Climate Change And Mining Training Course

Professional Development Training Course Outline

Category	General Training	**Duration**	5 Days
Base Fee	$1,500 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

The global extractive industry stands at a critical juncture, navigating the dual pressure of supplying the critical minerals essential for the global net-zero transition while rapidly decarbonizing its own operations. Climate Change And Mining Training Course is strategically designed to bridge the gap between traditional extractive practices and climate-smart mining. By integrating scientific insights, socio-economic transition models, and cutting-edge engineering solutions, this program empowers industry professionals to transform systemic climate vulnerabilities into resilient, value-driven corporate advantages

To achieve true long-term operational performance, today’s mining stakeholders must move beyond superficial ESG compliance and adopt deep, systems-level circularity. This intensive masterclass unpacks the complexities of modern carbon accounting spanning Scope 1, 2, and hard-to-abate Scope 3 downstream emissions while delivering actionable pathways for on-site renewable energy integration, electrification, and diesel displacement. Participants will explore advanced methodologies for securing multi-period carbon budgets, fortifying critical infrastructure like Tailings Storage Facilities, and building inclusive, just transitions for host communities and workers. Guided by real-world case studies and state-of-the-art technological applications, this course establishes the ultimate benchmark for leadership in climate-smart mining operations.

Programme Curriculum

Climate Change And Mining Training Course

Introduction

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Course Duration

5 days

Course Objectives

- Navigate Net-Zero Value Chains
- Operationalize Legally Binding Climate Frameworks
- Implement Climate-Smart Mining (CSM) Principles
- Execute Advanced GHG Accounting
- Build Bankable Abatement Portfolios
- Mitigate Physical Climate Risks
- Champion Closed-Loop Water Circularity
- Drive Fleet Electrification & Diesel Displacement
- Leverage AI and Predictive Analytics
- Navigate the Geopolitics of Critical Minerals
- Structure Just Transition Policies
- Optimize Circular Economy Business Models
- Secure Sustainable Capital Allocation

Target Audience

1. Mining Executives & C-Suite Leaders.
2. Environmental, Sustainability, & ESG Managers.
3. Mine Managers & Operations Engineers
4. Tailings & Infrastructure Asset Engineers
5. Supply Chain & Procurement Directors
6. Government Regulators & Policy Makers
7. Community Relations & Just Transition Specialists
8. Investment Analysts & Green Finance Underwriters

Course Modules

Module 1: The New Climate Reality for Global Mining

- The Global Carbon Budget
- Mineral Intensity of the Green Transition
- Legally Binding Mitigation Frameworks
- Carbon Pricing and Market Access

- Climate-Smart Mining Architecture
- *Case Study:* Decarbonizing Copper and Nickel Value Chains.

Module 2: Corporate Climate Governance & GHG Accounting

- Scope 1 and Scope 2 Baselines
- The Scope 3 Downstream Challenge
- Data Quality and Consistency Review
- Setting Science-Based Targets
- Climate Securities & Risk Disclosures
- *Case Study:* The Glencore Decarbonization Framework

Module 3: Energy Transition, On-Site Renewables & Electrification

- Grid Desynchronization & Microgrids
- Diesel Displacement Strategies
- Battery Electric (BEV) & Hydrogen Integration
- Process Efficiency Improvements
- Clean Baseload Alternatives
- *Case Study:* The Abatement Portfolio Roadmap

Module 4: Climate Change Mitigation Technologies

- Ventilation Air Methane (VAM) Capture
- Coal Mine Methane (CMM) Utilization
- Carbon Capture, Utilization, and Storage (CCUS)
- Direct Air Capture (DAC) Integration
- The Mitigation Hierarchy and Carbon Credits
- *Case Study:* Geological Trapping at Scale

Module 5: Physical Climate Risk & Infrastructure Resilience

- Climate Variability Modeling
- Tailings Storage Facility (TSF) Fortification
- Haul Road and Processing Plant Upgrades
- Reliability Assessments and Risk-Based Action Plans
- Supply Chain & Logistics Hardening
- *Case Study:* The African Mining Infrastructure Strain

Module 6: Adaptive Water Management & Circularity

- Water Volatility and Scarcity Mapping
- Closed-Loop and Circular Water Solutions
- Catchment Protection and Shared Governance
- Regulated Ingress and Discharge Protocols
- Real-Time Volumetric Monitoring
- *Case Study:* South African Water Circularity Overhaul

Module 7: The Just Transition, Human Rights & Communities

- Socio-Economic Mining Transformations
- A Just Transition Framework for Labor

- Land and Indigenous Rights
- Social License to Operate via ESG
- Inclusive Governance and Civil Society
- *Case Study:* The OECD Mining Regions Initiative

Module 8: The Circular Economy & Post-Closure Wealth

- Secondary Value from By-Products
- Circular Business Models at Mine Sites
- Mine Closure and Progressive Rehabilitation
- Regulatory Roadblocks in Circular Mining
- Supply Chain Localization
- *Case Study:* Vanadium and Rare Earth Extraction from Tailings

Training Methodology

- Interactive lectures and presentations.
- Group discussions and brainstorming sessions.
- Hands-on exercises using real-world datasets.
- Role-playing and scenario-based simulations.
- Analysis of case studies to bridge theory and practice.
- Peer-to-peer learning and networking.
- Expert-led Q&A sessions.
- Continuous feedback and personalized guidance.

Register as a group from 3 participants for a Discount

Send us an email: info@fineskilltrainingcenter.org or call *+254769199797*

Certification

Upon successful completion of this training, participants will be issued with a globally- recognized certificate.

Tailor-Made Course

We also offer tailor-made courses based on your needs.

Key Notes

a. The participant must be conversant with English.

b. Upon completion of training the participant will be issued with an Authorized Training Certificate

c. Course duration is flexible and the contents can be modified to fit any number of days.

d. The course fee includes facilitation training materials, 2 coffee breaks, buffet lunch and A Certificate upon successful completion of Training.

e. One-year post-training support Consultation and Coaching provided after the course.

f. Payment should be done at least a week before commence of the training, to Fineskill Training Center account, as indicated in the invoice so as to enable us prepare better for you.

Upcoming Scheduled Sessions

Start Date	End Date	Location	Price
23 Nov 2026	27 Nov 2026	Online	$1,000
23 Nov 2026	27 Nov 2026	Physical	$1,500
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$4,500
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$6,000

Ready to enroll or request a customized program? Book online or contact us:

Register Online Now

Email: info@fineskilltrainingcenter.com | Website: www.fineskilltrainingcenter.com