

# 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

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.

### **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](mailto: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 commencement 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   |
|-------------|-------------|----------|---------|
| 21 Sep 2026 | 25 Sep 2026 | Online   | \$1,000 |
| 21 Sep 2026 | 25 Sep 2026 | Physical | \$1,500 |
| 21 Sep 2026 | 25 Sep 2026 | Physical | \$0     |
| 21 Sep 2026 | 25 Sep 2026 | Physical | \$0     |
| 21 Sep 2026 | 25 Sep 2026 | Physical | \$0     |
| 21 Sep 2026 | 25 Sep 2026 | Physical | \$0     |
| 21 Sep 2026 | 25 Sep 2026 | Physical | \$0     |
| 21 Sep 2026 | 25 Sep 2026 | Physical | \$0     |

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

Register Online Now

Email: [info@fineskilltrainingcenter.com](mailto:info@fineskilltrainingcenter.com) | Website: [www.fineskilltrainingcenter.com](http://www.fineskilltrainingcenter.com)