THE DEVELOPMENT PARTNER FRAMEWORK FOR MINING

Catalyzing the Mining Sector of the Future: **A PRINCIPLES-BASED APPROACH**





A MESSAGE FROM DPI FOUNDERS MARK CUTIFANI AND PETER BRYANT

We imagine an industry deeply connected to the values of tomorrow's generation: transparent and fair, equal and inclusive and a genuine partner in global development.

MINING IS A CRITICAL CONTRIBUTOR TO GLOBAL ECONOMIC PROSPERITY.

We are among almost eight billion people who share this planet and by 2050 we are likely to number closer to 9.5 billion. Urbanization is increasing at a rate of 60-80 million people every year, the world's economic activity is growing at around 3% annually and our appetite for raw materials to build infrastructure, generate energy and create products is ever-increasing. Joined with the rapid transition to clean energy and decarbonization, the continuing demand for resources to meet global needs is certain to increase.

Society's expectations of the mining sector are ever rising

There is no doubt that consumer and investor demand for responsibly sourced goods is increasing and assurances relating to themes from climate change to human rights to conflict free minerals are an expectation. And, across society, levels of trust in corporations and governments are falling at a corresponding rate. Commodities in high demand –including many required for the green transition – are becoming more challenging to mine, frequently located in markets with unique political and infrastructure environments. The operating environment is becoming more complicated and unpredictable.

As an industry, mining can share examples of where it has made strong progress in securing and retaining its social license to operate, becoming a pivotal partner in building long-term social and physical infrastructure that creates a positive benefit for local and regional economies. Often, communication with stakeholders is more open and companies are tackling increasingly complex social, environmental and operational issues more deliberately. We are also seeing innovative new technologies and mine designs leading to much lower impact mining projects.

Collectively, however, the sector must do more to live up to its commitment to resource, sustainably and efficiently, the world and its future.

The urgency of this imperative is how and why the Development Partner Institute was born in 2017, to realize the vision set out in the Development Partner Framework.

We imagine an industry deeply connected to the values of tomorrow's generation: transparent and fair, equal and inclusive and a genuine partner in global development. Can it find innovative solutions to the challenges that it faces and meaningfully collaborate to maximize its contribution to the countries and communities within which it works? Can every mining company be proud and purposeful about its role as a creator of societal value, for communities, governments, employees, investors, NGOs?

Creating this shared value isn't about spending more, it is about applying our minds to the challenges mining is facing and considering how the sector can reallocate its resources to deliver mutually beneficial outcomes. The industry has an opportunity, the urgency and more importantly, a responsibility to blaze a new trail that will transform the future for the benefit of all stakeholders.

As partners in this future, we must be meticulous about how we are to realize our shared purpose and value and empower those we work with to be true custodians of this challenge. We must build the tools and capabilities that allow us to deliver on our ambition and be relentless in our pursuit of these shared goals.

Through long term partnerships, anchored in honest dialogue, the mining industry will ensure its communities and local environments thrive, strengthening its position as a successful and investable industry.

It has to anticipate its challenges into the long-term and move away from a short-term reactive approach embedded in 'survival', to a long-term philosophy beyond the life of mine, that articulates clear and common goals to creating shared value and provides the mechanisms to make this a reality.

We invite you to read through the Development Partner Framework (DPF).

This Framework sets out a set of principles and approaches to help mining companies, host countries and communities define new ways of operating and collaborating. It is also the foundational document which guides the work of the Development Partner Institute, which exists to pioneer, pilot and turbocharge initiatives designed to realize the ambitions set out in this document.

We are asking all stakeholders and specifically CEOs and industry leaders, government and communities, as well as investors and consumer products companies to be partners in shaping the industry's future – to accept that collective long-term prosperity depends on the strength of relationships between all stakeholders, to recognize the extent to which we all have skin in the game and to commit to work collaboratively to realize our shared purpose.

We encourage you to start by joining DPI's virtual community. A neutral, welcoming and open online platform which welcomes all stakeholders interested in or affected by the mining industry. Follow us on social media. Come to our events if there is one near you. Urge your company or organization to get involved with DPI. Share this Framework with your friends and colleagues. Drop us a line at info@dpimining.org to share your thoughts and insights – we want to hear from you.

Through DPI, we want to build a movement to propel us to a better future, for everyone.

We are calling for vision and courage to re-set the way the industry operates and to be willing protagonists in defining its future – it is time for us to lead and it is time for us to act. We invite you to join us and the DPI on this journey.



Mark Cutifani
Chief Executive, Anglo American
Co- Founder The Development Partner Institute



Peter Bryant
Co-Founder and Board Chair
The Development Partner Institute

WHAT IS THE DEVELOPMENT PARTNER INSTITUTE?

The Development Partner Institute for Mining (DPI), established in 2017, is a global coalition of ambitious leaders, committed to maximizing the contribution of mining to economic and social development. We work together, collaboratively, with stakeholders from across the ecosystem to advocate for new ways of operating, sparking multi-stakeholder conversations on the sector's toughest challenges, preparing and sharing knowledge and research and catalyzing pilots and demonstrations to accelerate the vision of mining as a development partner.

OUR CREATIVE PROCESS IS BUILT ON OUR 3 STAGES OF INNOVATION:

EXPLORE - EXPERIMENT - EXECUTE

Innovation Stage	What we do	How we do this: Our DPI Cogs
1. EXPLORE	We bring together a wide range of industries, perspectives and characters on a specific country or global challenge to uncover areas ripe for collaborative experimentation and action.	Cog 1: Country Catalysts Cog 2: Global Spark Forums
2. EXPERIMENT	We look for a deeper level engagement on issues, where a specific set of activities have been identified or a coalition of the willing has been established to drive transformation in a particular country or on a specific theme. At this stage, we continuously learn and pivot.	Cog 3: Pilots and Programs
3. EXECUTE	We support partners to continue their implemention of actions identified during experimentation and to replicate these elsewhere.	Support to Implementing Partners

THE DPI'S IMPACT AND VALUE IS DELIVERED THROUGH THREE COGS OF ACTIVITY:





We apply the DPF and the proven Catalyst Sprint approach at a country and regional level by convening multi-stakeholder forums to drive actions consistent with mining as a development partner.

We believe a Sprint is a crucible for ideas and inspiration. Over a short and focused period of time we can push the boundaries of the group's shared knowledge, invigorate and empower participants and co-create actions, with the goal of powering positive change and adding value.

Our methods ignite new insights, so mutual respect and trust can blossom, and shared purpose can emerge. We approach conversations from a perspective of equality – where citizens, companies, and governments can bring their voices and perspectives to enable productive discussions.

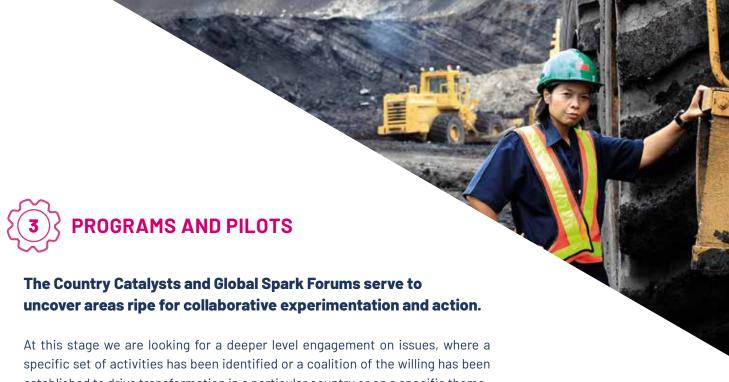
We drive and support action by brokering partnerships, developing blueprints for action, harmonizing local development strategies and capacity building.



New cutting-edge sector themes are brought to our Global Spark Forums with the objective of exploring multi-stakeholder insights and action to unlock key challenges and opportunities.

The forums are designed to be highly participatory and for open sharing and discussion. It is a creative process that leads to a possible solution; bringing together a wide range of industries, perspectives, characters to ruminate on a complex challenge in a manner that feels like new knowledge is being formed.

Themes include Diversity and Inclusion for the Prosperity of Mines and Communities and Creating Social Innovation for Mining.



established to drive transformation in a particular country or on a specific theme.

Through our Pilots and Programs, we test new models and ways of working, with the goal of finding breakthroughs which improve practice on the ground, relationships between ecosystem stakeholders and can be replicated elsewhere.

SOME OF OUR INITIATIVES INCLUDE:



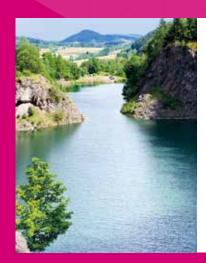
RESPONSIBLE SOURCING: MINE TO CONSUMER

A joint program with the Rockefeller Foundation, it aims to accelerate the adoption of a 'whole of value chain' approach to responsible sourcing, in response to increasing societal pressure and the proliferation of global responsible sourcing standards, to achieve a higher level of performance across the mining value chain.



MINES AND COMMUNITIES -A FUTURE ENERGY ROADMAP

This is a joint program with the Rocky Mountain Institute. It focuses on new business models and energy supply options to meet future energy needs for the prosperity and development of both mines and communities.



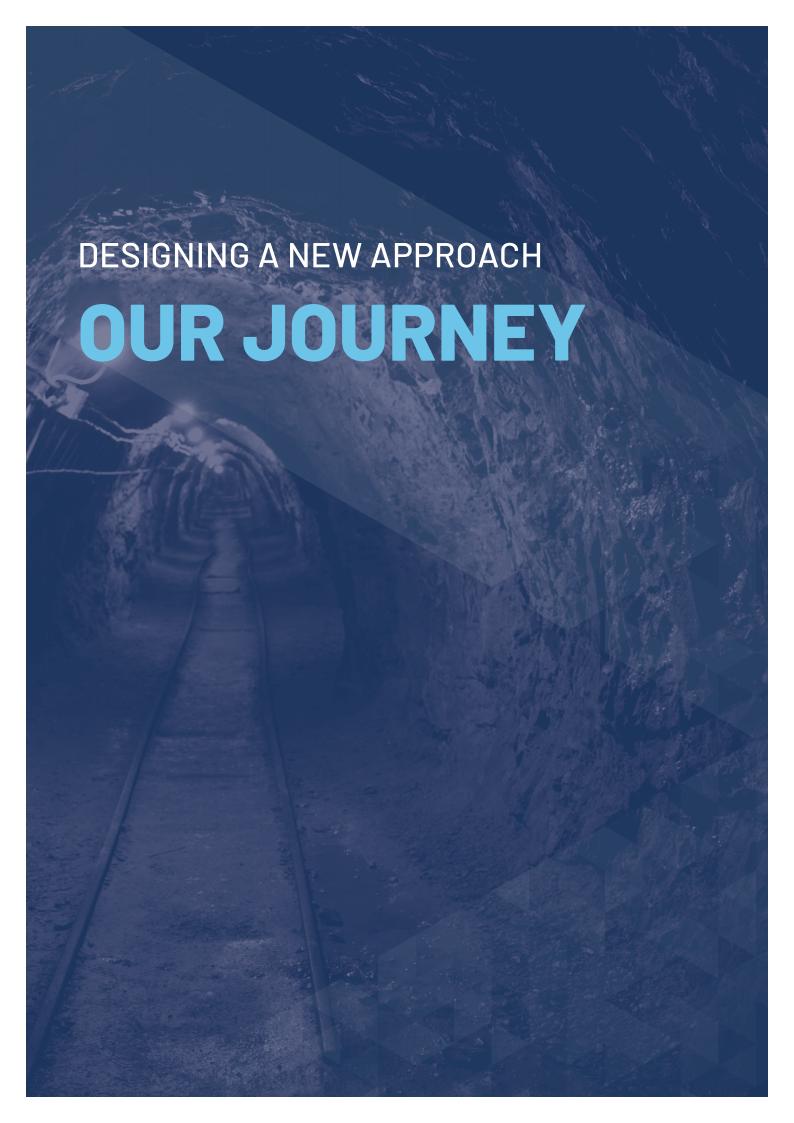
MINING AS A DEVELOPMENT PARTNER

Our research aims to demonstrate and evaluate ways in which the development partner approach can be applied and test the concept of the mining project lifecycle as mining for development instead of the traditional mining-centered approach of exploration, pre-feasibility, feasibility, approval, construction, operations, and eventually closure.



MINING RESEARCH BATTLEFIELD

This work aims to launch the first ever platform on which academic institutions propose innovation-led research projects with a focus on accelerating mining as a development partner. Selected proposals will be funded by participating organizations and contribute to application of best practice on the ground. We are working in partnership with Business for Development on this initiative.





Mining enables products that make the world work: iron and metallurgical steel for buildings, railways and bridges; fossil fuels, uranium and other minerals for energy; copper for wiring our houses, refrigerators and consumer electronics; fertilizers to support food production. We know that mining is one of the world's most important industrial sectors now and in the future, and we also know that resource development has the power to contribute to society for generations.

However, the issues the industry faces are multiplying in complexity, as measured by quantity and scale. Climate change, responsible sourcing, automation, tailings management and increasing societal expectations are just some of the challenges it is grappling with currently, each with serious implications for the future of the industry, and also opportunity.

The Development Partner Framework (DPF) was co-created by a diverse coalition of innovative leaders from mining, civil society, indigenous groups, faith leaders and other stakeholders. It maps a collaborative pathway to a new vision for the mining industry and its role in society.

It is intended to inspire and support the mining sector to adopt a new approach to securing and nurturing its social license to operate, focused on long-term partnerships, based upon mutual trust between communities, businesses, governments and investors. The mining industry has, undoubtedly, made significant progress shaping its sustainable mining agenda. The DPF seeks to challenge the industry to truly stretch beyond its current innovation sandbox.

The DPF embraces the concept of shared purpose, thriving ecosystems and competitive communities, companies and countries. It envisages mining being a catalyst for prosperity beyond the life of mine, and a true development partner, in an environment in which stakeholders come together to collaborate meaningfully.

THE DPF SETS A VISION AND PATH FOR THE MINING INDUSTRY TO



ACKNOWLEDGE THE IMPACTS FROM YESTERDAY



ACKNOWLEDGE THE PROGRESS MADE TO DATE AND THE GOOD INTENT OF THE INDUSTRY



MAXIMIZE THE POSITIVE AND MINIMIZE THE NEGATIVE IMPACTS OF TODAY



COLLABORATIVELY PLAN FOR A PROSPEROUS, SUSTAINABLE TOMORROW BEYOND THE LIFE OF MINE

The intention of the Framework is to be inspirational and directional, but not to be prescriptive. Through a principles-based approach we describe "where" the industry could go and "why" it should go there. The DPF supports the "how" we get there and can be readily applied by mining organizations and mining countries regardless of size, location or stage of the mining lifecycle. We believe this approach allows for the accommodation of differences that exist in each mine location and encourages open and honest dialogue.

We pay tribute to the commitment and vision of all members of the original Development Partner Working Group, who together created the Framework. In particular, we acknowledge the leadership and courage shown by Mark Cutifani, Jon Samuel, Ray Offenheiser, Mark Podlasly, Prishani Satyapal, Stephanie Wolcott, Rev. Séamus Finn and Erik Christensen.

Today, the DPF is housed by the Development Partner Institute (DPI), a flourishing organization, committed to realizing the goals of the Framework through collaborative experimentation, innovation and piloting. Understanding our journey, and how the Framework came into being, is a story of the power of collaboration in thinking about what exactly the mining sector of tomorrow might look like.





The Kellogg Innovation Network (KIN) at the Kellogg School of Management – now the World Innovation Network (TWIN) – is a platform to encourage innovation-led prosperity through experimental approaches. In 2012, Kellogg convened an exciting session in Brazil, known as the KIN Catalyst to envision the Mining Company of the Future.

The Catalyst aimed to do this by creating a platform and opportunity for leaders across the mining ecosystem. To discuss and discover new perspectives and ideas that elevate the industry through fresh approaches to innovation and collaboration. Participants included researchers, indigenous people, academics, civil society, nonprofits, suppliers and leaders from mining companies.

The need for a new multi-stakeholder model was identified as a major priority for leaders attending the KIN Catalyst, in response to the challenge that while mining companies often seek to reposition themselves as strategic partners for broader sustainable development, they often struggle to achieve this in practice.

Building on the energy and momentum of the KIN Catalyst, the Development Partner Working Group was convened to analyze mining in its totality and to build a framework that moves the industry towards a more effective model of sustainable development.

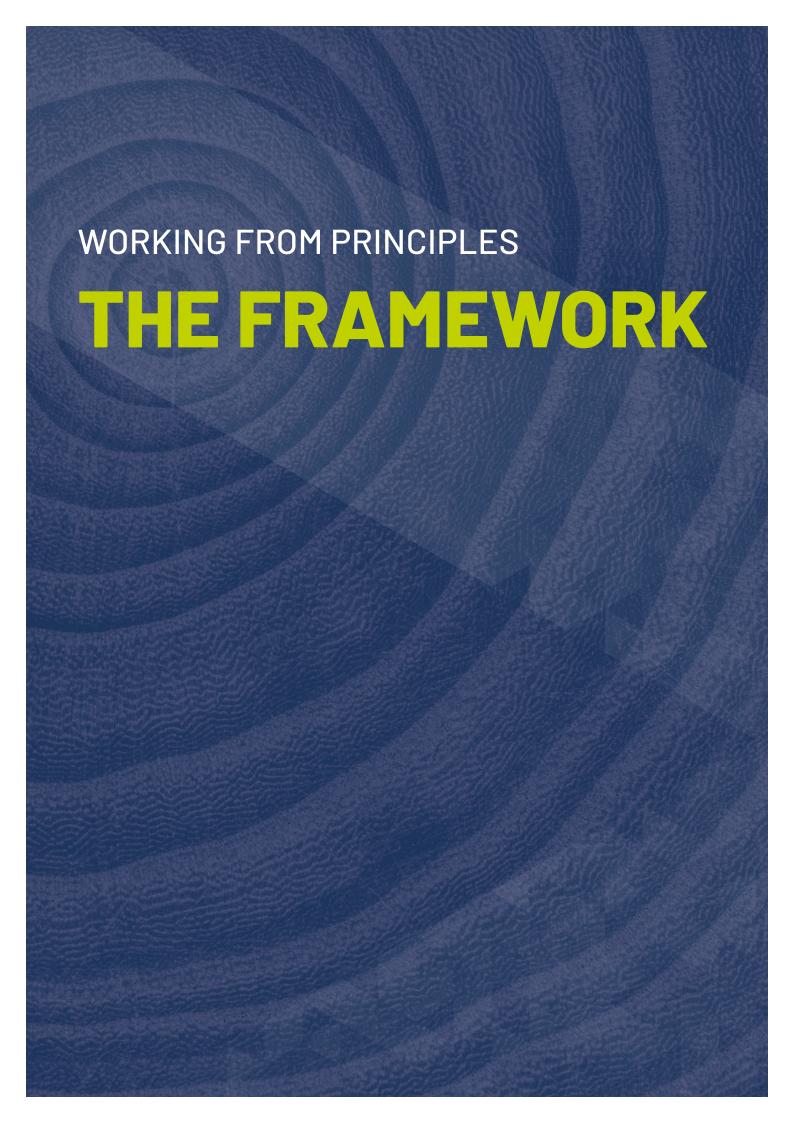
The working group took a clean sheet approach to the future through the lens of innovation and prosperity. This work quickly garnered attention and in 2013 was awarded a silver medal in the Collaborative Innovation Category by the prestigious Edison Awards, that recognize and honor innovation and excellence in the development, marketing and launch of new products and services.

The first iteration of the DPF was built over the next few months and officially launched in December 2016 at the Ford Foundation in New York.

The Development Partner Institute (DPI) was established in March 2017. Continuing the multi-stakeholder work that was catalyzed and incubated by KIN and the Development Partner Working Group. You can read more about the DPI and our work at the front of this document.

The DPI is now a global organization working with stakeholders across the mining ecosystem to advance the mining industry's ambition to become an integrated and proactive development partner, delivering on economic, environmental and social shared purpose. In a short period of time, the DPI has established a track record of bringing the right set of diverse stakeholders to the table, convening and curating discussions and initiating pilot programs that help identify new ways of operating and spark solutions to some the sector's toughest challenges.







The mining industry is an integrated and proactive development partner, delivering economic, environmental and social value.

The aspiration of the Development Partner Framework (DPF) is to accelerate the shift from the extractive business model of the mining industry to an integrated and proactive development partner, delivering through shared purpose and action on economic, environmental and social prosperity.

THE DPF OUTLINES A FRAMEWORK AND A SET OF PRINCIPLES FOR AN INDUSTRY THAT DELIVERS:

- · Meaningful and substantive collaboration
- · Creativity and innovation through inclusion of diverse worldviews
- Sustainable development to build thriving communities, companies and countries
- Leaders who can navigate the risks and opportunities presented by geopolitical, environmental, governmental, social and economic issues
- Long-term value-creation culture
- Long-term equity

THE BUSINESS CASE

The mining industry is cyclical. Over the last decade, the industry has seen commodity prices reaching historic highs and historic lows, against a backdrop of climate change, automation, and rising stakeholder expectations. Given trends in income and population growth, over the next few decades the demand trend for many mined commodities will likely be upwards, albeit with some troughs and diversification.

THE INDUSTRY IS BEING RESHAPED BY THREE SIGNIFICANT FORCES:

ESG ENGAGEMENT:

often western led and coming primarily from civil society, investors and consumer facing companies

COUNTRY AND COMMUNITY PROSPERITY:

the need for countries to develop the resources they have to raise the prosperity of their people, often out of poverty

INCREASING DEMAND FOR METALS AND MINERALS:

the envisioned decarbonized world with widespread electrification needs an assured and affordable supply of key metals and minerals

Although the anticipated growth of the sector might be assumed to create a winning scenario for mining companies, new market realities that are characterized by volatility, disruption and an insufficient talent pool, are putting increasing pressure on the operating environment. These challenges are largely unique to the sector because of its need to be where the ore bodies are, the fact that it uses land to develop non-renewable resources, the need to create constructive relationships with host communities and the high level of dependence on governments with respect to licensing, fiscal regimes, energy, infrastructure and other enabling factors.

These challenges are expected to continue to feed investor uncertainty, dramatically increasing the risk profiles of projects and in turn increasing the cost of capital - in a world of diminished availability of capital.

Whilst there has been significant investment, good intent and a raft of initiatives for the industry to achieve progress as a development partner, these have not kept pace with societal demands; there is still more work to be done.

To begin to tackle the new market order, the mining industry will need to articulate its value proposition and develop business models designed to deliver value over the long-term, underpinned by a mindset that reevaluates the role of mining companies in the societies in which it operates.

KEY MINING SECTOR CHALLENGES

Rising societal expectations and anti-mining activism
 Demonstrating measurable value to communities, governments and consumers
 Preparing for tomorrow's workforce - the talent gap
 Productivity and efficiency challenges
 Intensified government intervention/resource nationalism
 ESG engagement, driven by climate change.
 Access to mines - political and infrastructure challenges
 Water and energy intensity
 Scarcity of tier 1 deposits and declining grades
 Proliferation of international and national standards from responsible sourcing to local procurement
 Lack of capital - specialized or general

This requires bold leadership. A mining industry that acts as a catalyst for the socioeconomic development of the countries and communities in which mines are developed and operated is the goal. We believe this is key to put the sector on a path to a more prosperous future with a more robust formal and social license to operate.

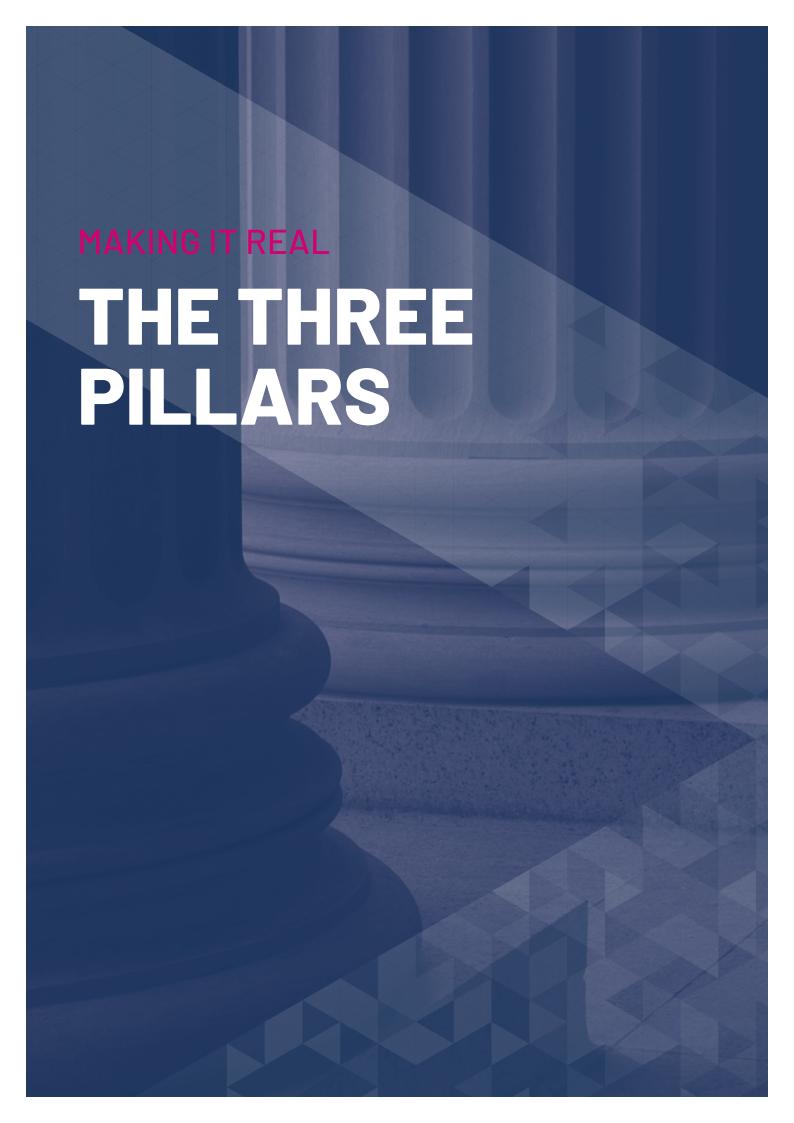
ADOPTING THE DEVELOPMENT PARTNER ETHOS WILL SUPPORT MINING COMPANIES TO:

- Improve the long-term economic viability of the industry by moving from boom/bust survival mode to long-term value creation
- Move from a largely risk management mindset to a more proactive participant in society, thereby attracting and retaining holistic and futuristic thinkers as employees, consumers, suppliers and investors
- Implement operating systems that go beyond just the mine to a more complete materials stewardship perspective
- Reduce the likelihood of conflict by building better relationships with all key stakeholders especially local communities and artisanal miners avoiding lengthy delays and accelerating permitting
- Take a proactive stance on emerging regulations
- Reduce operating expenses (through reduction in energy, water and material usage) and realize more predictable and manageable cost structures
- Contribute to the development of empowered citizens who can motivate governments for transparency, increased security at mine sites and protection of natural resources
- Be part of the solution as emerging global responses to pressing issues such as climate change, the energy transition, and gender and diversity inequality are being forged

THE APPROACH

The Framework leans on a principles-based approach. It builds upon core competencies of the mining sector, leverages its value chain and promotes beneficial strategies to both business and society to support local and regional development through:

- Partnerships between business and local, regional and national government to align investment plans with wider development planning
- Collaboration between communities and companies to identify key community needs and opportunities to support targeted community development
- Appropriate procurement strategies, including implementing local procurement strategies and small business development initiatives
- · Recruitment supported by local workforce development
- Designing mine infrastructure (power, water, transport, communication, health) in a manner that benefits host communities and the surrounding region; and
- Fostering multi-stakeholder, multi-industry partnerships for development to share risk and rewards and ensure the sustainability of outcomes





The three pillars of the DPF are at the heart of the development partner approach. We believe they set out a path to accelerate mining as a development partner and provide guidance on how this can be achieved.

The pillars are meant to be directional and not prescriptive in their focus, noting that every individual context is different.



Without a deeply held, commonly Shared Purpose that gives meaning to their lives; without deeply held, commonly shared, ethical values and beliefs about conduct in pursuit of purpose that all may trust and rely upon, communities steadily disintegrate, and organizations progressively become instruments of tyranny. This isn't a bunch of platitudes, but a manifesto of what the people in the organization believe in and care about in their gut. And getting there is going to be downright excruciating... What we're trying to do is build a community. And it's only when that community has solid agreement on purposes and principles that you can start talking about the concept and structure of the organization.

DEE HOCK

Founder of the Visa Corporation

Miners, employees, communities, governments, NGOs, and other businesses—every stakeholder in a mining project has at least one thing in common. They are all concerned about what's going to happen at the mine and in the mining region. While overall agendas may never fully align, for the sake of each project a shared purpose must be collaboratively developed and diligently enacted.

A SHARED PURPOSE ENABLES US TO:

- Be prepared to resolve difficult questions about not only how land is developed but whether it is developed at all and if land is to be mined, under what conditions
- Engage and consult to resolve conflicting rights agendas to develop a balanced multi-decade plan for land use that unlocks its full potential for all stakeholders
- Acknowledge the interdependencies of the mining value chain including the shared opportunities and the shared risks
- Create new ways of engaging that puts communities at the heart of decision-making

EXAMPLES OF CONFLICTING RIGHTS

In the context of this framework, conflicting rights refer to competing views regarding the entitlement to participation, land, wealth and/or environmental sanctity of an area rich in minerals. Examples include:

- · Realizing mineral wealth vs. Ensuring food security
- · Developing for economic gain vs. Needing a functioning ecosystem
- · Resettling communities vs. Preserving cultural/spiritual practices, heritage and identity
- Addressing past grievances vs. Making new promises or taking on new commitments
- · Nationalization vs. Privatization vs. Local wealth creation
- Traditional land use vs. Economic land use
- · Ownership vs. Stewardship
- · Community cohesion vs. Migrant labor
- Corporate planning vs. Community timelines
- · Those at the table vs. The vulnerable and unrepresented
- · Reliance on imported skills vs. Local skills development
- · Automation vs. Job creation
- · Shared wealth vs. Individual wealth
- Science-based views of environment vs. Indigenous evidence-based views of the environment

While conflicting rights are typically seen as an either/or situation, the Framework aspires to find a third way that reconciles both perspectives into a new bold approach.

As we work towards increased understanding and a greater sense of Shared Purpose, we gain a growing awareness of the web of interdependencies—a greater understanding of the way the whole system works and of our part in it. It takes time to arrive at a shared understanding of the purposes and principles of newly reconfigured systems and this can create deep impatience with the processes. It is all too easy to want to 'streamline' this stage in order to jump directly to action and commit valuable time, energy and resources to immediately doing something.

Yet having achieved a Shared Purpose, we are able to tackle the system's most difficult problems with much more confidence and produce more effective results in a much shorter time, while at the same time learning from the mistakes that will inevitably occur. Mining entities are able to take on the role of a catalyst for realizing Shared Purpose, not just extracting mineral wealth, leading to fundamental changes in the way mining companies create their corporate strategies. Shared Purpose is not a CSR buzzword but is now a requirement and source of meaningful value creation.

We're not going into the three-month rat races. We're not working for our shareholders. We're working for the consumer; we are focused, and the shareholder gets rewarded.

Business cannot survive in a society that fails, so it is stupid to think that a business can just be standing on the sidelines of a system that gives them life in the first place. So, this is not idealistic at all. All of the actions that we do are hard-wired to our business purposes, hard-wired to our brands.

PAUL POLMAN
Former CEO, Unilever

HOW?

 Prior to designing a mine, hosting deep multi-stakeholder dialogue across the sector at a global, national and local level to uncover areas of Shared Purpose between stakeholder groups, consciously considering questions of power imbalances, gender, diversity, inclusivity and history.

- 2. Creating an integrated multi-decade Shared Purpose Plan for every mining project and region. This could be a 100-year plan that includes, not just the life of mine through to closure, but is also focused on delivering Shared Purpose beyond the life of mine and to the surrounding region.
- 3. Reframing generic social, environmental, health and economic impact studies as overall systems assessments that occur much earlier in the mine development process. These studies will generate data needed to identify and evaluate the most sustainable use of the natural capital (e.g. land, water) in question and to delineate the right landscape. The studies will also provide information for all those with interest in the land to make informed choices about protecting and creating the future. This includes equal voice to preserving the environment by including greater scientific and natural systems perspectives.
- 4. Identifying and evaluating development opportunities through the process of discovering Shared Purpose, not on the presumption of mining as the central industry. Mining is not a given. It will take place only with the free, prior and informed consent of communities.
- 5. Enhancing the focus and skills of engineers, moving from designing just mines to designing for the Shared Purpose plan. Long-term plans are created that capture Shared Purpose and design for the regions, not just for the mines, with stakeholder roles and responsibilities clearly outlined.
- **6.** Explicitly managing power dynamics in development and implementation of the Shared Purpose model. Currently, mining entities and in some cases, governments hold most of the power in the decision making around mining endeavors. In a Shared Purpose environment, the power dynamics are understood and balanced through innovative methods of engagement and negotiation.
- 7. Creating incentives for decision making that delivers the future. Businesses need to ensure they harness the strength of leaders who can make decisions for the future, today. Commitment to the Shared Purpose mindset throughout operations will require training miners to engage in Shared Purpose thinking and decision making.



THE VISION

A flourishing ecosystem is one in which the environment is robust and resilient, supporting a healthy community and thriving business. Mining companies work to not only minimize environmental impact but actively contribute to make the ecosystem richer and more vibrant than before the mine was built through reversing prior degradation and preserving biodiversity. Flourishing ecosystems are viewed as a requirement to maintaining a social license to operate.

How long can we go on and safely pretend that the environment is not the economy, is not health, is not the prerequisite to development and is not recreation? Is it realistic to see ourselves as managers of an entity out there called the environment, extraneous to us, an alternative to the economy, too expensive to protect in difficult economic times? When we organize ourselves starting from this premise, we do so with dangerous consequences to our economy, health and industrial growth. We are now just beginning to realize that we must find an alternative to our ingrained behavior of burdening future generations resulting from our misplaced belief that there is a choice between economy and the environment. That choice, in the long term, turns out to be an illusion with awesome consequences for humanity.

CHARLES CACCIA

Member of Parliament, House of Commons, Canada WCED Public Hearing Ottawa, 26-27 May 1986

The act of removing a natural resource from the environment is disruptive. There are limited examples of flourishing ecosystems created as a result of mining. Thus, a reset is required in the industry that injects a new wave of design thinking and innovation into the environmental approach from exploration to closure.

The Biosphere II Experiment, started in 1991, tried and failed to generate sufficient breathable air, drinkable water and adequate food for just eight people, despite an expenditure of US\$200 million. Even the most advanced space programs must rely on very basic supplies from the Earth for astronauts to survive. In contrast, the Earth ecosystem performs those functions every day for more than 7 billion of us, demonstrating its priceless and irreplaceable role as the sole life-supporting system of humans and as the natural capital of the economy. Today, many ecosystems are facing mounting pressures and decline from rapid population growth, economic development, climate change, biodiversity loss and pollution.

Fostering Flourishing Ecosystems means working within natural laws and the carrying capacity of the planet. We need to ensure that we understand what the planet can sustain and remodel businesses to fit within these parameters. This is the only way we can ensure long-term business success.

For the mining industry to realize a vision of flourishing ecosystems, we must acknowledge our impact.

The three R's (Reduce, Reuse and Recycle) of early environmental awareness campaigns remain a basis for this environmental ethos. Rehabilitation is not the first option; reducing impact and creating positive benefits are the starting point. Furthermore, environmental management or ISO14001 certification is a tiny part of ensuring a flourishing ecosystem.

We will also work to prevent the cycle of poverty caused by environmental degradation. A thriving economy cannot exist without a healthy environment. Environmental issues such as soil erosion, deforestation, lack of clean water, poor air quality and species loss, trap communities in poverty. In some countries, mining companies pay nothing for their use of water. This will become untenable as water becomes increasingly scarce.

A healthy environment is also key to disease prevention, which is more desirable and cost effective than treatment. A robust environment is the first step in preventing opportunistic disease and malnutrition and ensuring healthy employees. A clean environment is more beneficial to society than a polluted environment with excellent primary healthcare.

HOW?

- 1. Designing spaces to incorporate flourishing natural systemsnatural drainage, forests, water, air, soil systems-and ensure thriving biodiversity. It will include integrating biomimicry into our processes.
- Further developing operational efficiencies by learning from nature.
 The available natural capital and resultant biodiversity will be leveraged as an insurance plan for the future.
- **3.** Recognizing that the boundary of a mine is a human construction, companies will understand that water, soil, air—all-natural systems and migration patterns—do not adhere to these boundaries.
- **4.** Understanding that we cannot negotiate with nature, mine design will be robust in the face of increased extreme and unexpected weather events, drought and flooding.
- 5. Acknowledging that we cannot compensate monetarily for damage to the environment; miners restore the natural ecosystem now and not wait until the end of mine life. This also means that mining must avoid projects or mining methods that require the perpetual treatment of water or waste or destroy existing natural bodies of water.
- **6.** Reducing energy use and responsibly sourcing or generating the energy needs.
- 7. Deliberately moving from curative public infrastructure development (building hospitals) to entrenching our practice in prevention and the right to a healthy environment.





THE VISION

Mining will be at its best when the value created by its activities contributes to long-term sustainable prosperity, beyond the life of mine, for all of those associated with its operations. Significant efforts and resources from all relevant stakeholders are required to make a mine successful and, appropriately, long-term benefits can be maximized for each stakeholder group, including shareholders, when communities, companies and countries are competitive and working together. A more competitive community will equal a more competitive company over the longer term.

[We] seek to integrate a consideration of ESG (environmental, social, governance) issues into every investment process across the organization. This is driven by a belief that ESG issues are material investment issues that have the potential to impact long-term investment performance.

FIRST SENTIER INVESTOR

High-performing, capable and successful communities mean high-performing, capable and successful mining companies. A better trained local workforce will reduce reliance on costlier regional or international expatriates. A thriving local supplier base will reduce the costs and risks associated with having to import goods and services from abroad.

The sector's economic development mandate needs to be derived from sound decision making, participative evaluation of the existing context and a willingness of communities, governments and companies to work as partners. Where all stakeholders are incentivized and eager to make this happen it will engender an entirely new level of public and private sector collaboration that is based on trust and shared purpose.

IN COMPETITIVE COMMUNITIES, COMPANIES AND COUNTRIES

- Mining is welcomed as a catalyst for enhancing capabilities: intellectual, managerial and technical knowledge.
- Towns and cities moved beyond a one industry mining monoculture, to diversified economic centers with sustainable connected regions.
- How much/how long equations are not just for mine production but for future competitiveness.
- Urbanization is offset by rural vitalization and infrastructure development linking mining territories, protecting ecosystems and opening markets.
- Mining communities are more competitive because they have options as more investments are realized locally.
- Long-term costs of production for mines are lowered as infrastructure is shared and developed based on multi-use.
- Market access is expanded for local communities.
- More levers are created to support increased stability, security and safety including a strong civil society.
- Regional long-term food security strategies are integrated into all mine plans and project cost-benefit analyses.
- The local community has a vested interest in mining success and vice versa.
- Regional planning will consider the long-term combined social and environmental impacts of multiple mines operating in proximity to each other.

HOW?

- Enabling local cluster development: working with local organizations and institutions to support communities to identify their long-term economic opportunities.
- 2. Partnerships between companies and local, regional and national government to align social investment plans with wider development planning.
- **3.** Forming multi-stakeholder partnerships to implement shared opportunities and infrastructure, while managing shared risks.
- **4.** Co-designing and co-implementing key development initiatives.
- Building the skills and capacity of the workforce, local suppliers and institutions to catalyze increased productivity, growth and diversification.
- **6.** Joining forces with other industries and sectors to identify synergies and opportunities for collaboration and shared effort.
- 7. Working with local agencies to restore damaged ecosystems.
- **8.** Supporting local disaster and emergency preparedness, response, and rehabilitation capabilities.
- **9.** Changing the value proposition to investors and attracting investors who recognize that mining for development will result in lower risks and improved returns.



CO-INSPIRE

Sustainable change in the mining industry will only take place with the deep personal commitment and leadership of mining leaders, from companies, government and other groups. It will focus on embedding a development partner mindset into how strategies are developed and how resources are allocated. Individually, sector leaders will create forums to share this philosophy from both a moral and business perspective—that this is the right thing to do. These forums will benefit from engaging external experts from a variety of backgrounds (geopolitical, government and civil society) who will be able to inspire and support leaders through this new process.

COLLABORATE

As all key stakeholders are engaged in mine and regional planning processes, the ability to communicate and collaborate will become even more essential to success. To effectively design and implement the details of the Development Partner Framework, miners and others will collectively identify and address the right problems/tipping points as well as find pilot projects with the right conditions for implementation. Engagement progresses with mine owners and stakeholders as neighbors and co-creators of a shared destiny.



CO-INNOVATE

Science and technology investments will reinvent mining practices to support new systems design reversing a trend that mining (including miners and the supply base) has invested a fraction of revenues back into Research & Development efforts.

The journey to becoming development partners is built on sustained investment in innovation across the entire value chain, regardless of the business cycle stage. New players are invited to participate in the process. Local businesses, entrepreneurs, educational institutions, technology firms, VC firms and incubators are activated and engaged. The face of mining rapidly changes with new products and services invented (and reinvented) with the same pace and momentum as other industries with robust networks of schools, start-ups and funders. The mining industry significantly increases its investment in innovation and collaboration to meet these goals and develop the tools and technology required.

CO-EDUCATE

The next generation of miners are trained as systems designers. Forums teach a new holistic design ethos that changes how employees view their careers and the legacy they hope to achieve.

Specifically, education institutions develop new multidisciplinary curriculums for undergraduates, postgraduates and those currently in the industry looking to expand their skillset, including engineering, environmental stewardship, geopolitics, social sciences. This improves capability and attracts a much wider group of young people into mining, in turn alleviating the shortage of skilled people.





APPENDIX 1: DPI BOARD OF DIRECTORS

PETER BRYANT

Chair

WENDY TYRRELL

Executive Director

MATTHEW COON COME

Non-Executive Director

JONATHAN SAMUEL

Supporter Representative

SHEILA KHAMA

Non-Executive Director

APPENDIX 2: DPI ADVISORS

GRACE BARRASSO

ArcelorMittal Mining

TREVOR BERGFELDT

Hatch

JOHN BIANCHINI

Hatch

GORDON BOGDEN

Black Loon Metals

CAROLYN BURNS

Netpositive

ANDREW CHEATLE

AMC Geological Advisory

DAVID CHEN

Equilibrium

MARK CUTIFANI

Anglo American

DAVID DE LAUNAY

LANA EAGLE

Lana Eagle Consulting

MARK FEWELL

Roadtrip Nation

REVEREND SÉAMUS FINN

Interfaith Center on Corporate Responsibility

JEFF GEIPEL

Mining Shared Value,

Engineers Without Borders

JOE H. LOMBARD

Hatch

JASON NORMAN

RTI International

VERONICA NYHAN JONES

International Finance Corporation

(IFC)

RAY OFFENHEISER

Notre Dame Initiative for Global Development

MARK PODLASLY

Tribal Sovereign Wealth Fund -Nlaka'pamux Legacy Trust

MARNI RABASSO

MELISSA ROWE

RAND Corporation

LISA SACHS

Columbia Center on Sustainable

Investment

JONATHAN SAMUEL

Anglo American

SIMON C. WANDKE

ArcelorMittal Mining

APPENDIX 3: WORKING TEAM MEMBERS 2012-2016

MARK CUTIFANI

Chief Executive, Anglo American

PETER BRYANT

Co-Founder and Senior Fellow, Kellogg Innovation Network

ALLISON FORREST

Responsible Investment Officer, Resource Capital

CLARE LOCKHART

Director & Co-founder, Institute for State Effectiveness

DAVID MELDRUM

Global Head of Mining Advisory Services, Wipro

ERIK CHRISTENSEN

Representative for Mexico, **UN-Habitat**

JENNIE HUNTER-CEVERA

Founder, Hunter & Associates Former EVP, Discovery & Analytical Sciences, RTI International

JONATHAN SAMUEL

Group Head, Government & Social Affairs, Anglo American

KULVIR GILL

Senior Principal, Clareo Partners

LUIZ MELLO

Director, Technology & Innovation, Vale

MARK PODLASLY

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RAY OFFENHEISER

President, Oxfam America

RICARDO VISCOVI

CEO, Samarco

SEAN KNIERIM

Chief of Staff, Jeff Skoll Foundation, Former Chief of Staff, MacArthur Foundation

STEFANO ANGIOLETTI

Vice President, IT Business Brazil, Schneider Electric

STEPHANIE WOLCOTT

Director, Kellogg Innovation Network

Note: Titles listed are the titles the members had when part of the working group.

APPENDIX 4: DPI CORE SUPPORTERS









DPI WANTS TO HEAR FROM YOU

Did you read the Framework? What did you think? We'd love to hear your feedback. Email us on **info@dpimining.org** and share your thoughts or find us on social media.

- in linkedin.com/company/dpimining
- instagram.com/dpimining
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