

Advanced Alternative Fuel for Cement Production



MEERIM VISIONARY TRAINING (FZE)
INSPIRING AMBITION AND SUCCESS



Training Program

5 DAYS

IN-HOUSE TRAINING AT OMAN
CEMENT CO. PREMISES

Program Overview:

For modern cement producers, fuel strategy is no longer optional – it is strategic. Rising fossil fuel costs, environmental regulations, and sustainability targets are pushing plants to integrate alternative fuels safely and efficiently.

For Oman Cement Company, adopting and optimizing alternative fuels can significantly reduce operating costs, improve environmental performance, and strengthen long-term competitiveness.

This 5-day intensive program provides deep technical knowledge on alternative fuel systems, kiln adaptation, combustion control, environmental compliance, and operational risk management – fully tailored to Oman Cement's kiln and pyroprocess conditions.



www.mvtuae.com

TECHNICAL PROPOSAL

ADVANCED ALTERNATIVE FUEL FOR CEMENT PRODUCTION



Training Audience:

- Kiln Operators
- Pyroprocess Engineers
- Production Engineers
- Environmental Engineers
- Maintenance Engineers
- Plant Managers
- Energy Managers
- Reliability Engineers

Training Objectives:

- Understand alternative fuel types and properties
- Evaluate fuel suitability for Oman Cement's kiln
- Control combustion stability with mixed fuels
- Manage thermal substitution rates effectively
- Identify operational risks and mitigation strategies
- Ensure environmental compliance
- Optimize cost-performance balance

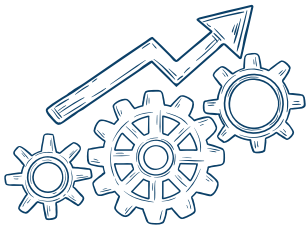
Key Outcomes:

- Higher thermal substitution rate
- Reduced fuel cost per ton of clinker
- Improved kiln stability during fuel mixing
- Lower environmental risk
- Improved compliance with emission standards
- Stronger internal fuel strategy

KEY OUTCOMES

Organizational Benefits:

- Lower operating costs
- Reduced carbon footprint
- Improved environmental reputation
- Enhanced operational stability
- Long-term sustainability alignment



Personal Benefits:

- Deep understanding of alternative fuel combustion
- Ability to manage fuel transitions confidently
- Strong troubleshooting capability
- Knowledge of environmental impacts
- Improved technical credibility
- Strategic thinking in fuel management

Training Methodology:

- Live instructor-led sessions
- Cement-specific combustion case studies
- Kiln performance data analysis
- Risk assessment workshops
- Group discussions
- Practical fuel evaluation exercises
- Simulation-based troubleshooting
- Pre-test and post-test evaluations
- Pre- and post-training assessments
- Attendance and completion certificates
- Final assessment report and feedback summary

Why This Program Is Strategic:

- Alternative fuels offer:
- Reduced fossil fuel dependency
- Lower fuel cost per ton of clinker
- Reduced CO₂ emissions
- Improved ESG performance
- Enhanced environmental compliance
- Opportunity for higher thermal substitution rate (TSR)



Training Modules:

Day 1 – Fundamentals of Alternative Fuels in Cement Industry

1.1 Overview of Fuel Usage in Cement Kilns

1.2 Types of Alternative Fuels

- RDF (Refuse Derived Fuel)
- Biomass
- Waste oils
- Used tires
- Industrial waste fuels
- Sewage sludge

1.3 Fuel Characteristics

- Calorific value
- Moisture content
- Volatile matter
- Ash content
- Particle size

1.4 Thermal Substitution Rate (TSR)

1.5 Workshop: Evaluating suitable alternative fuels for Oman Cement.

Day 2 – Kiln Combustion & Process Impact

2.1 Combustion Fundamentals in Rotary Kilns

2.2 Impact of Alternative Fuels on:

- Flame shape
- Burning zone temperature
- Clinker mineralogy
- Free lime control

2.3 Managing Flame Stability

2.4 Preventing Build-Ups & Ring Formation

2.5 Exercise: Analyzing kiln instability caused by improper fuel mix.

Day 3 – Mechanical & Feeding Systems

3.1 Alternative Fuel Feeding Systems

- Main burner injection
- Calciner feeding
- Mid-kiln feeding

3.2 Dosing & Control Systems

3.3 Storage & Handling Considerations

3.4 Safety in Fuel Handling

3.5 Workshop: Designing safe and efficient feeding layout considerations for Oman Cement.

Day 4 – Environmental & Regulatory

Considerations

4.1 Emission Control

- NO_x
- SO_x
- CO
- Dust
- Dioxins & Furans

4.2 Impact on Clinker Chemistry

4.3 Monitoring & Compliance Requirements

4.4 Ash Management & Impact on Raw Mix

4.5 Case Study: Emission spike troubleshooting scenario.

Day 5 – Optimization & Strategic

5.1 Implementation

5.2 Increasing Thermal Substitution Rate Safely

5.3 Cost-Benefit Analysis

5.4 Risk Assessment & Contingency Planning

5.5 Coordination Between Production, Maintenance & Environment Teams

TALK TO US



MEERIM VISIONARY TRAINING (FZE)

INSPIRING AMBITION AND SUCCESS

MEERIM Visionary Training FZE:
Mobius Institute: An Authorized Training & Examination Center



info@mvtuae.com



+971 50 6525 978



www@mvtuae.com



Rolex Tower Level 9B Office B46-067, Sheikh Zayed Road, Dubai, UAE.

ISO 9001:2015

ISO 14001:2015

ISO 45001:2018