AngloAmerican

WORLD MATERIALS FORUM

RESOURCE EFFICIENCY

CHALLENGES & OPPORTUNITIES FOR ANGLO AMERICAN

World Materials Forum – 6th edition

27 August 2020

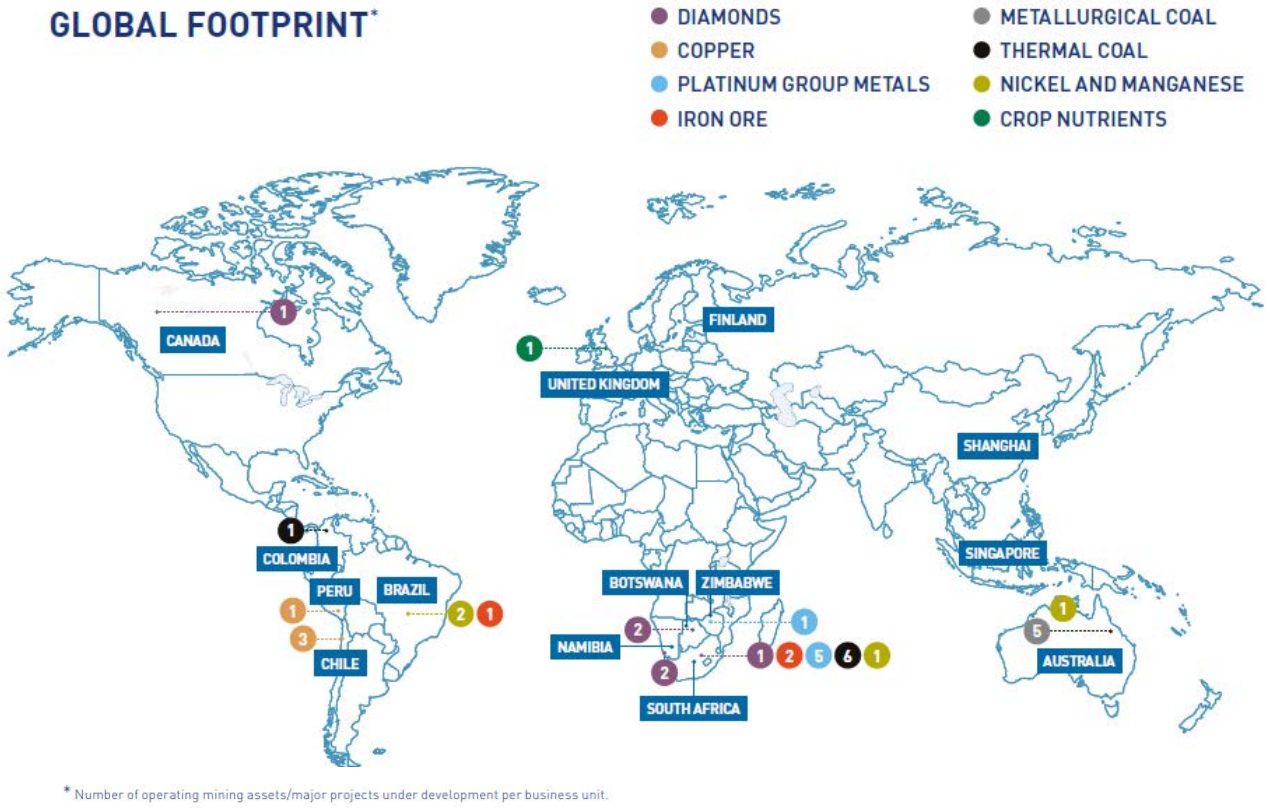
Bulk Sorter at Mogalakwena Mine, South Africa

Real Mining. Real People. Real Difference.

WHO WE ARE

Anglo American is a leading global mining company

Our portfolio of world-class competitive mining operations and undeveloped resources provides the metals and minerals that enable a cleaner, more electrified world and that meet the fast growing consumer-driven demands of the world's developed and maturing economies.



* Number of operating mining assets/major projects under development per business unit.

OUR PURPOSE

Anglo American is re-imagining mining to improve people's lives.

OUR VALUES

WHO WE ARE

Anglo American is a leading global mining company

CONTEXT: OUR PURPOSE

Re-imagine mining…

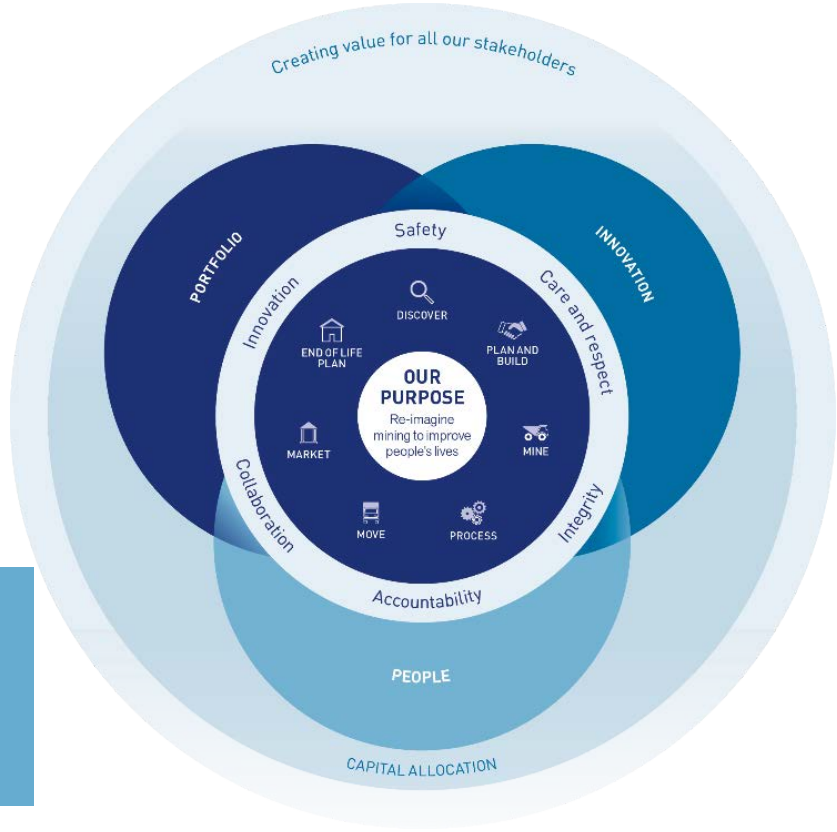
What mining could be and how we envisage mining in the future.

How we think differently and innovatively about mining and our entire value chain.

…to improve people's lives

A Purpose is about more than just the work we do and the profits we make. It's about the impact we have on everything and everybody we touch.

CONTEXT: OUR STRATEGY



Portfolio

- High quality, long-life assets
- Differentiated growth portfolio
- Sustainable cash flow & returns

Innovation

- Performance foundations
  1. Operating Model
  2. P101
- FutureSmart Mining™
  1. Technical innovation
  2. Sustainable Mining Plan
- Value from mine to market

People

- Social licence to operate
- Purpose-led, high-performance culture
- Organisation Model

WMF MATERIAL EFFICIENCY KPIS

We will elaborate on these KPIs in the context of mining

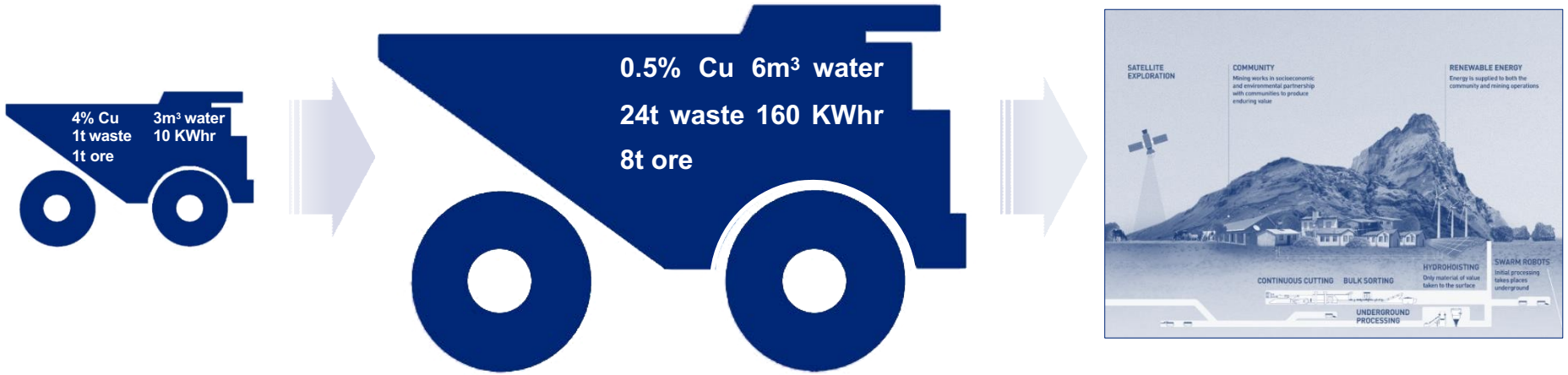
Use Less	Buy-to-use	Material value in the product / material value used in production
	% of recycled materials	Weight of recycled / total weight of materials in new product
	End-of-life recycling	Weight of materials effectively recycled / total weight of materials
	Energy	Total energy consumption to produce the product
Use Longer	Product lifetime	Total lifetime of the product, from completion to waste
	Resale price	Resale price after Y years / initial price (Y is industry specific)
Use Smarter	% of innovative materials	Weight of new or innovative materials / total weight of materials
	Product performance vs. weight	Performance measurement of the product key functions vs. weight
	Overall product usage	% of the time the product is used relatively to its full capacity

INNOVATION DRIVING SUSTAINABILITY

New trajectories required for mining

1900	Today	Future?

40kg Cu:



Ever increasing scale	Precise. Predictable. Sustainable

MINING MUST TRANSFORM IN THE DECADES AHEAD, STARTING NOW…

AN INTRODUCTION TO FUTURESMART MINING™

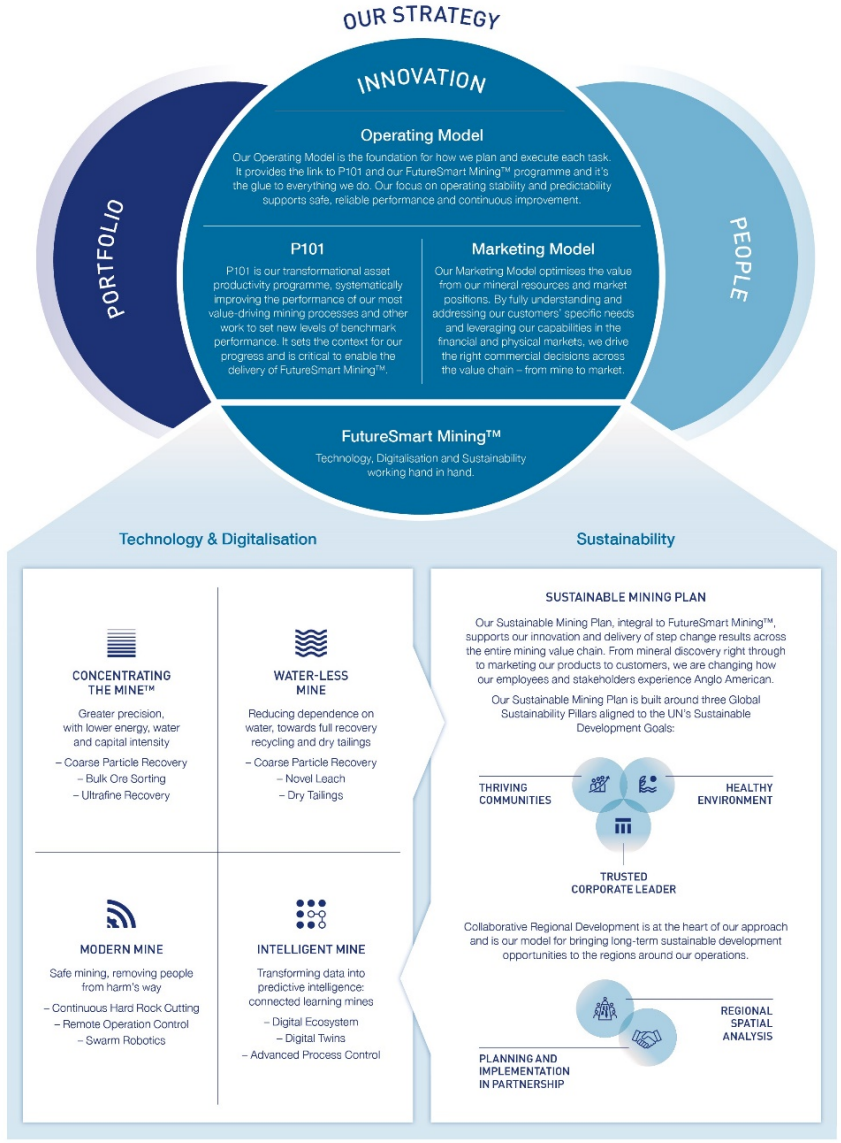
Our innovation-led approach to sustainable mining

Sustainable Mining Plan + Technical Innovation

- Concentrated mine™
- Waterless mine
- Modern mine
- Intelligent mine
- Trusted corporate leader
- Thriving communities
- Healthy environment

FUTURESMART MINING™

Our innovation-led approach to sustainable mining



Concentrating The Mine™: Greater precision, with lower energy, water and capital intensity.

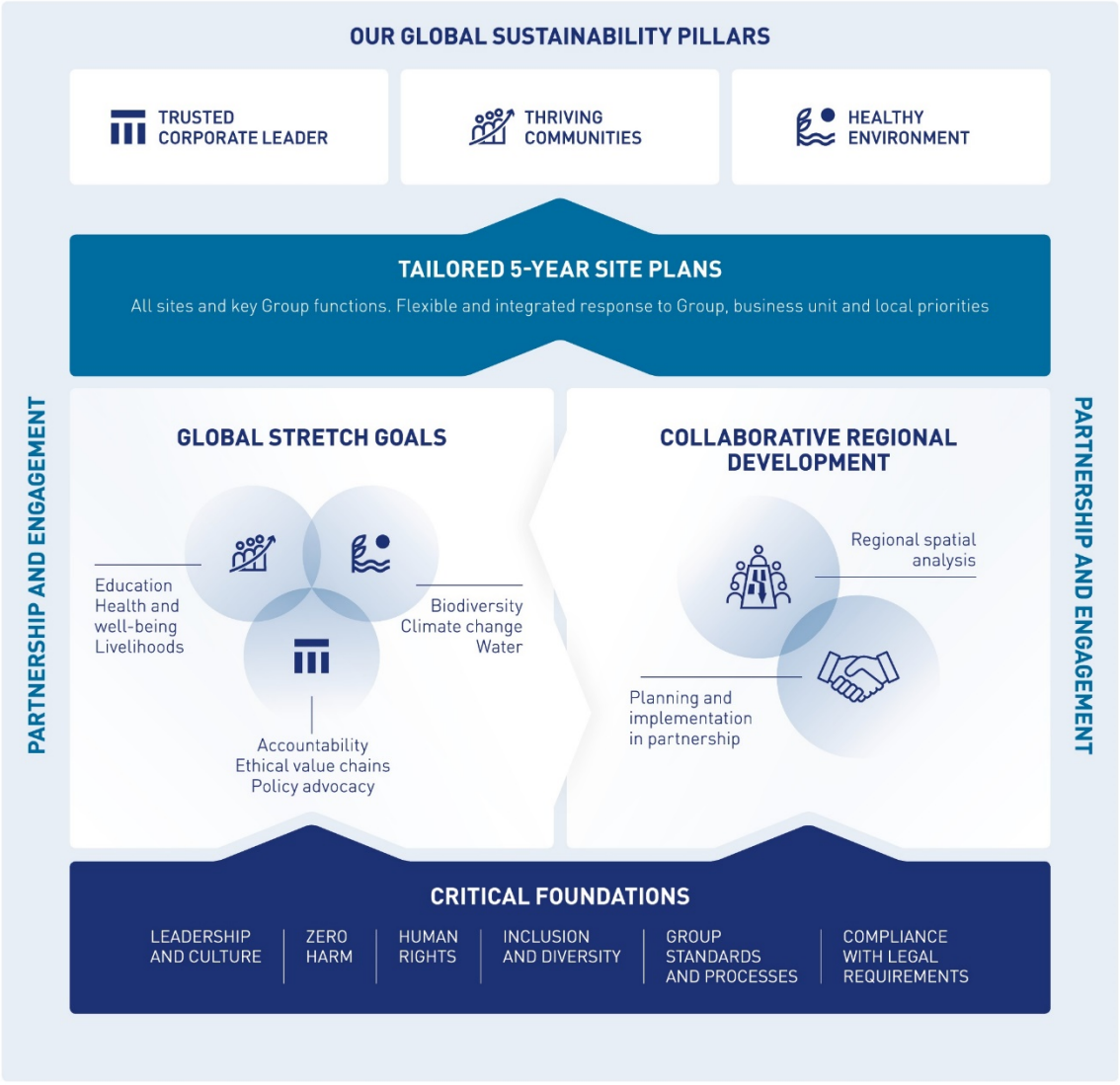
The Water-less Mine: Reducing dependence on water, towards full recovery recycling and dry tailings.

The Modern Mine: Safe mining, removing people from harm's way.

The Intelligent Mine: Transforming data into predictive intelligence: connected learning mines.

FUTURESMART MINING™

Our innovation-led approach to sustainable mining



TRUSTED CORPORATE LEADER

Developing trust as a corporate leader, providing ethical value chains and improved accountability to the communities we work with.

THRIVING COMMUNITIES

Building thriving communities with better health, education and levels of employment.

HEALTHY ENVIRONMENT

Maintaining a healthy environment by creating waterless, carbon neutral mines and delivering positive biodiversity outcomes.

Biodiversity

2020 milestone

- Net positive impact (NPI) methodology, biodiversity value assessments and site-specific indicators in place at sites in high-risk environments
- An established biodiversity framework, supporting processes, capacity and resources in place to enable rigorous application of the mitigation hierarchy across the mining lifecycle
- Formalise partnerships to support NPI, which are aligned with existing regional and national biodiversity stewardship initiatives

2030 target

- Deliver NPI on biodiversity across Anglo American

Climate change

2020 milestone

- Reduce greenhouse gas (GHG) emissions by 22% relative to the Business-As-Usual (BAU) projection
- Reduce energy consumption by 8% relative to BAU
- Implementation of four priority projects to meet 2030 targets

2030 target

- Reduce net GHG emissions by 30%
- Improve energy efficiency by 30%

Water

2020 milestone

- Reduce the abstraction of freshwater by 20%
- Increase water-recycling levels to 75%
- No Level 3 or greater water incidents

2030 target

- Reduce the abstraction of freshwater in water scarce regions by 50%

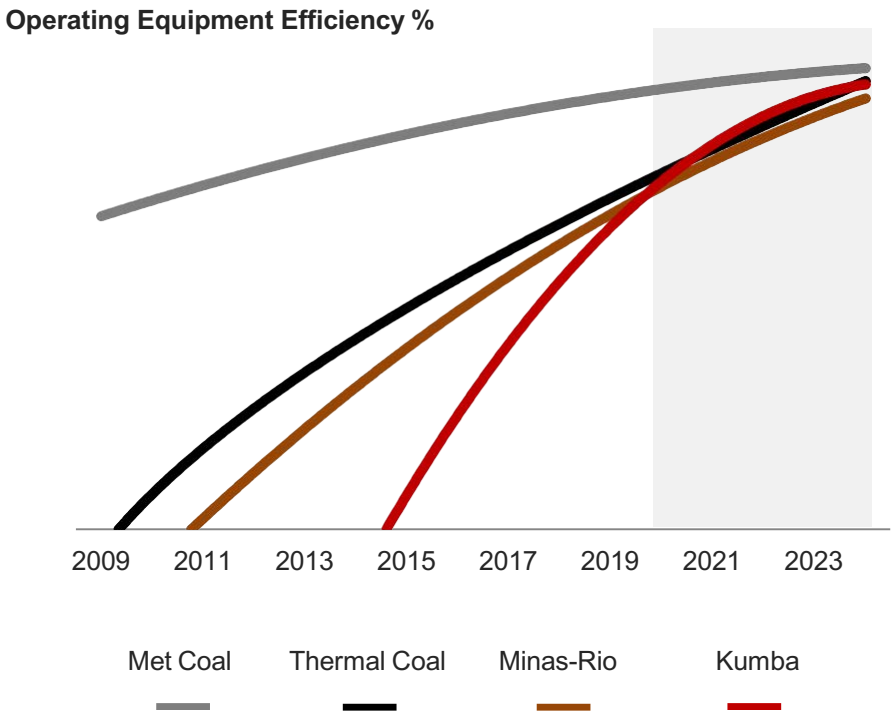
KPI 9: USE SMARTER - OVERALL PRODUCT USAGE

P101: Anglo American's breakthrough asset productivity programme

Redefining best-in class performance

Innovation, technology & digitalisation

Open cut equipment performance



- Clarity of purpose & focus
- Aspirational targets
- Operating Model
- Seeking & sharing best practice

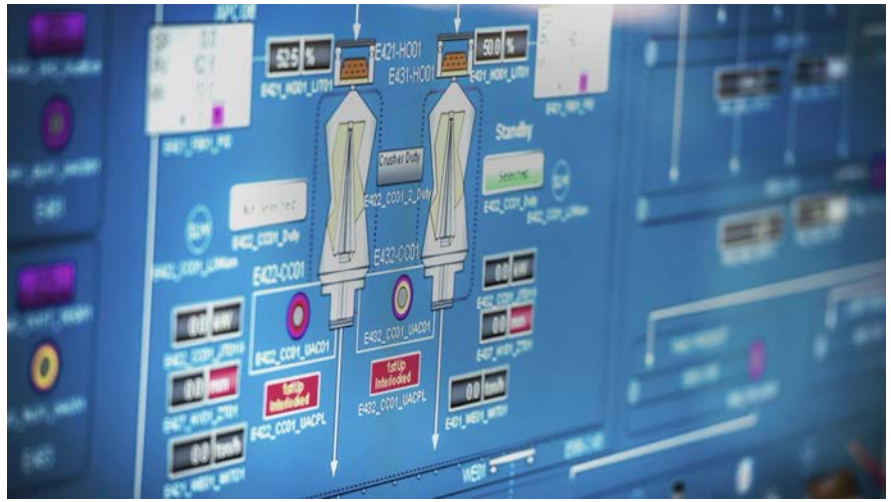
A more productive, more efficient, sustainable business

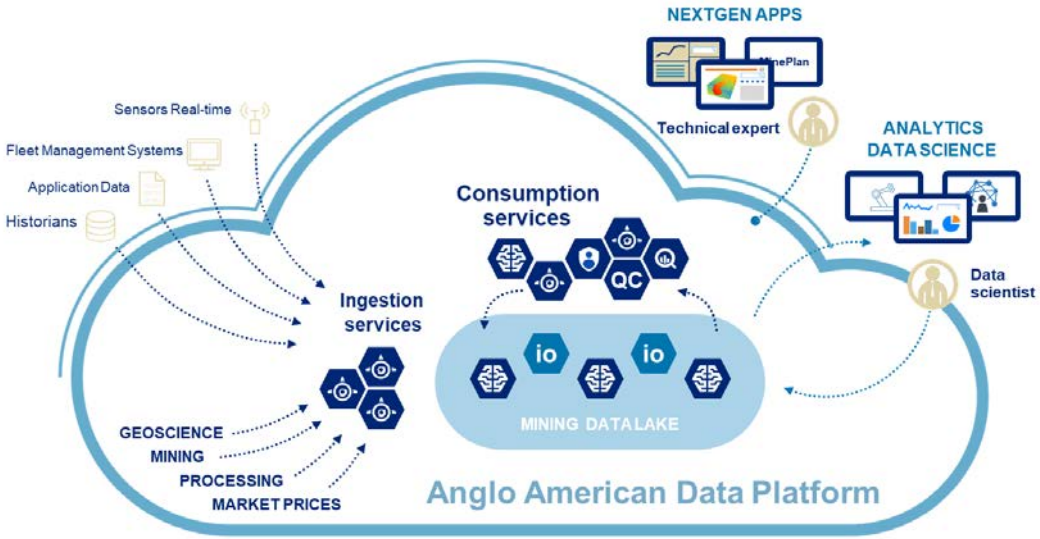
KPI 9: USE SMARTER - OVERALL PRODUCT USAGE

Authoring the optimal mining system with advanced process control, digitalisation and data analytics

Advanced Process Control (APC)

- Automates complex processes for systems stability
- 5% uplift in process throughput
- 30% uplift in process stability
- 5% uplift in energy efficiency





Data Analytics Platform

- End-to-end data platform that supports the entire value chain
- Operations decision support focused
- Scaling our value generation

KPI 9: USE SMARTER - OVERALL PRODUCT USAGE

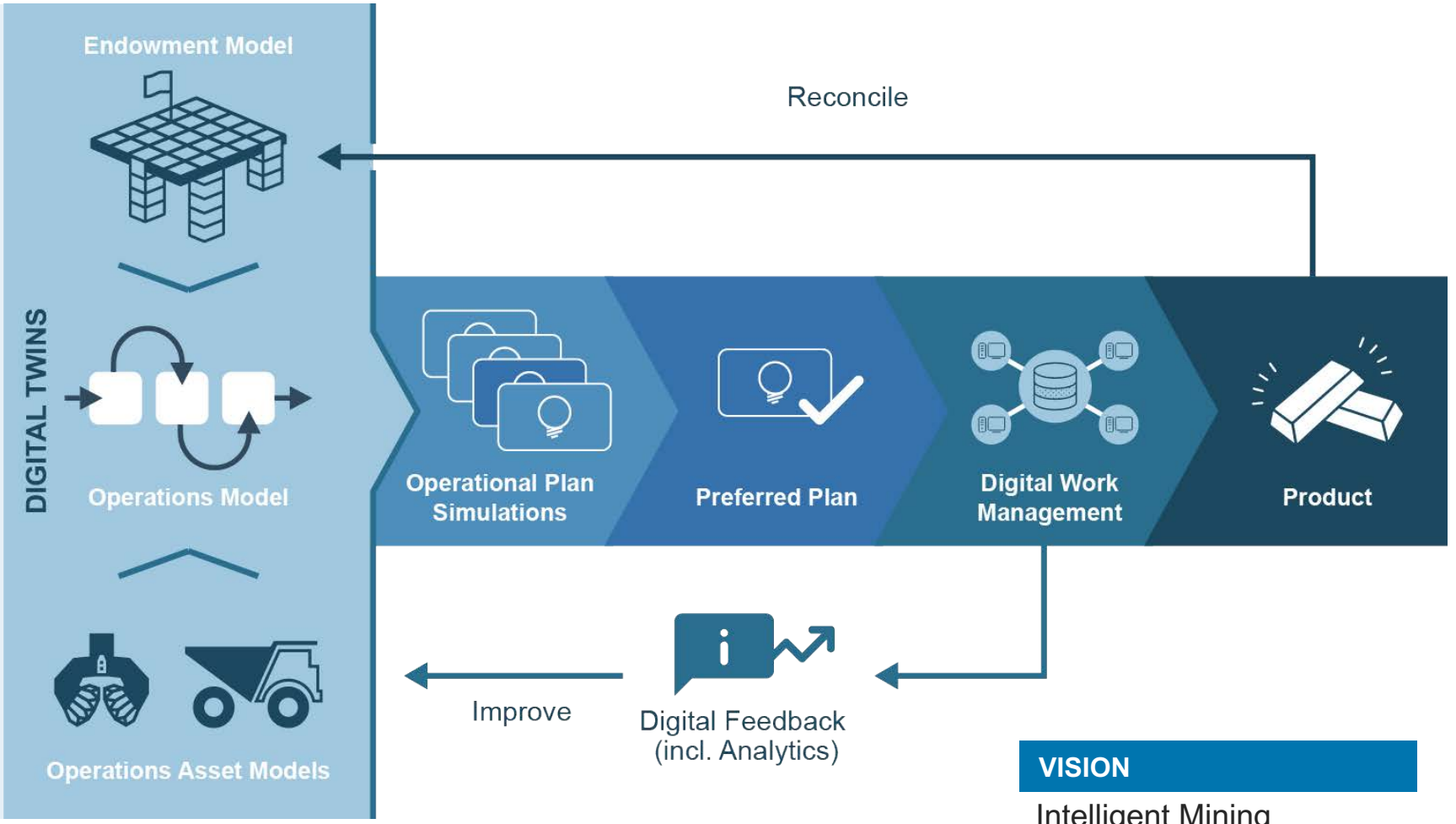
Authoring the optimal mining system with digitalisation and data analytics

OPPORTUNITY

Mining's digital potential lies in leveraging a unique combination of digital and physical assets

APPROACH

- The use of modelling & simulation ("digital twins")
- Improving the current business model (assets, processes and people)
- Standard use of machine learning



VISION

Intelligent Mining

USE LESS

Active route to a greener world

Carbon neutral operations by 2040

Technology minimises environmental footprint

Renewables sourced power, hydrogen storage & haulage

Bulk sorting installation at Copper, PGMs & Nickel

8 sites carbon neutral by 2030

Coarse particle recovery being installed in Copper

2030 targets

Energy Usage	**-30%**	GHG Emissions	**-30%**	Water Abstraction	**-50%**

HEALTHY ENVIRONMENT

KPI 3: USE LESS - % OF RECYCLED MATERIALS

Water management integral to the business

New technologies

- Bulk ore sorting to pre-concentrate
- Coarse particle recovery to allow water abstraction from tailings

Improving efficiencies

- Grey water usage
- Evaporation management

Investment

- Potential for desalination powered by renewable energy

2030 target

50%

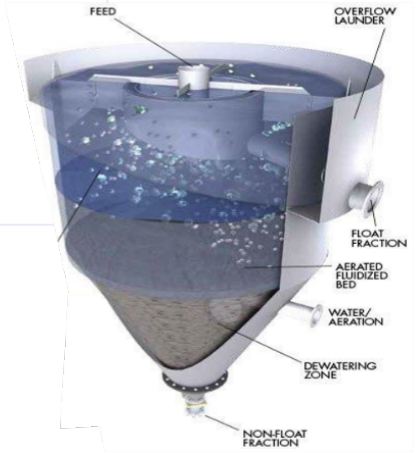
Reduction in water abstraction

Coarse Particle Recovery

Flotation process changed

Allows material to be crushed to larger particle size:

- 85% recovery of water
- Energy and cost savings

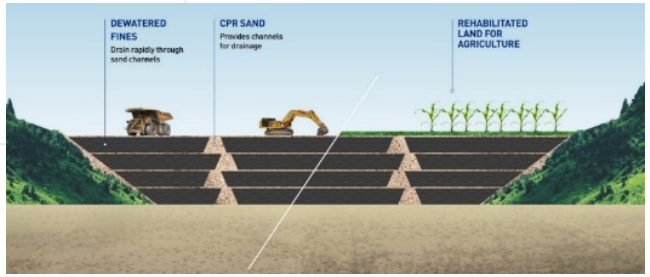


Hydraulic Dry Stack (HDS)

Tailings handling and storage revolutionised

Allows re-use of tailings land-form:

- Water recycling expected to exceed 85%
- Safety – desaturated tailings inherently safe



KPI 4: USE LESS - ENERGY

Energy efficiency and GHG emission reductions

Energy usage

Renewable energy usage

Increased efficiency

2030 target

30%

Reduction in energy usage

Shockbreak

Novel low energy, breakage device

Shock instead compression breakage

- Energy intensity reduction by 30%
- Reduced water consumption - Dry processing

Bulk Sorting

Sensors determine ore content prior to processing

Waste rejected early:

- Significant energy savings >30%
- Additional water and cost savings

Greenhouse Gases

Gas capture

Emissions reduction

2030 target

30%

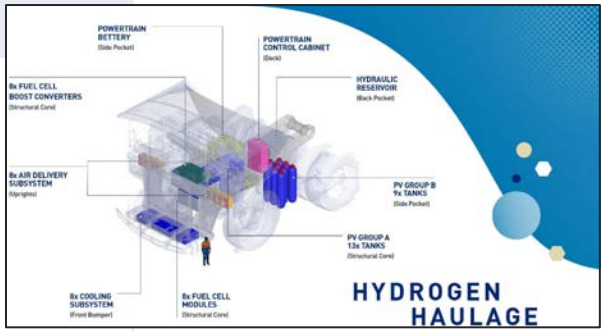
Reduction in GHG emissions

Hydrogen Haulage

Create a smart energy mix

Transformational use of renewables:

- Reduce GHG on large site by 30% in plant and 100% in trucks
- Move to hydrogen economy



CONCLUSION

Without mining, life as we know it on Earth today is not possible…..but our industry has to address critical challenges of safety, productivity and the way we use land, energy and water. As our global population grows, this leads to a greater demand for minerals and metals, core components of products and services that are essential to human progress.

Copper: renewables-driven electrification

PGMs: air quality & lower emissions

Diamonds: aspiration & growing prosperity

Quality bulks: modern infrastructure development

…ARE PRODUCTS THAT IMPROVE PEOPLE'S LIVES

AngloAmerican

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THANK YOU

RE-IMAGINING MINING TO IMPROVE PEOPLE'S LIVES

Real Mining. Real People. Real Difference.