

CHARGING AHEAD
RESPONSIBLY. RELIABLY. RELENTLESSLY.

G. Albert Shoemaker Lecture

As part of the College of Earth and Mineral Sciences
125th Anniversary Celebration

April 9, 2021

Bill Cobb
Vice President, Chief Sustainability Officer



Escalating Stakeholder Expectations of the Mining Sector

FREEPORT
FOREMOST IN COPPER

Inclusion and Diversity
(workforce, leadership, Boards)

Cultural Heritage and Indigenous
Peoples

Crisis Management
and Pandemics

Tailings Management

Climate, Carbon Footprint
(scope 1, 2, 3)

Biodiversity
Impacts

Water Supply and
Stewardship

Human Rights and
UN Guiding Principles

Social Performance

Safety Performance

Legacy Sites

Digital Transformation and
Skills for the Future

Base Metals
Precious Metals
Iron, Aluminum
Rare Earths, Lithium
Industrial Minerals &
Aggregates
Thermal Coal
Metallurgical Coal

Responsible Production and Supply Chains

Disclosure Transparency

*Shareholders
Banks*

NGOs

*Customers
Consumers
Suppliers*

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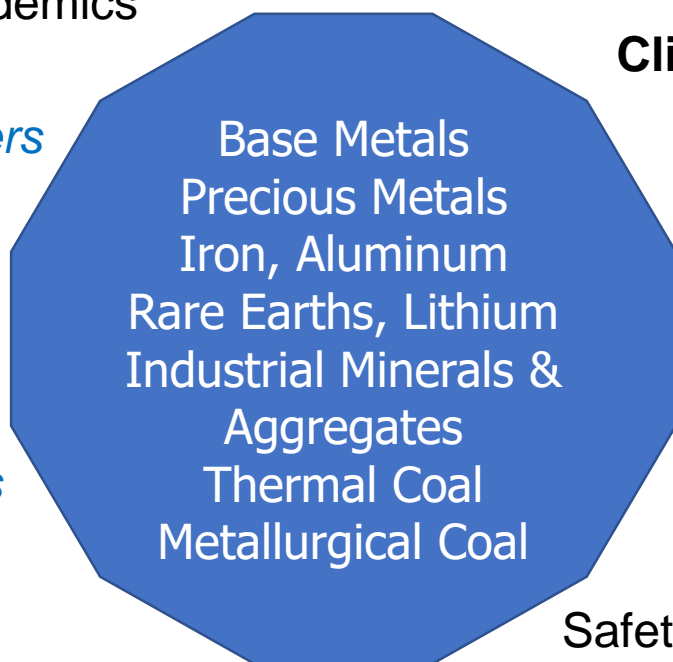
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Stakeholders Want Responsible Production of Metals

»» Multiple Frameworks

- Commodities (such as Aluminum Stewardship Initiative, Copper Mark, Responsible Steel, Better Coal)
- Country Level (MAC's Towards Sustainable Mining)
- Sectoral (such as ICMM's Performance Expectations and/or Initiative for Responsible Mining Assurance [IRMA])
- Reporting (such as GRI, SASB, TCFD, IIRC)

»» Frameworks like ICMM, IRMA, and Copper Mark include the same types of requirements across environmental, social and governance (ESG) issues, are **implemented at the site level** and require a 3rd party to either audit or assure

- ICMM has 38 site-based requirements, Copper Mark has 32 and IRMA has 40; many of these requirements overlap and are linked
- ICMM's Performance Expectations and Copper Mark are risk-based management system requirements and IRMA is prescriptive (e.g., specific regulations from all over the world for water quality, air, waste, noise, etc.)
- Disclosure approaches differ between frameworks

»» Reporting frameworks are shifting, with planned “collaboration” between GRI, SASB, TCFD, and IIRC to address the global need to focus on what information is important to various stakeholders

Supply Chains Matter - Cars

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Selected* materials in a passenger vehicle

Selected materials and applications

- 1 Engine**
Aluminium
Nickel (*turbocharger*)
Tungsten (*crankshaft*)
- 2 Microphone / Speaker**
Rare earth elements
Nickel
Iron
Cobalt
- 3 LED Display**
Rare earth elements
- 4 Windscreen / Windows**
Glass
- 5 Interiors**
Leather
Plastics
- 6 Catalytic converter**
Palladium
Plastics
Rare earth elements
- 7 Paint / Pearlescent finish**
Mica
Cobalt
- 8 Tyres**
Rubber
Cobalt
- 9 Wheels**
Graphite (*bearings*)
Steel / Iron
Tungsten (*bearings, ball joints*)

- 10 Suspension**
Steel / Iron
- 11 Chassis**
Aluminium
Steel / Iron
Tungsten
- 12 Body panels**
Steel / Iron
- 13 Brakes**
Graphite
Steel / Iron
Tungsten
- 14 Transmission**
Nickel
Steel / Iron
- 15 Clutch**
Graphite
- 16 Radiator**
Copper

Applications found in electric/hybrid cars

- Lithium-ion battery**
Cobalt
Graphite
Lithium
Nickel
Rare earth elements
Zinc*
(Tin**)

Materials in applications found throughout a passenger vehicle

Capacitors

Found in systems for brakes, power steering, transmission, electric motors etc.

Mica
Palladium
Tantalum

Electric motors

Found in starter motor, alternator, windshield wipers, air conditioning etc.

Graphite
Rare earth elements

Plating

Found on engine parts, brake parts, chassis trims, air conditioning etc.

Nickel
Zinc

Printed circuit boards

Found in systems for braking, engine control systems, safety and security systems, GPS navigation and entertainment etc.

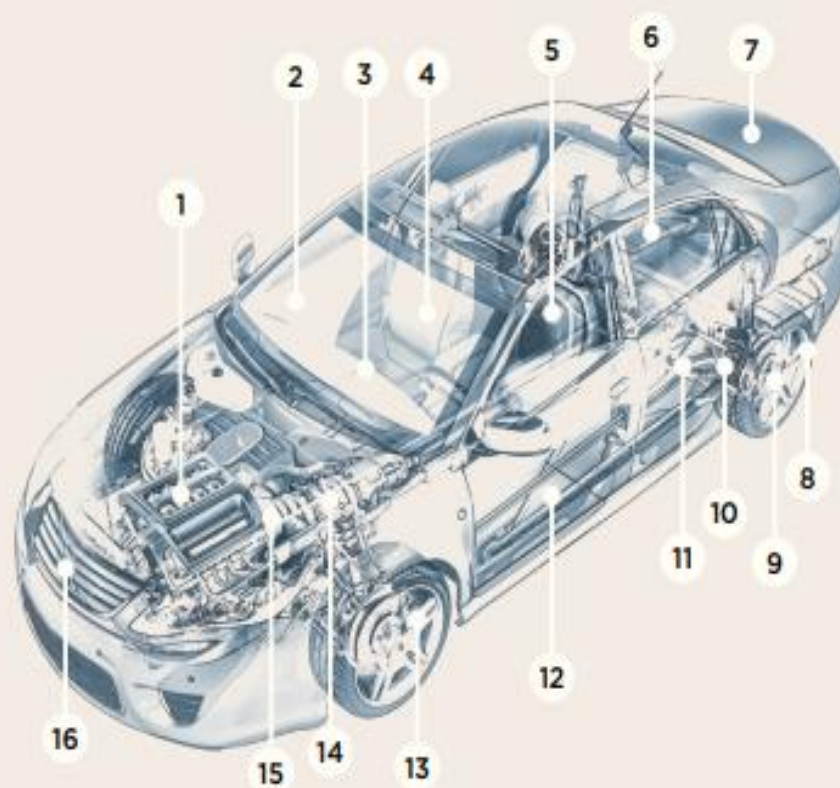
Aluminium
Copper
Gold
Nickel

Solder

Tin

Circuitry

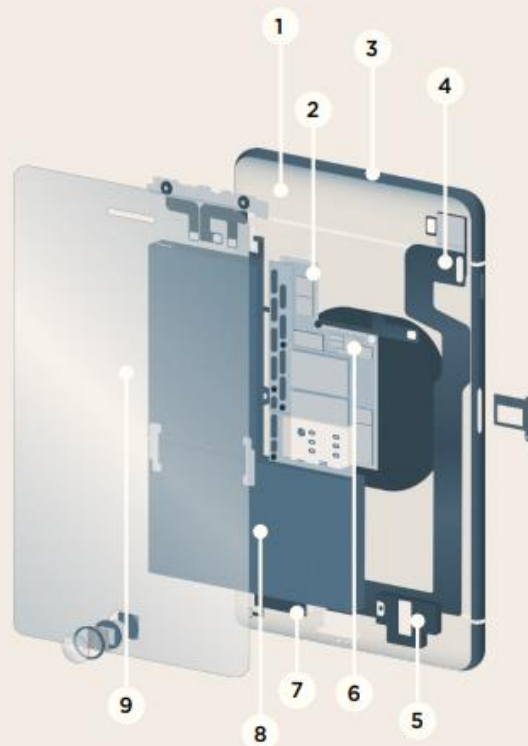
Copper
Gold
Palladium



Source: Drive Sustainability

Supply Chains Matter - Phones

Selected* materials in a smartphone



Selected materials and applications

- | | |
|--|--|
| 1 Casing
Aluminium | 6 Capacitors
Palladium
Tantalum |
| 2 Printed circuit board
Aluminium
Copper
Gold
Nickel | 7 Vibration unit
Rare earth elements
Tungsten |
| 3 Paint / Pearlescent finish
Mica | 8 Battery
Cobalt
Graphite
Lithium
Nickel |
| 4 Circuitry
Copper
Gold
Palladium | 9 Display screen
Glass
Rare earth elements
Tin |
| 5 Microphone / Speaker
Copper
Iron
Nickel
Rare earth elements | |

Materials in applications found throughout a smartphone

- Insulation**
Mica
- Solder**
Tin

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What is TCFD?

- TCFD = Task Force on Climate-related Financial Disclosures
- TCFD has emerged as the preferred disclosure framework for climate reporting driven by financial investors
- Disclosure framework recommends structure around four main pillars: Governance, Strategy, Risk Management, Metrics and Targets
- FCX supports TCFD and is committed to aligning future climate reporting with its recommendations

Figure 2

Core Elements of Recommended Climate-Related Financial Disclosures



Source TCFD 2019

Pressure on Carbon Footprint from Automotive OEMs

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Volvo Cars to radically reduce carbon emissions as part of new ambitious climate plan



08.05.2019 Press release #Business/economy

Climate action: Bosch to be carbon neutral worldwide by 2020

Earliest carbon neutrality of any global industrial enterprise



BOSCH

VW presents ID.3 in full as “world first” carbon neutral electric car



SEPTEMBER 19, 2019 10 COMMENTS 4 MINUTE READ BRIGITTE SCHMIDT

Toyota Targets Zero Carbon Emissions from Vehicle Lifecycle, Plants by 2050

OCTOBER 19, 2015 BY JESSICA LYONS HARDCASTLE



TOYOTA

September 01, 2019 12:00 AM

BMW, Mercedes, Audi, others race to make entire supply chain greener

CHRISTIAAN HETZNER

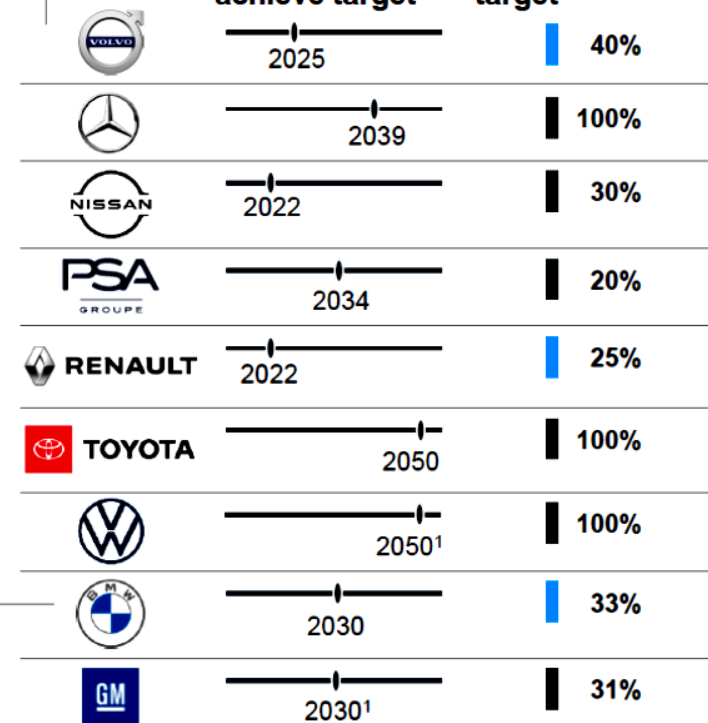


OEMs will be putting pressure on the mining industry. For instance, automotive players are joining initiatives on responsible mining

■ Absolute emissions ■ Emissions intensity

Time horizon to achieve target

Decarbonization target



BMW is defining supplier's carbon footprint as decision criterion in contract award process, and has joined the Initiative for Responsible Mining Assurance

1. Does not include scope 3 emissions based on Science-based Targets (SBT) 2. 27/7/20 press release

Source: Company websites, company sustainability reports, Science Based Targets Initiative, Daimler sustainability report on scope 3




Contribution: Scope 3 Emissions

Upstream or downstream

Upstream scope 3 emissions

Downstream scope 3 emissions

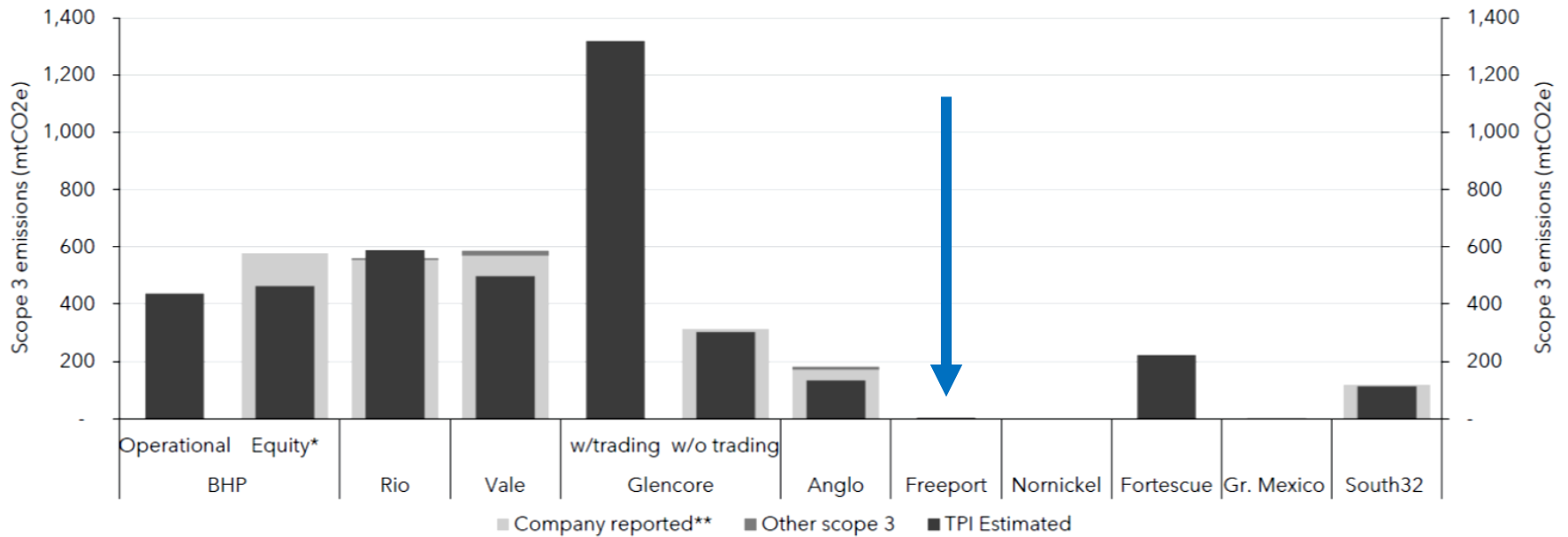
Scope 3 category

1. Purchased goods and services 
2. Capital goods
3. Fuel- and energy-related activities (not included in scope 1 or scope 2)
4. Upstream transportation and distribution
5. Waste generated in operations
6. Business travel 
7. Employee commuting
8. Upstream leased assets
9. Downstream transportation and distribution
10. Processing of sold products
11. Use of sold products 
12. End-of-life treatment of sold products
13. Downstream leased assets
14. Franchises
15. Investments

- Defined by WRI/WBCSD Greenhouse Gas Protocol

Scope 3 Emissions Vary By Commodities and Business

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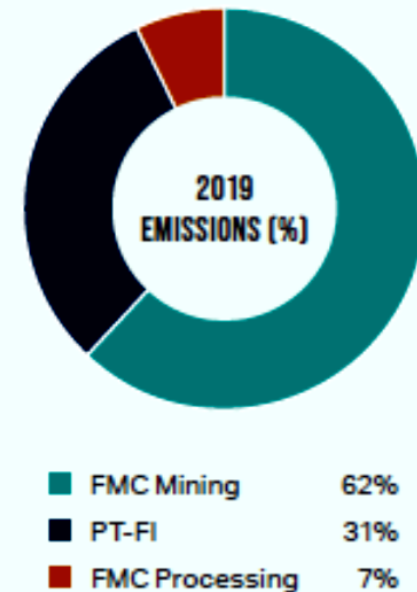
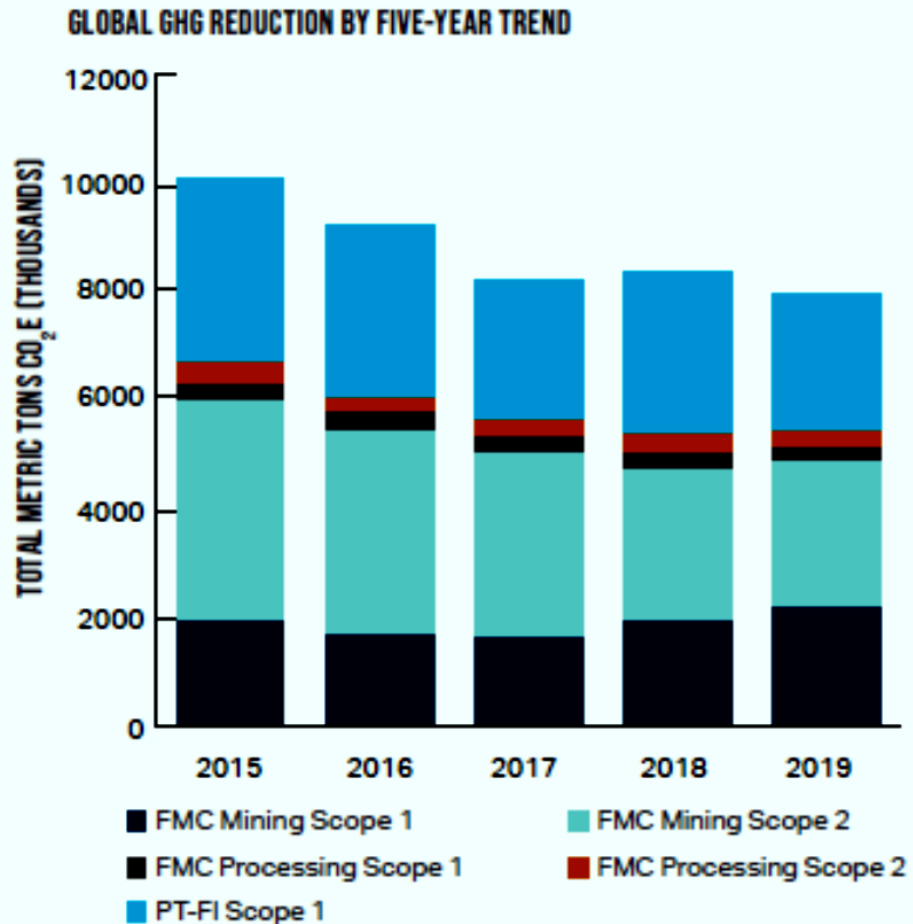


Source: Transition Pathway Initiative

FCX Scope 1 & 2 GHG Emissions

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Our global GHG emissions have reduced 17% over the last 5 years

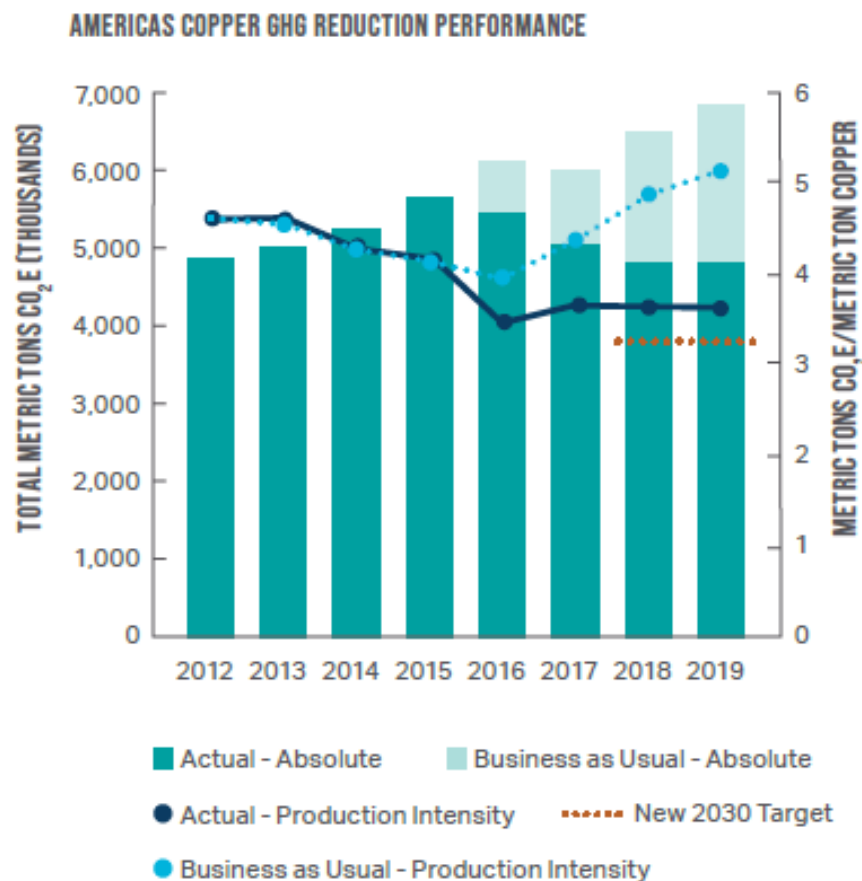


Reduction: Americas Copper Emissions

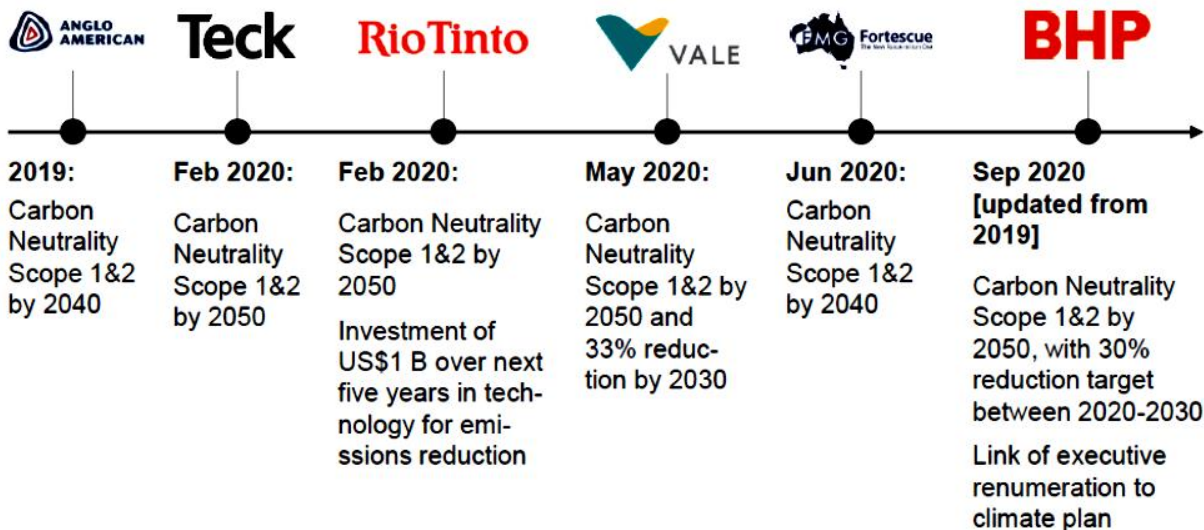
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Americas Operations have made significant progress

- Copper production in the Americas (mine to cathode) represents 60% of global GHG emissions
- Mining and process innovations and grid decarbonization have decreased our GHG emissions per ton of copper cathode produced by 20% - almost 30% below a business-as-usual scenario - since 2012
- New Target Established - Reduce Americas Copper GHG emissions by 15% per ton of cathode by 2030, from 2018 levels



Not exhaustive



Leading mining companies are taking action leading the technology readiness

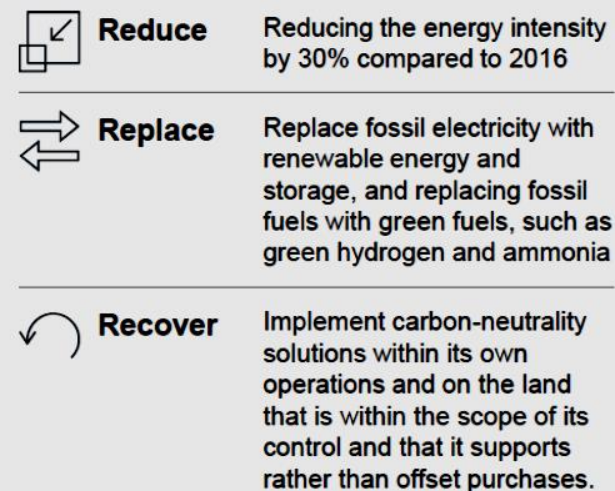


Source: Press search; Team analysis

1 February 2021: An inspirational commitment

De Beers

Carbon neutral commitment by 2030 through three pillars:



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A New Global Tailings Management Standard

- Post January 28, 2019 Brumadinho tailings failure and resulting 280 fatalities, an independent process to develop a global tailings standard was convened by the ICMM, Principles for Responsible Investing, and UN Environmental Programme (see globaltailingsreview.org)
- The Global Industry Standard for Tailings Management was launched August 5, 2020 with 77 auditable requirements; ICMM members committed to implement for all “extreme or very high consequence” facilities within 3 years and all others within 5 years
- Six core topics
 - Focus on project-affected peoples
 - Development of environmental/social knowledge base for facilities
 - Lift the life-cycle performance of facilities
 - Management and governance of facilities
 - Emergency preparedness and response
 - Disclosures for public accountability

Example Requirements

- Requirement 1.3: **Demonstrate that project-affected people are meaningfully engaged throughout the tailings facility lifecycle** in building the knowledge base and in decisions that may have a bearing on public safety and the integrity of the tailings facility. The Operator shall share information to support this process.
- Requirement 4.3: The **Accountable Executive** shall take the decision to adopt a design for the current Consequence Classification criteria and to maintain flexibility to **upgrade the design for the highest classification criteria** later in the tailings facility lifecycle. This decision shall be documented.
- Requirement 8.5: Appoint a **site-specific Responsible Tailings Facility Engineer (RTFE) who is accountable for the integrity of the tailings facility**, who liaises with the EOR and internal teams such as operations, planning, regulatory affairs, social performance and environment, and who has regular two-way communication with the Accountable Executive. The RTFE must be familiar with the Design Basis Report, the design report and the construction and performance of the tailings facility.

- Requirement 15.1: **Publish and regularly update information** on the Operator's commitment to safe tailings facility management, implementation of its tailings governance framework, its organization-wide policies, standards or approaches to the design, construction, monitoring and closure of tailings facilities
 - A description of the tailings facility and its Consequence Classification
 - A summary of risk assessment findings relevant to the tailings facility
 - A summary of impact assessments and of human exposure and vulnerability to tailings facility credible flow failure scenarios
 - A summary of material findings of annual performance reviews and DSR, including implementation of mitigation measures to reduce risk to ALARP
 - A summary of material findings of the **environmental and social monitoring programme** including implementation of mitigation measures
 - A summary version of the tailings facility EPRP for facilities that have a credible failure mode(s) that could lead to a flow failure event and includes **emergency response measures that apply climate change**

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EU Actions on Mandatory Due Diligence

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March 10,
EU Parliament voted for
a **proposal** that calls on
the Commission to
urgently pass a law that
**requires companies to
comply with human
rights and
environmental
standards within their
value chains**

Due diligence requires companies to **identify, address and remedy** their impact on human rights and the environment throughout their **value chain**

Rules should **apply to all companies operating in EU internal market**, including those from outside the EU

Sanctions for non-compliance and legal support for victims of corporations in third world countries

Ban on import of products linked to severe human rights violations such as forced or child labour

Human Rights Are Broad

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HUMAN RIGHTS DASHBOARD

Topics reflected in the dashboard are mapped against recognized international human rights

EMPLOYEES	VALUE CHAIN	COMMUNITY	ENVIRONMENT	THIRD PARTIES
Working conditions	Working conditions	Standards of living / quality of life	Pollution	Conduct of private security forces
Safe and healthy working conditions	Safe and healthy working conditions	Community health and safety	Water security	Conduct of government security forces
Discrimination	Discrimination	Economic activity / livelihoods	Waste and hazardous materials management	Contribution to conflict
Freedom of association and collective bargaining	Freedom of association and collective bargaining	Minorities and indigenous peoples	Increased exposure to natural hazards	Presence of artisanal / small-scale miners
Child labor	Child labor	Displacement / resettlement		Corruption
Privacy	Privacy	Cultural heritage		NGOs and civil society groups
Forced and compulsory labor	Forced and compulsory labor	Children's rights, including access to education		Judicial system (access to remedy)

2020 Corporate Human Rights Benchmark Results

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Score out of 26	Company	Score change from 2019 on the CHRB Core UNGP indicators	Key information				
25	Eni	+6	↑				
23.5	Rio Tinto*	0	↑				
21.5	BP	+4.5					
20.5	Repsol	-0.5	↑				
20.5	Royal Dutch Shell	+2	↑				
20.5	Total	+1	↑				
20	Anglo American	0	↑				
20	Freeport-McMoRan	-0.5					
19.5	BHP Group	-1	↑				
19	Glencore	+4	↑				
19	Newmont Corporation	0	↑				
18.5	Teck Resources	+5					
18	LafargeHolcim	+9	↑				
17	Barrick Gold Corporation	0	↑	X			
16	PTT	+3	↑				
14.5	Petroleo Brasileiro (Petrobras)	+2					
14	Woodside Petroleum	+7.5					
13.5	OMV	+3.5					
13	Chevron Corporation	+4	↑				
13	Equinor	+2	↑				
13	Grupo Mexico	+4	↑				
12	ConocoPhillips	-1					
11	Ecopetrol	-1.5	↑	X			
11	Severstal	+4.5					
10	Rosneft	+3	!				
9.5	Occidental Petroleum	-0.5	!				
9.5	Siam Cement (SCG)	+2.5	↑	X			
8	ArcelorMittal	0	!				
8	Canadian Natural Resources	+2	!	↑	X		
8	Novolipetsk Steel	+4.5	!				
8	POSCO	-1		↑	X		
8	Sasol	-1	!				
7.5	Lukoil	+1	!				
7	ENEOS Holdings	+0.5					
7	HeidelbergCement	+1.5					
7	Nornickel	+2.5	!		X		
6	Coal India	-3		↑	X		
6	Suncor Energy	+1	!				
5	Exxon Mobil	-1.5		↑			
5	Inpex	+0.5	!				
4.5	Gazprom	+3					
4.5	Oil and Natural Gas Corporation (ONGC)	0	!	↑	X		
4.5	PetroChina	0	!		X		
3.5	Marathon Oil	N/A	!	↑	X		
3.5	UltraTech Cement	+1			X		
3.5	Vulcan Materials Company	0	!		X		
3	Phillips 66	0	!				
3	Tatneft	0	!		X		
2.5	China Petroleum and Chemical Corporation Limited (Sinopec)	+1	!		X		
2.5	EOG Resources	+1	!				
2.5	Nippon Steel Corporation	-1	!	↑	X		
2	Devon Energy Corp	0	!				
1.5	Anhui Conch Cement	0	!		X		
1.5	China National Offshore Oil Corporation (CNOOC Group)	0	!		X		
1.5	China Shenhua Energy	+1.5	!		X		
1	Saudi Aramco	N/A	!		X		
1	Surgutneftegaz	+1	!	↑	X		

FCX:

- Tied for 5th among 57 extractives
- 7th out of 199 firms from extractives, agriculture, apparel and ICT sectors

The newly benchmarked **automotive sector** (separate evaluation) is the **worst performing ever** in the CHRB; supply chain management is a major area of weakness – hence related requests from Daimler, Ford, cable makers, etc.



World
Benchmarking
Alliance

CHRB
Corporate Human
Rights Benchmark

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Major Mining Shareholders – 2021 Voting Examples

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BLACKROCK

Vanguard

US\$3.2 trillion

Total AUM	US\$8.7 trillion	US\$6.2 trillion	US\$3.2 trillion
Climate	<ul style="list-style-type: none"> Disclose plan for how the company's business model will be compatible with a net zero GHG emissions economy (i.e. alignment with Paris Agreement where global warming is limited to well below 2°C) Disclosure should be TCFD-aligned and include details on how the 2050 net zero plan is incorporated into long-term strategy of the company and reviewed by the board of directors 	<ul style="list-style-type: none"> Expects a "climate competent board" that is highly engaged and will ensure that climate-related risks and opportunities influence short- and long-term planning In addition to TCFD-aligned climate disclosure, expects companies to disclose how their board oversees climate-related strategy and risk management – focused on governance 	<ul style="list-style-type: none"> In 2021, will focus on specific companies especially vulnerable to the transition risks of climate change Expects TCFD-aligned climate disclosure
Diversity and Inclusion (Board and Workforce)	<ul style="list-style-type: none"> Encourages disclosure of demographics related to board diversity, including gender, ethnicity, race, age and geographic location, as well as milestones to achieve "multi-faceted racial, ethnic, and gender representation." Expects disclosure of workforce demographics, such as gender, race and ethnicity in line with the EEO-1 Survey, along with steps being taken to advance diversity, equity and inclusion Talent strategy disclosure should fully reflect the company's long-term plans to improve diversity, equity and inclusion, as appropriate by region 	<ul style="list-style-type: none"> In 2021, their funds may vote against directors (nominating committee chairs or other relevant directors) at companies where progress on board diversity falls behind "market norms and expectations" (i.e., 0% gender diversity and racial or ethnic diversity and a lack of board diversity disclosure and policy) Expects disclosures of workforce diversity measures (gender, race and ethnicity) at the executive, nonexecutive, and overall workforce levels. EEO-1 data in US is required for most Vanguard funds. Expects Boards to ensure management has long-term strategies in place for workforce diversity/development 	<ul style="list-style-type: none"> In 2021, will vote against the Chair of the Nominating & Governance Committee at companies that do not disclose the racial and ethnic composition of their boards In 2022, will vote against the Chair of the Compensation Committee at companies that do not: <ul style="list-style-type: none"> (1) disclose their EEO-1 Survey responses (workforce data); and (2) have at least 1 director from an underrepresented community on their boards.
Other	<ul style="list-style-type: none"> Frameworks: Seeking SASB- and TCFD-aligned ESG disclosures from investment companies by year-end 2020 (prior to 2021 proxy vote) Board tenure: Considers average board tenure when evaluating board refreshment processes and may now oppose boards that appear to have an "insufficient mix" of short-, medium- and long-tenured directors 	<ul style="list-style-type: none"> Frameworks: Supports SASB & TCFD frameworks Focused on four key governance areas: (1) board composition, (2) oversight of strategy and risk, (3) executive compensation, (4) governance structures 	<ul style="list-style-type: none"> Frameworks: SASB is viewed as a minimum ESG disclosure standard ESG Scores: Will take voting action against board members at companies that are bottom 10% of proprietary R-Factor scores

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