GSR ANALYTIX

MINING MAGAZINE

MINERAL • NATURAL STONE • MACHINERY

ISSUE 01
AUGUST 2026
GERMANY EDITION
01

GERMANY

ENGINEERED RESOURCES.

A STRATEGIC MINERAL ECONOMY.

Germany combines major domestic production of construction minerals, lignite, potash and salt with world-class mining machinery, processing technology and circular-economy expertise.

1. **DOMESTIC SCALE**
   475 Mt mineral raw materials in 2024.
2. **INDUSTRIAL DEPTH**
   Processing, machinery and engineering leadership.
3. **IMPORT REALITY**
   Critical metals remain strongly import-dependent.
4. **TRANSITION**
   Coal regions are becoming laboratories for renewal.

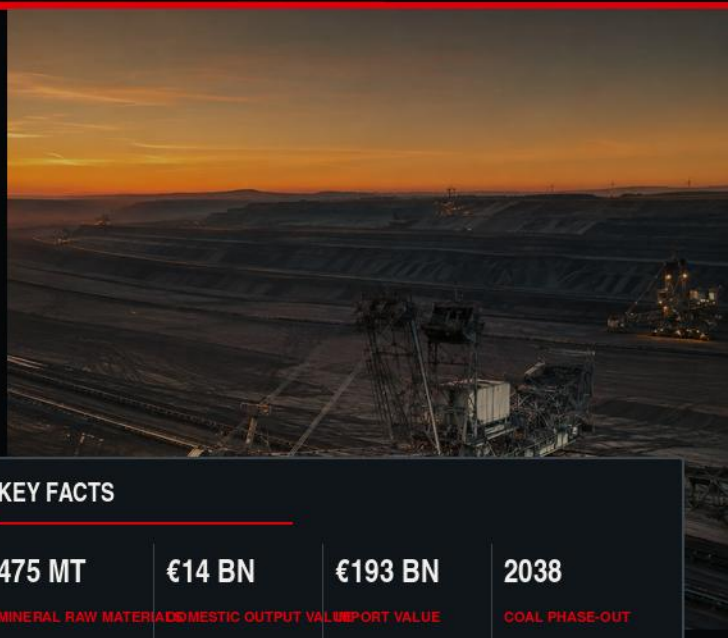
> "Resources, technology and transformation - Germany links all three.

GERMANY'S RESOURCE BASE

LIGNITE Energy transition	**POTASH** Fertiliser value	**ROCK SALT** Industrial scale
LIMESTONE Construction backbone	**SILICA** Glass & foundry	**BASALT** Infrastructure

€14 BN **DOMESTIC OUTPUT VALUE** Official 2024 / policy benchmark	**288 MT** **RAW MATERIAL IMPORTS** Official 2024 / policy benchmark	**2038** **COAL EXIT DEADLINE** Official 2024 / policy benchmark

02 COUNTRY OVERVIEW



A RESOURCE ECONOMY BUILT ON INDUSTRIAL PRECISION

Germany is Europe's largest industrial economy and a major consumer of mineral raw materials. Domestic extraction is strongest in bulk minerals and selected industrial minerals, while metal supply relies heavily on imports and recycling.

KEY FACTS

475 MT	€14 BN	€193 BN	2038
MINERAL RAW MATERIALS	DOMESTIC OUTPUT VALUE	IMPORT VALUE	COAL PHASE-OUT
2024	2024	2024	LATEST

SECTOR OVERVIEW

1 **MINING**
Lignite, salt and potash

2 **MINERALS**
Industrial and construction

3 **NATURAL STONE**
Regional architectural stone

4 **MACHINERY**
Global engineering strength

5 **CIRCULARITY**
Secondary raw materials

MAJOR RESOURCE REGIONS

RHINELAND
Lignite & transition

LUSATIA
Lignite & rehabilitation

CENTRAL GERMANY
Lignite & industrial minerals

HESSE / THURINGIA
Potash & salt

BAVARIA
Jura limestone & kaolin

SAXONY
Lithium and tin exploration

03 KEY STATISTICS & NUMBERS

THE NUMBERS BEHIND GERMANY'S RAW MATERIAL SYSTEM

475 MT
MINERAL RAW MATERIALS PRODUCED
2024

92 MT
LIGNITE AND CRUDE OIL COMBINED
BGR 2024 headline

€14 BN
VALUE OF DOMESTIC EXTRACTION
2024

288 MT
RAW MATERIALS IMPORTED
-2.8% year on year

€193 BN
IMPORT VALUE INCL. SEMI-FINISHED
2024

37,576
MINING & QUARRYING EMPLOYMENT
Destatis 2022

DOMESTIC PRODUCTION MIX - STRATEGIC SCALE

WHAT THE FIGURES REVEAL

DOMESTIC STRENGTH
Bulk and industrial minerals support construction and manufacturing.

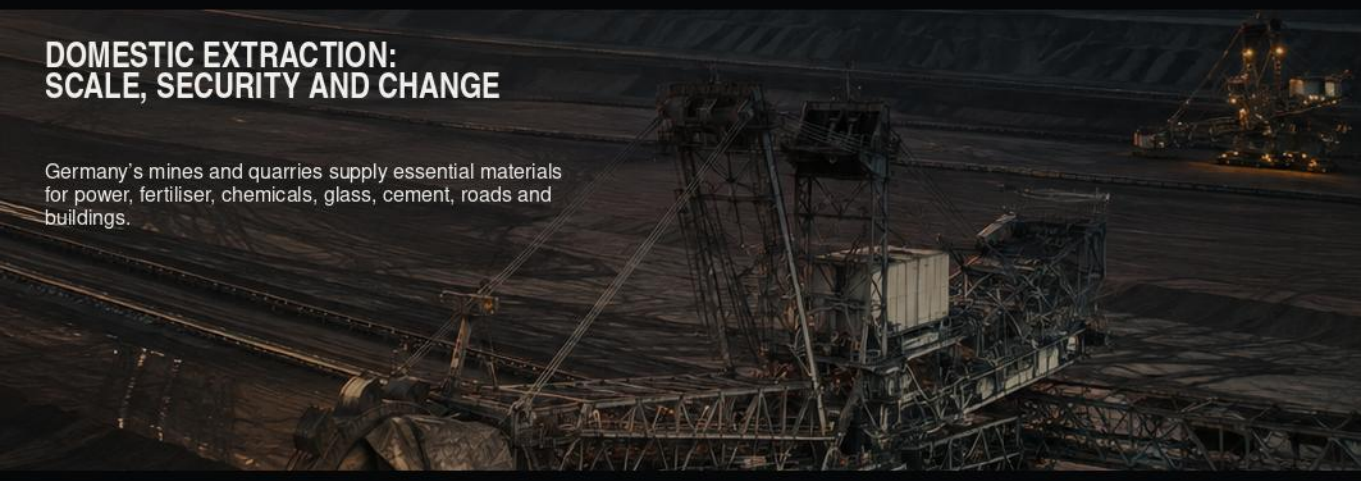
IMPORT EXPOSURE
Metals and many critical inputs depend on global supply chains.

VALUE SHIFT
Technology, recycling and processing create more value than extraction alone.

Sources: BGR Raw Materials Situation Germany 2024; Destatis structural business statistics.

DISCUSSION 1

04 THE MINING LANDSCAPE OF GERMANY - PART 1



DOMESTIC EXTRACTION: SCALE, SECURITY AND CHANGE

Germany's mines and quarries supply essential materials for power, fertiliser, chemicals, glass, cement, roads and buildings.

STRATEGIC MINERALS

LIGNITE
Large-scale open pits, declining through transition.

POTASH
High-value fertiliser mineral with export relevance.

ROCK SALT
Chemicals, food, roads and industrial applications.

LIMESTONE
Cement, lime, aggregates and architecture.

SILICA SAND
Glass, foundry and advanced industrial uses.

KAOLIN
Ceramics, paper and specialty products.

THREE MINING REALITIES

1 SCALE
Bulk materials

Large domestic volumes with short logistics chains.

2 TECHNOLOGY
Precision operations

Automation, safety and efficiency define competitiveness.

3 TRANSITION
Social licence

Climate policy and land restoration reshape mining regions.

Outlook: secure local supply where geology allows, while reducing environmental intensity.

05

DISCUSSION 1

THE MINING LANDSCAPE OF GERMANY - PART 2

FROM EXTRACTION TO INDUSTRIAL VALUE

Germany's advantage lies in linking deposits with dense infrastructure, advanced processing, engineering firms and demanding industrial customers.

KEY OPPORTUNITIES

1. **SELECTIVE EXTRACTION**
   Higher recovery and lower waste.
2. **SENSOR SORTING**
   Upgrade lower-grade mineral streams.
3. **MINE ELECTRIFICATION**
   Reduce fuel and underground emissions.
4. **WATER MANAGEMENT**
   Protect aquifers and reuse process water.
5. **REHABILITATION**
   Design productive post-mining landscapes.
6. **LOCAL PROCESSING**
   Keep more value close to the resource.

INFRASTRUCTURE ADVANTAGE

RAIL & WATERWAYS
Dense freight corridors connect mines, plants and ports.

INDUSTRIAL CLUSTERS
Chemicals, glass, cement and metals create local demand.

ENGINEERING BASE
Machine builders support productivity and exports.

RESEARCH NETWORK
Universities and institutes accelerate mineral innovation.

GERMANY'S MINING EDGE IS SYSTEM INTEGRATION.

06

DISCUSSION 2

MINERALS / CRITICAL MINERALS - PART 1

CRITICAL MINERALS: IMPORT RISK, INDUSTRIAL STAKES

Germany's automotive, electrical, chemical and mechanical-engineering industries require secure access to metals that are scarcely mined domestically.

STRATEGIC MINERALS IN FOCUS

LITHIUM
Batteries and storage
01

COBALT
Battery cathodes
02

GRAPHITE
Anodes and refractories
03

RARE EARTHS
Motors and magnets
04

COPPER
Power grids and electrification
05

NICKEL
Steel and batteries
06

WHERE VALUE IS CREATED

MINE — Responsible extraction >
CONCENTRATE — Efficient upgrading >
REFINE — High-purity materials >
COMPONENT — Cathodes, magnets, alloys >
RECYCLE — Urban mine and recovery

GERMAN CAPABILITY

The strategic opportunity is not simply to open mines. It is to combine selective domestic projects with refining, materials science, recycling, traceability and resilient international partnerships.

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07

07

DISCUSSION 2

CRITICAL MINERALS / STRATEGIC IMPORTANCE - PART 2

DEMAND DRIVERS

EDITORIAL RESILIENCE INDEX

82

HIGH PRIORITY

DOMESTIC EXPLORATION AND PROJECTS

UPPER RHINE

Geothermal brines and lithium concepts.

ORE MOUNTAINS

Lithium, tin and historic mining knowledge.

HARZ & SAXONY

Polymetallic exploration potential.

URBAN MINE

Metals embedded in vehicles, electronics and buildings.

PRIORITY ACTIONS

01 Accelerate permitting with clear environmental standards

02 Expand recycling and design-for-recovery

03 Secure long-term international supply partnerships

04 Build refining and high-purity material capacity

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08

DISCUSSION 3

08 NATURAL STONE & MINERAL INDUSTRY - PART 1

REGIONAL STONE. ENGINEERED QUALITY.

Germany's natural-stone sector is smaller in volume than its aggregate industry, but strong in architectural heritage, precision processing and specification-led markets.

SIGNATURE MATERIALS

JURA LIMESTONE
Warm beige fossil-rich stone

SOLNHOFEN
Fine-grained limestone

BASALT
Dark, durable volcanic stone

SANDSTONE
Regional facades and restoration

SLATE
Roofing and architectural surfaces

GRANITE
Hard stone for public realm

COMPETITIVE STRENGTHS

1. **PRECISION**
Advanced cutting and finishing

2. **CERTIFICATION**
Performance and traceability

3. **RESTORATION**
Heritage-compatible materials

4. **LOGISTICS**
Access to Europe's building market

FROM QUARRY TO LANDMARK

Regional geology creates distinctive architecture - from Bavarian limestone to slate roofs, sandstone civic buildings and basalt public spaces.

09

DISCUSSION 3

NATURAL STONE IN GERMANY VALUE, DESIGN & CIRCULARITY

LOCAL GEOLOGY, GLOBAL DESIGN LANGUAGE

The strongest market position is built on specification, technical performance, craftsmanship and a credible environmental story.

FROM QUARRY TO PROJECT

01	02	03	04	05
EXTRACT	BLOCK	PROCESS	SPECIFY	INSTALL
Selective quarrying	Quality grading	Cut and finish	Technical approval	Craft and logistics

APPLICATIONS ACROSS INDUSTRIES

FACADES
Ventilated stone systems

PUBLIC REALM
Paving and urban durability

INTERIORS
Floors, walls and custom pieces

RESTORATION
Authentic regional replacements

LANDSCAPE
Walls, steps and water features

ENGINEERED PRODUCTS
Thin panels and composites

CIRCULAR DESIGN PRIORITIES

- Long-life specification
- Quarry by-product utilisation
- Documented origin and EPDs
- Repair and reuse
- Low-carbon transport planning
- Biodiversity-led rehabilitation

GERMAN STONE COMPETES THROUGH PERFORMANCE, NOT VOLUME ALONE.

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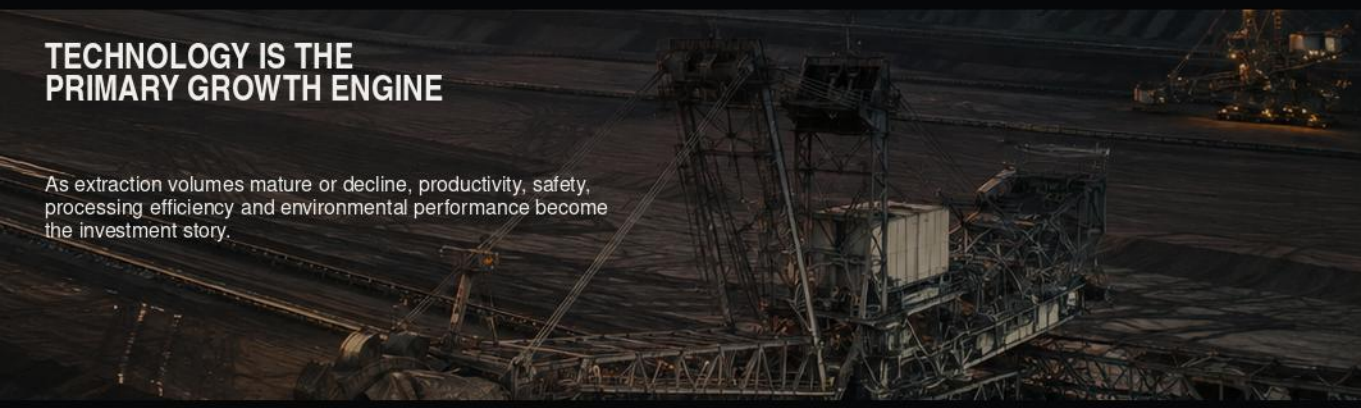
GERMANY EDITION
10

10

INVESTMENT & TECHNOLOGY IN GERMANY'S MINING SECTOR - PART 1



TECHNOLOGY IS THE PRIMARY GROWTH ENGINE

As extraction volumes mature or decline, productivity, safety, processing efficiency and environmental performance become the investment story.

ATTRACTIVE INVESTMENT ENVIRONMENT

1	2	3	4	5
INDUSTRIAL DEMAND	RESEARCH	MACHINERY	INFRASTRUCTURE	REGULATION
Dense customer base	Strong applied science	Global OEM capability	Rail, road and waterways	Clear high standards

PRIORITY TECHNOLOGY FIELDS

AUTONOMOUS SYSTEMS

ELECTRIFICATION

WATER & TAILINGS

SENSOR SORTING

PROCESS CONTROL

DIGITAL TWIN

INVESTOR LENS

BROWNFIELD Fastest route to productivity gains.

PARTNERSHIPS Operators, OEMs and research institutions co-develop.

PILOTS German sites can validate exportable technology.

EXPORT Solutions scale into global mining markets.

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11

11 INVESTMENT & TECHNOLOGY IN GERMANY'S MINING SECTOR - PART 2

TECHNOLOGY TRENDS TRANSFORMING MINING

AI & PREDICTIVE MAINTENANCE

Reduce downtime and improve asset life.

ORE & MINERAL SORTING

Raise recovery before energy-intensive processing.

SMART VENTILATION

Improve underground safety and energy use.

ELECTRIC MOBILE EQUIPMENT

Lower emissions and heat underground.

TRACEABILITY PLATFORMS

Document origin, impacts and chain of custody.

SECONDARY RAW MATERIALS

Recover metals and minerals from waste streams.

SUSTAINABLE MINING FOR THE FUTURE

ENERGY

Renewable power and efficient drives

WATER

Closed loops and quality monitoring

LAND

Progressive restoration and biodiversity

PEOPLE

Safety, skills and regional transition

INVESTMENT VEHICLE OPPORTUNITIES

01 Mine modernisation packages

02 Mineral-processing pilots

03 Recycling and recovery plants

04 Rehabilitation technology

05 Critical-mineral partnerships

06 Training and digital services

12 OPPORTUNITIES & CONNECTIONS POWERING GLOBAL GROWTH

FROM GERMAN ENGINEERING TO GLOBAL MINING MARKETS

Germany offers a partnership platform where raw materials, machinery, process knowledge, sustainability and industrial demand meet.

STRATEGIC CONNECTION AREAS

01 MINING TECHNOLOGY
Equipment, automation and safety

02 MINERAL PROCESSING
Sorting, grinding and separation

03 NATURAL STONE
Precision processing and design

04 CRITICAL MATERIALS
Supply partnerships and refining

05 CIRCULAR ECONOMY
Recovery, reuse and secondary supply

GSR ANALYTIX - WHAT WE CONNECT

MARKET INTELLIGENCE
Country, sector and opportunity analysis.

BUSINESS DEVELOPMENT
Partner and customer identification.

VISIBILITY
Magazine, digital and network exposure.

CROSS-BORDER ACCESS
Connections between Germany and growth markets.

TOGETHER, WE MINE TODAY FOR A SAFER TOMORROW.

GERMANY - TECHNOLOGY - RESOURCES - PARTNERSHIPS

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