

The mine optimization playbook:

Foundation to Acceleration



Launchpad from Foundation to Acceleration

Phase focus: From reactive, fragmented efforts to connected, high-impact initiatives that start showing measurable emissions reduction and productivity gains.

THE STARTING POINT:

“We’re doing a few things, but not in sync.”

Most organizations at the Foundation stage feel like this:

- Sustainability or ESG exists, but it’s siloed in one team, or treated as a side project.
- There’s no clear ownership at the top; no one is “accountable” for emissions or social impact in the same way they are for revenue or cost.
- Data is scattered: energy, waste, safety, and people metrics live in different systems, formats, and spreadsheets.
- Projects are reactive: driven by a customer request, a regulation, or a PR opportunity, not a coherent strategy.

WHAT’S HOLDING YOU BACK?

Several common blockers keep you stuck at this level:

1. **No clear mandate:** ESG is “nice to have,” not built into the business model, capital allocation, or incentive plans.
2. **Data unreliability:** You can’t reliably say, “We’re at X tonnes CO₂e this year” or “This rig is due for maintenance” driven by a lack of insight into operations and aging fleets, hiding the truth of equipment health.
3. **Short-term lens:** Leadership thinks in quarters and P&L; long-term resilience, carbon risk, or brand-trust gains are hard to quantify.
4. **Disconnected priorities:** Line-of-business leaders don’t see how ESG advances the outcomes they’re measured on—uptime, safety, quality, or cost per unit—so sustainability initiatives struggle to gain traction.
5. **Process gaps:** There’s no standard way to assess ESG risk or opportunity when approving new projects, CapEx, or suppliers.

The result of these blockers is a lot of activity, but little momentum.



HOW TO BUILD MOMENTUM TOWARD AN “ACCELERATION” PATH

We can help you move from fragmented activity to structured acceleration. Here's how the journey typically unfolds:

1. SCALE AND STANDARDIZE

- a. Take successful pilots (energy, procurement, logistics) and roll out across regions/BUs with a common playbook and playbook-style templates.
- b. Agree on standard baselines, KPIs, and reporting cadence across all operating units.

2. ALIGN INCENTIVES AND CAPITAL ALLOCATION

- a. Adjust business-case templates to include carbon cost, energy risk, and ESG ROI.
- b. Link executive incentives and BU budgets partially to ESG-aligned KPIs (e.g., emissions reduction, greenhouse gas [GHG] intensity targets).

3. UPGRADE TECHNOLOGY AND ANALYTICS

- a. Consolidate data into a single source of truth (or integrated platform) for energy, emissions, and operational performance.
- b. Deploy dashboards that show ESG performance alongside financials and productivity metrics (e.g., MWh, tCO₂e, defects, downtime).

4. EMBED ESG IN STRATEGY AND PRODUCTS

- a. Re-frame ESG as a competitive lever: lower-carbon products, circular design, ESG-aligned pricing or offers.
- b. Align ESG story with investor relations, brand messaging, and marketing (without over-promising).

5. GOVERN AND DISCLOSE RIGOROUSLY

- a. Formalize ESG governance: updated policies, risk registers, and escalation paths.
- b. Align disclosures with leading frameworks (e.g., TCFD, ISSB, GRI) and simulate audits to reduce greenwashing risk.

The “acceleration” phase sets the stage for larger transformations: standardized data, engaged people, and embedded governance make bigger bets easier next cycle.



WHAT YOU’LL SEE: EMISSIONS, PRODUCTIVITY & SAFETY IMPACT

EMISSIONS

Transitioning targeted surface-drilling activity from diesel to electric power can reduce on-site diesel combustion and associated Scope 1 emissions. Early progress often begins with establishing a baseline, measuring diesel and electricity use, and identifying opportunities to align electrified equipment with lower-carbon power.

PRODUCTIVITY

Those same initiatives often lift productivity in the areas you focus on because better-managed energy, less waste, and fewer disruptions mean smoother operations and higher output.

SAFETY

With improved safety practices across fleets and richer data to anticipate failures before they occur, mines can shift from reactive “accident-response” modes to proactive risk reduction, where operators and leaders both see safety as a core performance metric.

BIGGEST SHIFT

ESG stops feeling like a “side topic” and starts appearing next to financials in your management dashboards. You’re no longer “doing ESG.” You’re starting to run your business with ESG built in.

LET’S MAP YOUR TRANSFORMATION PATH

Sandvik helps mining leaders connect electrification, automation, and AI into a system that improves productivity, safety, and sustainability across the operation. As your partner, we can assist you toward your next objective. Contact us for more information.



The mine optimization playbook:

Acceleration to Optimization



Powertrain from Acceleration to Optimization

Phase focus: From promising pilots and growing capability to system-level optimization, where ESG, operations, and growth are tightly aligned.

THE STARTING POINT:

“We’re getting traction, but it’s not fully systematic.”

By the time you reach Acceleration, you’ve already achieved a lot:

- You’ve defined ownership and built a cross-functional council.
- You’ve baselined emissions and resource use and run successful pilots.
- Leaders are starting to see that ESG and productivity reinforce each other

The challenge now is scaling for full Optimization.



WHAT’S HOLDING YOU BACK?

Several common blockers keep you stuck at this level:

1. **Scale fatigue:** Many pilots, many initiatives, but no clear prioritization or scale-up logic.
2. **Incentive misfire:** Compensation and capital allocation still optimized for short-term financials, not carbon, resilience, or ESG-aligned growth.
3. **Tech fragmentation:** Data platforms and dashboards are improving, but they’re not fully connected; you can’t see the full picture in one place.
4. **Narrative gap:** ESG messaging feels disconnected from brand, product strategy, and investor story.
5. **Risk worry:** Fear of over-promising or greenwashing; concern about regulatory or disclosure complexity.
6. **Safety protocol disparity:** Unclear best practices and reliance on individual understanding of equipment health make it difficult to maintain safe operations.

You’re generating momentum, but it’s not yet embedded in how the business runs. People are starting to see ESG as a performance lever, but the systems aren’t aligned to sustain it.



HOW TO BUILD MOMENTUM TOWARD AN “OPTIMIZATION” PATH

Here’s how the journey typically unfolds:

1. SCALE AND STANDARDIZE WHAT WORKS

- a. Take your 2–3 most successful pilots and roll them out across the business using a common playbook, templates, and governance.
- b. Agree on standard baselines, KPIs, and reporting cadences across all operating units.
- c. Make sure every BU knows what “good” looks like and how to get there.

2. ALIGN INCENTIVES AND CAPITAL WITH ESG

- a. Adjust business-case templates to include carbon cost, energy risk, and ESG ROI.
- b. Link executive incentives and BU budgets partially to ESG-aligned KPIs (e.g., emissions reduction, GHG intensity targets).
- c. Shift the conversation from “ESG vs. growth” to “ESG as a growth enabler.”

3. UPGRADE TECHNOLOGY AND ANALYTICS

- a. Consolidate ESG and operational data into a single source of truth (or integrated platform).
- b. Deploy dashboards that show emissions, energy use, and productivity metrics side-by-side.
- c. Use predictive analytics to forecast emissions, costs, and risks so you can act proactively.

4. EMBED ESG INTO STRATEGY AND PRODUCTS

- a. Re-frame ESG as a competitive lever: lower-carbon products, circular design, ESG-aligned pricing or offers, and sustainable supply chains.
- b. Align ESG-related innovations with product development and R&D roadmaps.
- c. Make sure your ESG story is consistent with brand, marketing, and investor communications.
- d. Standardize safety protocols across sites, using data-driven insights and reporting to reduce unplanned failures and minimize operator exposure to high-risk conditions.

5. GOVERN AND DISCLOSE RIGOROUSLY

- a. Formalize ESG governance: policies, risk registers, escalation paths, and clear ownership.
- b. Align disclosures with leading frameworks (e.g., International Sustainability Standards Board, Global Reporting Initiative) and simulate audits to reduce greenwashing risk.
- c. Build a robust, repeatable process for ESG reporting and stakeholder engagement.



WHAT YOU’LL SEE: EMISSIONS, PRODUCTIVITY & SAFETY IMPACT

EMISSIONS

Over 3–5 years, electrified surface drilling can become part of a broader mine decarbonization pathway alongside renewable electricity procurement or generation, energy-efficiency improvements, operational optimization, and wider fleet transition plans to reach operational emissions goals.

PRODUCTIVITY

Focused ESG interventions often lift productivity in core asset-heavy or high-energy operations because better-utilized equipment, fewer disruptions, and leaner processes mean higher output and lower costs.

SAFETY

Measurable improvements in safety performance in the areas where data-driven maintenance, clearer protocols, and operator support are embedded—typically reflected in fewer lost-time incidents, lower near-miss rates, and reduced unplanned equipment-related events.

STRATEGIC IMPACT

Over time, ESG-driven innovation can open new revenue streams and margin-enhancing offers (e.g., circular-design products, lower-carbon services, ESG-aligned pricing). Sustainability becomes a strategic lever for growth, differentiation, and resilience.

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