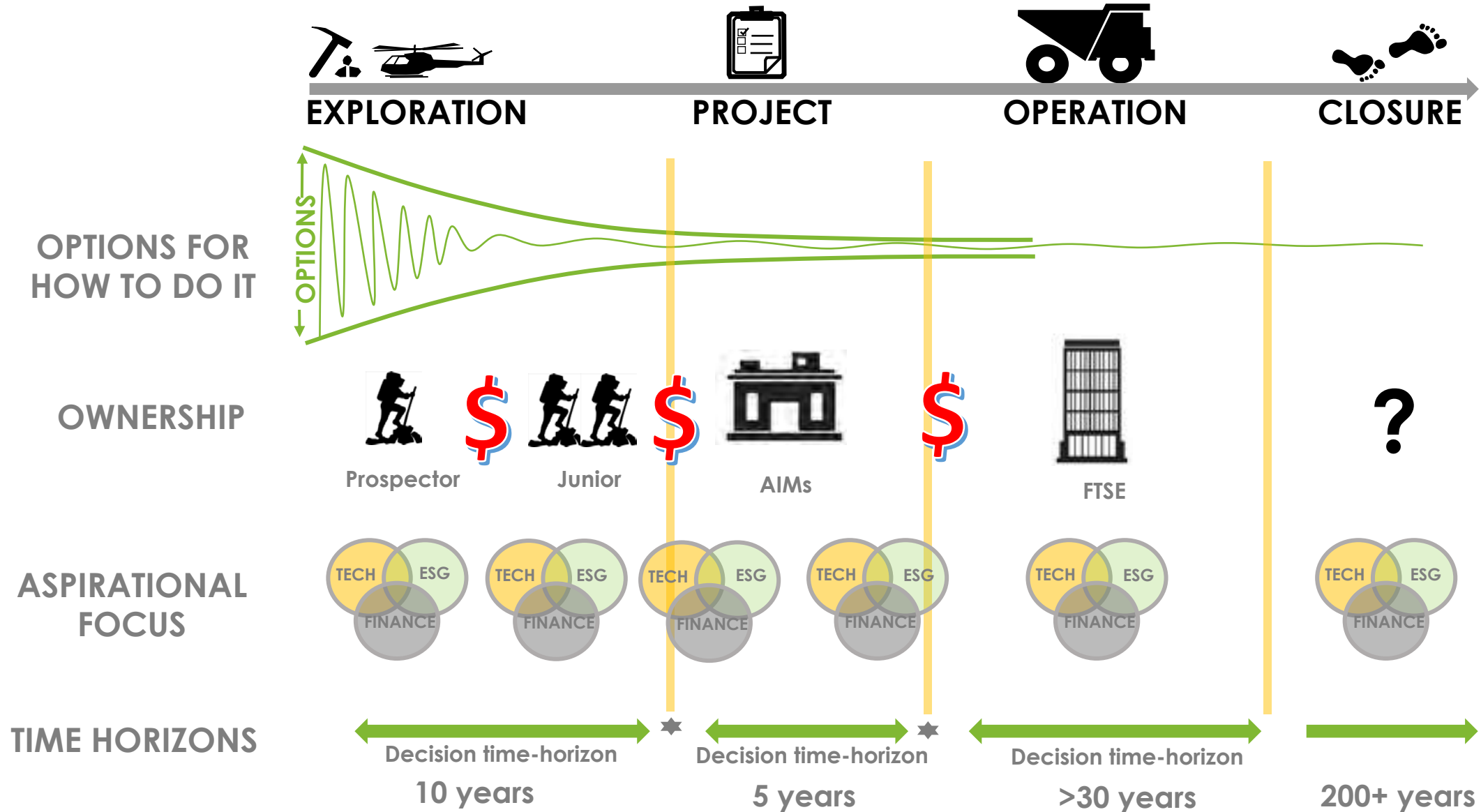
MODIFYING FACTORS



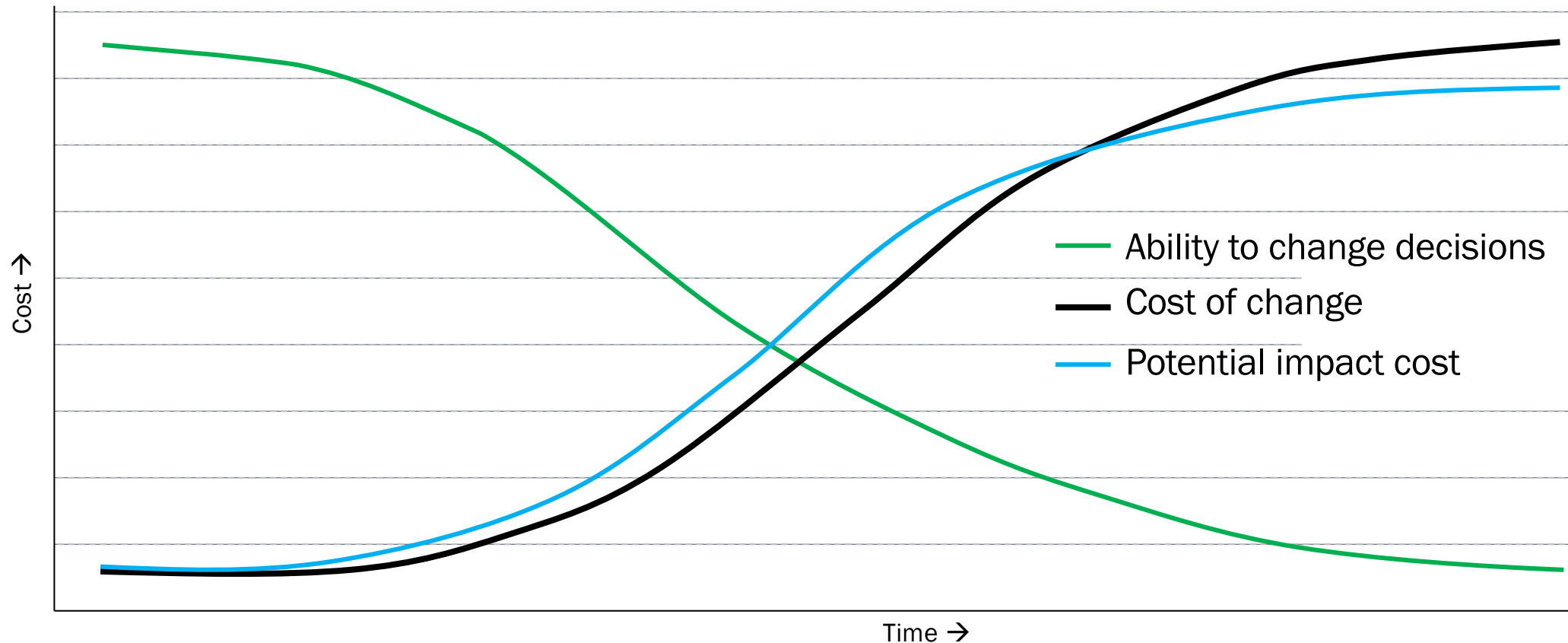
CRIRSCOO compliant CP/QP reporting maintaining standards, correctly classifying resources and reserves according to the standard definitions



CRIRSCO compliant CP/QP reporting maintaining standards, correctly classifying resources and reserves according to the standard definitions



Earlier identification of risks saves money and reputation



The SAMESG Guideline –

Providing guidance
and support to
Competent
Persons

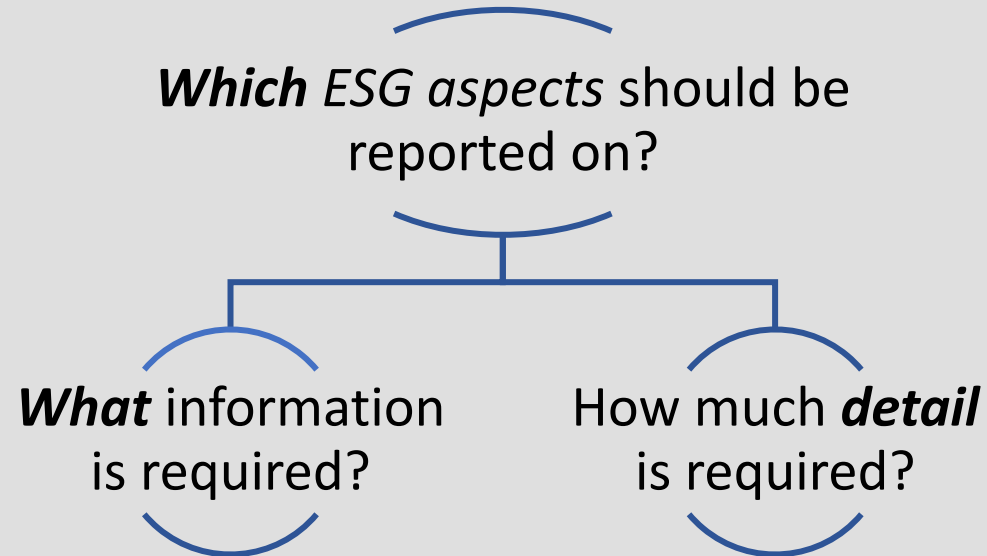


**The South African Guideline For The
Reporting of Environmental, Social and Governance
Parameters Within the Solid Minerals and Oil And Gas
Industries (SAMESG)**



How does SAMESG relate to the SAMCODES?

It is a guideline that provides additional detail on the information to be considered for environmental, social and governance Modifying Factors





Legal



Technical



Financial




Cash Flow


Insurance Policies


Investment Policies


Continuous valuation

Concurrent remediation adjustments



SAMESG Timeline



SAMESG
Committee
created



2013/4

Drafting and finalizing
SAMESG Guideline



2015

SAMESG
Launched
with 2016
Codes



2016

SAMESG
guideline
effective



2017

New Chair
ToR



2018

Socialising the SAMESG
Guideline



ISAR
Honours
Award

2019

- CPR Review
- New members
- SAMREC Table 1
- SAMESG 2.0



2020



SAMESG Guideline components

General

Key plans, maps & diagrams

Legal aspects

Environmental parameters

External social & political
parameters

Internal social parameters

Conformance & compliance
audits

ESG liability

Risk

**Exploration
Results**

**Mineral
Resources**

**Mineral
Reserves**

Increasing level of confidence



Role of the Competent Person



Q&A/Discussion

- What are the opportunities for CRIRSCO to further drive best practice reporting standards to meet current and future investor expectations?
- What are the next steps?

