

Coaltech

**Advancing the  Future
of Sustainable Coal**



Coaltech's Mandate




To develop technology and apply research findings to enable the South African coal industry to remain competitive, sustainable and safe well.



Established in 1999, Coaltech is the longest running collaborative program in the Mining Industry.




Our Context

“The global coal industry is undergoing rapid transformation. Regulatory pressures, technological disruptions, and environmental considerations are **reshaping** how coal producers operate. Despite these challenges, **coal remains a fundamental component** of the global energy mix, particularly in South Africa, where it supports electricity generation, industrial processes, and economic stability. 

Coaltech is at the forefront of innovation, providing research-driven solutions to ensure the industry's long-term viability. This document **outlines the compelling case for joining Coaltech**, highlighting the strategic benefits, research focus areas, and partnership opportunities that position members **to drive sustainable growth**, enhance operational efficiency, and lead the development and implementation of future technologies. “

The Strategic Imperative: Why Now?

The coal sector faces increasing pressure from regulatory changes, investor scrutiny, and shifting market dynamics. The need for sustainable innovation, cost-efficient operations, and policy alignment has never been greater.

Industry players must **Collaborate to Find New Ways**  to optimize processes, reduce environmental impact, and develop alternative coal applications to remain competitive, in a low-carbon emissions future.

Coaltech offers a strategic platform  for members to drive collective R&D efforts, ensuring the sector's longevity and alignment with local and global sustainability goals.

Key Benefits of Membership

By joining Coaltech, **members gain access** to industry-leading research, strategic partnerships, and a platform to influence the future of sustainable  coal in South Africa and beyond.

The key benefits include:



Research Leadership

Influence cutting-edge coal innovation and technological advancements.



Strategic Partnerships

Collaborate with mining leaders, research institutions, and policymakers.



Operational Efficiency

Access research that enhances cost savings and optimizes coal processing.



Regulatory & ESG Alignment

Stay ahead of evolving regulations and strengthen sustainability efforts.



Just Energy Transition Leadership

Shape policy & investment frameworks for the coal sector's future.



Industry Context & Market Trends

Coal  continues to be a **major energy source**, but its role is evolving.

The global energy transition, carbon neutrality commitments, and technological disruptions are driving a shift towards cleaner and more efficient coal utilization.

Key trends impacting the industry include:

Decarbonization & Carbon Management

- Rising pressure to decarbonize and develop carbon capture, utilization and storage (CCUS) solutions.

Technology-Driven Efficiency

- AI, automation, and digitalization are transforming mining and coal processing.

Circular Economy Innovations

- Coal waste utilization, rare earth elements extraction, and alternative uses are gaining traction.

Policy and Regulation Shifts

- Governments are implementing stricter emissions policies and energy transition plans.

Energy Security Considerations

- Coal remains a stable and reliable energy source amid global energy volatility.

Coaltech's Unique Value Proposition

Coaltech differentiates itself as the



Premier Research Hub for the coal industry, providing unparalleled access to cutting-edge research, strategic collaboration opportunities, and thought leadership in sustainable coal practices.

Members benefit from:

World-Class Research and Development

Over 160 projects completed with 12 more planned for 2025, driving innovation across the coal value chain.



Multi-Stakeholder Engagement

Industry-wide collaboration between mining houses, power producers, and academia.



Financially Sustainable Model

A robust funding structure that ensures long-term research viability.



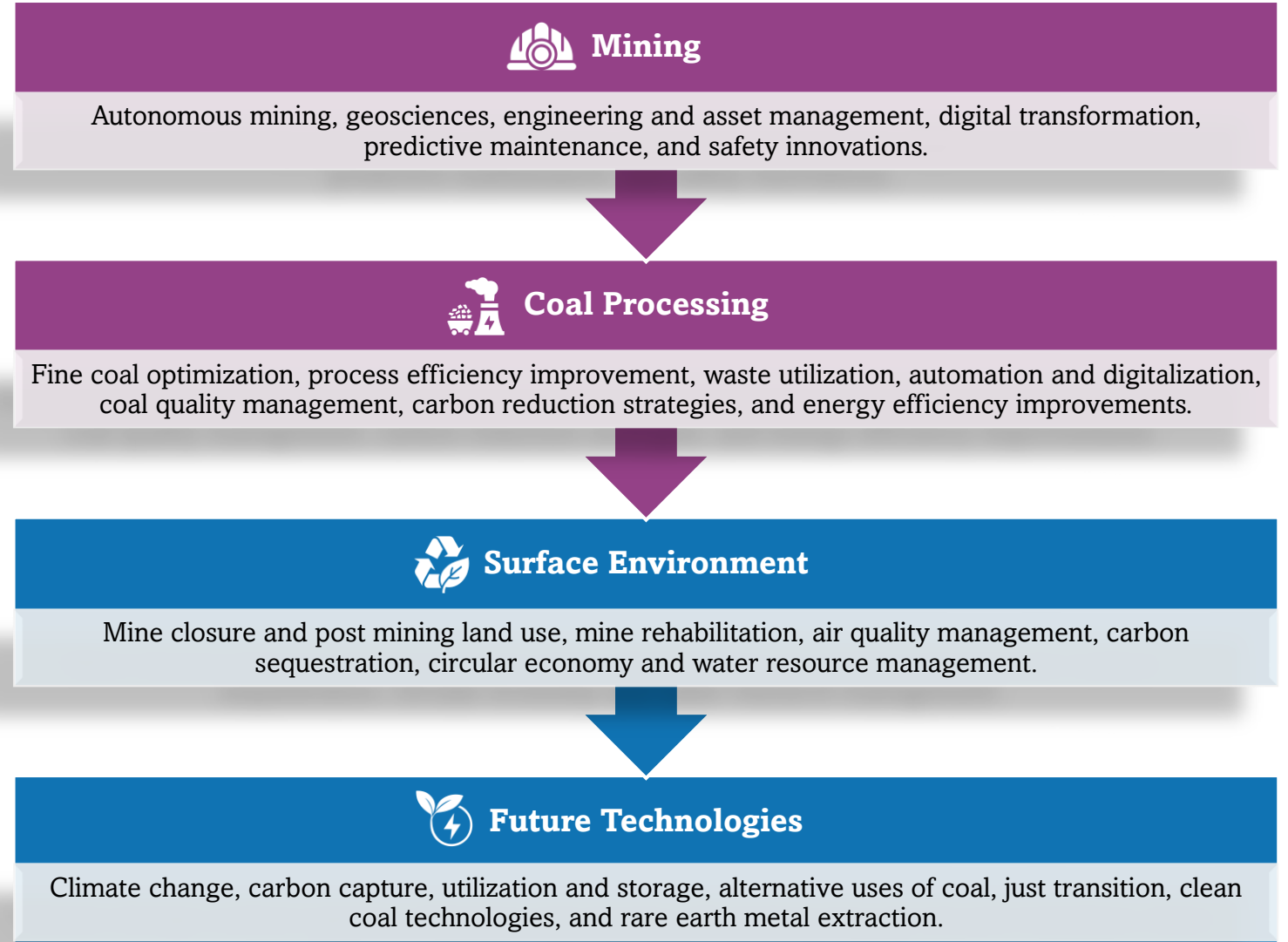
Policy Influence and Industry Leadership

Members shape South Africa's coal policy and energy transition strategy.




Research Focus Areas

Coaltech's research portfolio is structured into **four high-impact focus areas**, each addressing key industry challenges and future opportunities.



Key Projects and Innovations

Coaltech is spearheading **projects that directly impact the future** of coal sustainability and profitability.



Alternative Uses
Developing low-carbon energy solutions using coal resources.



Rare Earth Elements Extraction
Unlocking economic value from coal discards and mine waste.



Carbon Management Strategies
Piloting innovative carbon capture, utilization, and storage (CCUS) techniques.



AI and Digital Twin Technologies
Optimizing coal production through real-time data analytics.



Sustainable Land Rehabilitation
Implementing nature-based solutions for post-mining landscapes.

Membership Tiers & Contributions

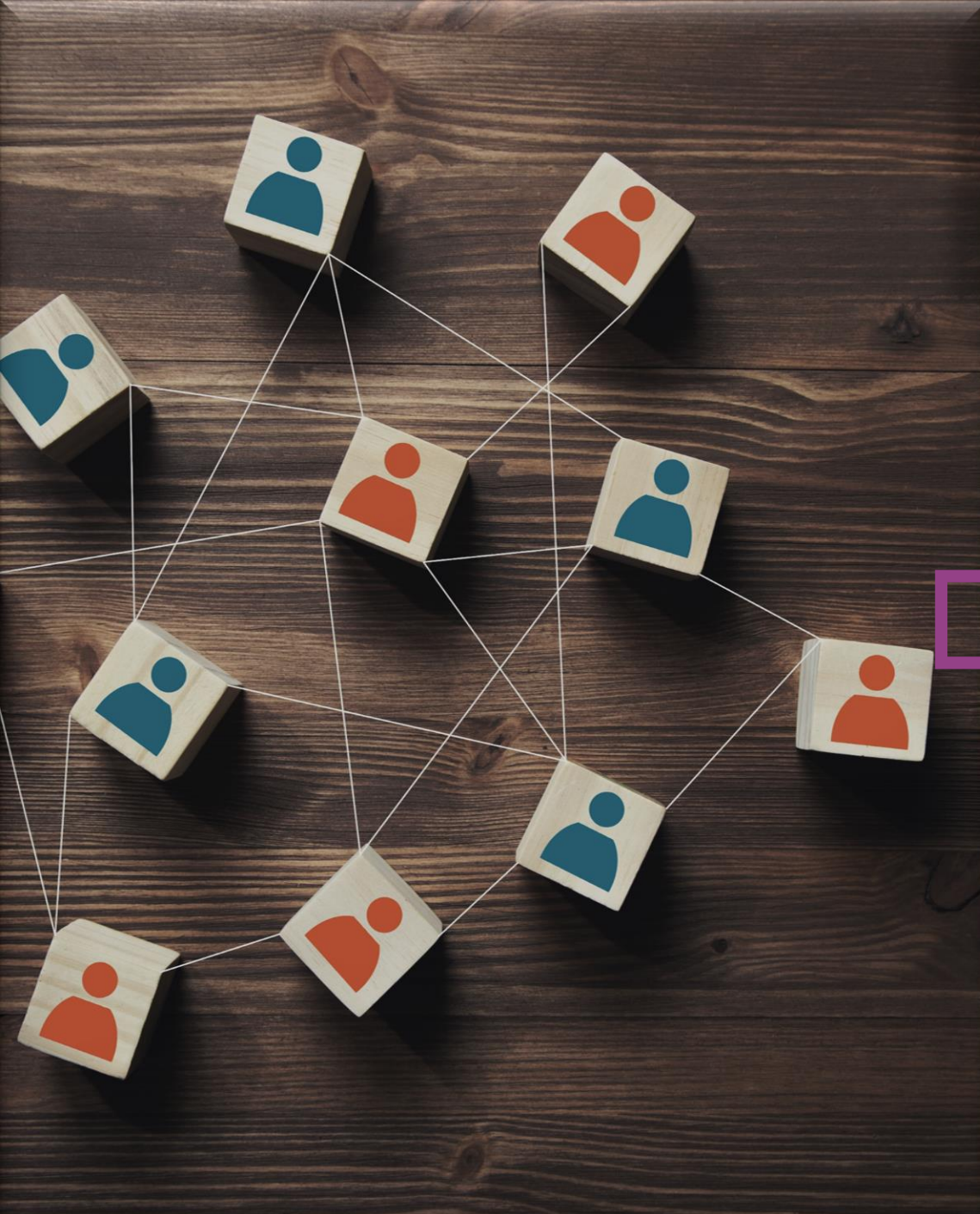
Coaltech offers **two membership tiers** to accommodate different industry stakeholders:



Primary Members: Full access to research, policy influence, and leadership roles in the Board and Steering Committees.



Associate Members: Full access to research, participation in select research focus areas, projects networking events, and knowledge-sharing platforms.



Members and Strategic Partners

Coaltech **actively collaborates** with key industry stakeholders to drive impactful research.

Primary Members



Associate Members



Strategic Partners



Sister Associations



Coaltech Leadership Team



Phillip Mulder
(Chairperson)



Veli Sibiya
(Vice Chairperson)



Avhurengwi Nengovhela
(CEO)



Marius Smith
in GLENCORE



Lerato Saolose
in exxaro



Naadira Haniff
in thungela



Londolani Rampfumedzi
in (SACMA Representative)



Christian Teffo
in MINERALS COUNCIL SOUTH AFRICA



Daniel Thenga
in Eskom

Coaltech is **governed by a Board** and supported by Steering Committees that oversee research and innovation priorities.

Board Members



Steering Committee Leadership

Steering Committee Chairpersons



Gavin Silver
(Mining)



Maynard Lombard
(Coal Processing)



Marthinus W. van Wyk
(Surface Environment)



Festus Leteane
(Future Technologies)



Projects Coordinator



Carmen Bergman-Ally



The Path to Membership

Joining Coaltech is a straightforward process designed to integrate new members seamlessly.

Select a Research Focus Area that aligns with your strategic goals.

Submit a membership application for review and approval - <https://coaltech.co.za/join-us/>

Engage in an onboarding session with Coaltech's leadership.

Receive membership confirmation and begin participating in research projects.

Shape the industry's future through benchmarking, collaboration, innovation, and policy influence.



Program Membership Fees

Primary Members

(>10 mtpa)

- **Determined annually** based on the Programme Budget for the Financial Year, proportionate to the member's run-of-mine production relative to other Primary Members.

Medium Size Coal Mining Companies

(4 - 10 mtpa)

- **R50,000** per year per Technology focus area

Emerging Coal Mining Companies

(<4 mtpa)

- **R30,000** per year per Technology focus area

Associate Members

(e.g., commercial consultants, service providers)

- **R20,000** per year per Technology focus area

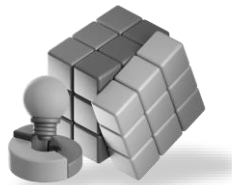
Apply for Membership

..and help shape the Future of Sustainable Coal

Industry players who **proactively invest** in research, collaboration, and innovation will lead the next era of sustainable coal.

Join Coaltech to position your organization at the forefront of the industry, gain exclusive research insights, and contribute to the development of innovation that enables a sustainable low carbon emissions future.

Contact us today to discuss **how Coaltech membership can benefit your company** and help drive a resilient and profitable coal sector.



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