PRIORITY SCOPE NOTE

The Waterberg value study

What the coalfield could become as a multi-product industrial region, and what it would take to build

Coaltech invites proposals for a multiyear programme under the FY2027 Call for Proposals. The submission process, cost guidelines, evaluation criteria and funding conditions in the call apply here without change. This note sets out one priority scope at greater length because members asked for it and because much of the groundwork already exists in Coaltech-funded work.

Focus area	Integrated Mining and Processing, lead	Contributing	Future Technologies and Surface Environment across the conversion, residue, water and post-mining work packages
Priority scopes	Coal quality and market fit, a national reference; discard, fines and ultra-fines from liability to product; upgrading the remaining resource for market	Also serves	Alternative uses of coal and its waste; emissions and carbon management; water and brine; mine closure and post-mining land use; zero-entry and waterless processing
Structure	Multiyear, three years, ten work packages in five parts, two stage gates	Commencement	1 April 2027
Submissions close	28 October 2026	Decision	December 2026

1. Background

The Waterberg is South Africa's designated successor coalfield. One large mine operates there. Other projects reached construction and stopped, and the reason was the same each time: no way to move the coal. The line serving the coalfield carries about four million tonnes a year and shares it with ferrochrome. An expansion announced in 2012 has not been built. Meanwhile the export terminal at Richards Bay sits on roughly thirty-three million tonnes of unused capacity.

So most of what the coalfield sells leaves on a mine-mouth conveyor. No market sets that price and no producer can lift that volume. The rest competes for a railway running at about a third of its capacity. Domestic demand outside the utility has all but gone. The metallurgical stream is specified at 2.5 million tonnes a year and delivered 0.4 million tonnes in 2025, after its main buyer stopped production at its long steel works.

The sector has treated this as a mining question for twenty years and has kept getting the same answer. Build a mine, wash the coal, wait for a railway. Coaltech wants the question asked the other way round. If the coalfield were approached as an industrial region instead of a set of pits, what would it produce, what would it need, and what would have to be built first?

There is a South African precedent for that approach. Secunda was not built as a colliery with a market attached. It was built as a complex: coal in, many products out, its own power, its own water, its own logistics, at a scale that let it fund infrastructure no single mine could carry. The comparison is instructive in both directions. The capital, the concentration risk and the emissions position of that complex are cautionary, and this programme should treat them as evidence, not as inspiration.

Nobody has tested the integrated case for the Waterberg with data. Until someone does, blocks stay undeveloped and the industry keeps selling to the two customers it already has.

2. Purpose

There are two questions, and the second has never been asked properly.

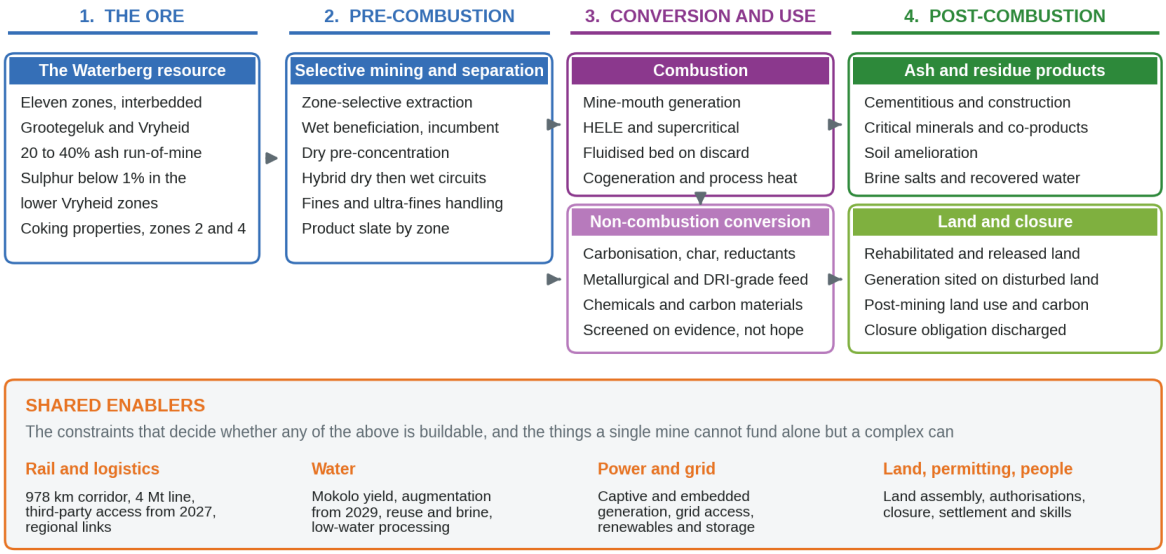
At the level of a tonne. What should be in each tonne that leaves the coalfield, which markets will take a product of that quality, and what does it cost to get there? Test work, characterisation and market study can answer that.

At the level of the region. Does an integrated multi-product complex change the arithmetic that a standalone mine cannot escape? A single mine sells one product to one buyer and has to fund its own rail, water and power against that one revenue line. A complex spreads those enablers across generation, beneficiated coal, reductants, ash products, recovered water and released land. If shared infrastructure and product diversity move the numbers far enough, projects that fail alone may work together. If they do not, the sector should know that too and stop waiting.

Coaltech is funding this programme to answer both, on one set of data and one model.

3. Field of enquiry

The programme runs across the whole chain: from the orebody, through pre-combustion separation, into combustion and non-combustion conversion, and out to the post-combustion products, with the shared enablers assessed alongside.



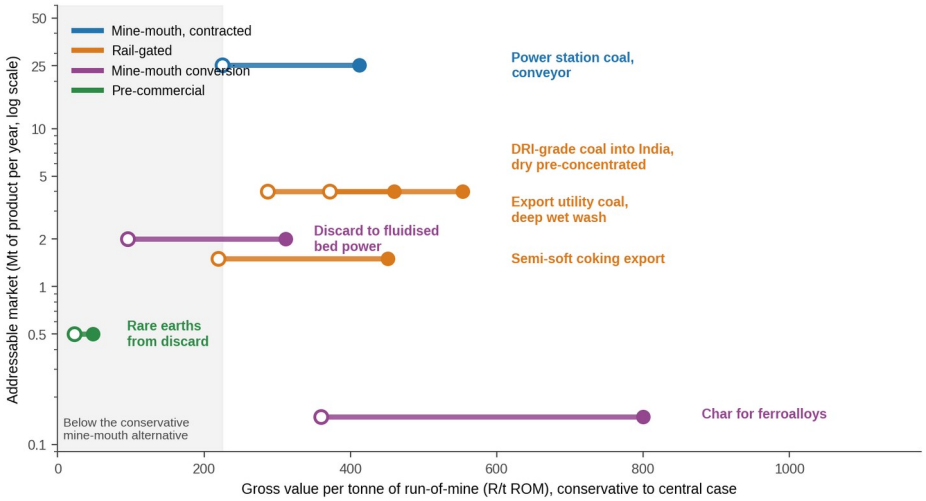
A single mine sells one product to one buyer. A complex shares the enablers across many products, and that is what changes the arithmetic.

The field of enquiry. Everything in this diagram is in scope. The four stages are assessed on one basis so they can be compared and combined, and the enabler band is assessed as a shared cost instead of as four separate project constraints.

4. Routes and indicative values

The figure and the values below come from a first-order desktop assessment. Treat them as a starting point, not as findings. Working out which of them survive test data and market evidence is the job.

Figure 3. Value per tonne of run-of-mine against the depth of the market that will take it



Indicative gross value per tonne of run-of-mine against the depth of the market that will absorb the product, from Nengovhela (2026). Values are gross of capital and of operating cost other than freight and port, and rest in part on author estimates where no public price exists. The vertical axis is logarithmic. Coaltech publishes it to define the field of enquiry, not to prejudge it.

Route	Indicative R/t of ROM	Market Mt/yr	What the programme must establish
Char and reductants for the ferroalloy industry	360 to 800	0.15	Whether the highest value per tonne can be scaled beyond a contracting domestic market, and what a Waterberg reductant would have to be
DRI-grade coal, dry pre-concentrated, into coal-based direct reduced iron[1]	371 to 553	4.0	Whether Waterberg coal separates dry to that specification, and what an Indian or other kiln operator requires before buying
Export utility coal, deep wet wash	287 to 460	4.0	The real yield to export grade by zone, and the delivered cost over 978 km against the alternatives
Semi-soft coking and metallurgical export	220 to 451	1.5	Whether the lower Vryheid zones deliver a saleable semi-soft product, and where the buyers now are

[1] DRI: direct reduced iron. Iron ore reduced to metallic iron in the solid state, without melting, and then melted in an electric arc furnace to make steel. In the coal-based route the coal is the reductant rather than the fuel, supplying the carbon that strips oxygen from the ore, so the specification is set by fixed carbon, ash, sulphur and reactivity rather than by calorific value. The route matters locally because the global norm, gas-based DRI, depends on cheap natural gas that South Africa does not have.

Route	Indicative R/t of ROM	Market Mt/yr	What the programme must establish
Power station coal, mine-mouth conveyor	225 to 413	25.2	The base case against which everything else is measured, and what happens to it as the older station's units retire from 2038
Discard and middlings to fluidised bed generation	95 to 311	2.0	Whether discard-fired generation is technically and commercially real at Waterberg quality, what it costs, and what would have to change in policy
Critical minerals from discard and ash	23 to 48	0.5	Grades and recoveries on Waterberg material, and whether co-products change the answer, since no Waterberg grades exist for gallium, germanium, vanadium, titanium or alumina
Ash into cementitious and construction products	Not established	Not established	Waterberg ash chemistry against cement and construction specifications, and the freight economics of moving ash off a remote site
Carbon materials, chemicals and fuels from coal	Not established	Not established	An evidence screen of which routes are commercially real at Waterberg scale and quality, and which are not
Recovered water, brine salts and released land	Not established	n/a	Water saved and recovered, markets for brine-derived products, generation sited on disturbed land, post-mining land use and closure obligation discharged

Two things about that table matter. Value per tonne and market depth pull against each other: the best route per tonne serves the smallest market, and the biggest market cannot take another tonne. And at the level of a single tonne the routes compete, so they cannot be added together. At the level of a complex they may not compete at all, because different zones and different size fractions feed different routes. Establishing which is which sits at the centre of this programme.

5. Outputs

Coaltech is funding this work to produce a decision-grade case that a rights holder, an investor or the state can act on. Test work, market work and engineering study are the means. The case is the deliverable.

At completion the programme should hand the sector four things.

- **A national reference.** A public, citable characterisation of Waterberg coal by zone, matched to the specification of every market that will take it, covering wet, dry and hybrid processing. That is the coal quality and market reference named as a top priority in the call, done on the coalfield where it matters most and widened to take in the non-combustion routes.
- **An open model.** A parameterised model, delivered with its source, computing value per tonne of run-of-mine for every route and, separately, the economics of an integrated complex. Freight, yield, product specification, price, power cost and water cost as replaceable inputs. Each assumption stated once and changeable in one place.
- **A regional development case.** What a Waterberg complex would produce, at what scale, needing what rail corridor configuration, water, power and land, built in what order, at what capital, and what it would take from the state and from the private sector. Including the finding that it does not work, if that is where the evidence lands.
- **Two worked applications.** The model run on an operating position with existing plant and conveyor offtake, and on an undeveloped block with neither. The second is the more demanding case and the more widely applicable, since most of the coalfield sits in that condition.

6. Objectives

- Establish the quality of Waterberg coal by zone and by size fraction, in enough detail to support selective mining and processing decisions. A single coalfield average will not do.
- Establish what each processing route, wet, dry and hybrid, can produce from that feed, at what yield, and at what water and energy cost.
- Requalify the resulting products against the specification of every market that could take them, before combustion, in combustion and after it.
- Establish what a mine-mouth energy complex would look like, what it would cost, and what cheap captive power does to the economics of everything else on the site.
- Establish the delivered cost of each route to each market.
- Establish what the corridor requires: what rail configuration would carry what volume and at what tariff, what volume and product mix would justify building it, who would fund and own it, and in what order it would have to be built.
- Establish the regional water balance under an integrated complex, the savings available from low-water processing, and the markets for brine-derived products.
- Screen the chemical, fuel and carbon materials routes on evidence, so the sector can tell the ones that are commercially real at Waterberg scale from the ones that are not, and stop spending on the latter.
- Put a value on the water released, the land released and the closure obligation reduced. At present the sector treats all three as free.
- Build and hand over the open model, and demonstrate it on a standalone case and on an integrated complex.
- Develop capability, including at least one doctoral and one master's candidate, and a transfer mechanism that puts the method in the hands of member technical staff. A report on a shelf does not count.

7. Work packages

Ten work packages in five parts. Coaltech may award the programme whole or in parts, and proposals may address a coherent subset. WP10 has to be in every bid. Without it the programme produces ten studies and no answer.

Part A. Ore and product slate

WP1. Resource and quality characterisation by zone

A sampling campaign across the Waterberg zone sequence, covering run-of-mine and current discard, with the zone provenance of every sample recorded and auditable. Agree sampling design and custody with Coaltech and the host operation before fieldwork begins, and develop it with the mine planning function, since zone-level selectivity in the pit decides what the plant receives.

Analysis should cover proximate and ultimate analysis, calorific value on gross and net as-received bases, total and speciated sulphur, ash fusion temperature, ash chemistry, washability, size distribution and liberation, petrographic characterisation, and a trace element suite good enough to feed WP5 and WP6. Everything else depends on this work package, so it goes first.

WP2. Selective mining and separation

Test the routes available to this feed and compare them. Do not write this as a case for one technology. Conventional wet beneficiation is the base case. Dry pre-concentration on the coarse fraction should cover at least dual-energy X-ray transmission and one air-based density separator. Hybrid circuits, where dry pre-concentration feeds a reduced wet plant, should be tested alongside. State and cost a position on the fines and ultra-fines that dry sorting cannot handle.

Report separation efficiency, Ecart probable, cut-point density, yield, product and discard ash, calorific value, sulphur, water consumption and energy for every configuration, by zone and by size fraction. Where a technique does not work, report that and explain why, to the same standard as a positive result. Coaltech does not treat a well-explained failure as underperformance.

The output is a product slate: what this orebody can make, by zone, on each route, at what yield.

Part B. Conversion and use

WP3. Energy complex

This work package asks what generation at the mine mouth would do to everything else on the site, and it sits at the centre of the integrated case.

Assess mine-mouth generation at the scale the coalfield could support: high-efficiency low-emission and supercritical plant on washed product, circulating fluidised bed on discard, middlings and ultra-fines, and cogeneration supplying process heat to the conversion plants in WP4 and WP5. The main call names discard-fired fluidised bed combustion as a Future Technologies priority in this cycle, because it takes on the emissions question and the discard legacy in one project.

Cover the renewable and hybrid options honestly: the Limpopo solar resource, wind where it is credible, storage, and how a hybrid plant behaves against a continuous industrial load. Cover grid access, wheeling and the practical position on connection, and compare captive, embedded and independent power configurations.

Then answer the question that matters. Cheap captive power changes the cost of beneficiation, of carbonisation, of any electro-intensive recovery route, and of pumping and treating water. Quantify that. If a complex can burn its own discard to power its own conversion plants, several routes that fail as standalone projects may pass. Establish whether that is true and by how much. Where policy blocks the route, and the current energy plan provides for no new coal capacity, say so plainly and set out what would have to change.

WP4. Metallurgical and reductant products

The best values per tonne in the table sit here. So do the thinnest markets. That tension is the point of this work package.

Semi-soft coking and metallurgical product from the lower Vryheid zones, assessed on the coking indices a buyer actually applies, and on where the buyers now are after the contraction of domestic long steel demand. Char and carbonised reductants for the ferroalloy and foundry industries, building on the fact that a Lephalale char plant already produces at over eighty per cent fixed carbon and under five per cent volatiles, and asking what it would take to scale that. Coal-based direct reduced iron kiln feed, where the specification of twenty per cent ash maximum, forty-five per cent fixed carbon minimum, low sulphur and an ash fusion temperature above 1,400 degrees Celsius is looser than export utility specification and the market is large and growing.

For each market, establish the specification a buyer actually enforces, which is not always the one published. Establish the volume this coalfield could realistically supply, the price basis and its recent range, and what a South African supplier would have to demonstrate to get in.

WP5. Chemicals, carbon materials and fuels

This work package has two parts, and both matter.

The first is assessment of the routes that could credibly run here: carbon materials from coal or its by-products where a Waterberg feedstock is realistic, circular-economy products, and any conversion route a proposer can make a serious case for. Where a route depends on cheap power or on process heat, cost it against the WP3 outputs and not against grid tariffs.

The second is screening, which is the harder discipline. Coal-to-chemicals, coal-to-liquids, coal-to-hydrogen and battery anode materials get proposed for this coalfield fairly often. Assess each one against published international experience, capital intensity, the feedstock quality it needs and the scale at which it has actually run. Report which are commercially real at Waterberg scale and quality and which are not, and show the evidence. India is the comparator worth studying: a

large national incentive scheme has produced one financial close and no commissioned commercial gasifier more than two years after approval, and the indigenous high-ash pilot runs at 0.25 tonnes a day against designs three orders of magnitude larger. Where a route does not work here, say so and show why.

Part C. Post-combustion and residues

WP6. Ash, discard and residue products

What comes out of the complex, treated as feedstock. Waterberg ash chemistry against cement and concrete specifications, construction materials, road base and mine backfill, with the freight economics of moving ash off a remote site addressed honestly, since that is what usually kills the route.

Critical minerals from Waterberg discard and ash, building on the Coaltech-funded work reporting total rare earth concentrations of approximately 260 ppm in run-of-mine and 265 ppm in discard from this coalfield, rising after calcination. Alongside them the co-products for which no Waterberg grades exist at all: gallium, germanium, vanadium, titanium and alumina. Establishing those grades is a Year 1 output of WP1 and a stated gap in the national picture. Soil amelioration and agricultural use where the chemistry supports it.

WP7. Water and brine

Water is the second enabler and it has its own economy.

Build the regional water balance under an integrated complex, not only under a mine. The Mokolo yield today, the augmentation scheme from 2029, and what a complex with generation, beneficiation and conversion would draw. Quantify the saving available from low-water and dry processing per tonne of product, against the incumbent, on the same basis. Assess process water reuse and closed circuits across the complex, where one plant's effluent is another's feed.

Then the brine question, which the main call names as a Surface Environment priority. Reducing brine at source, concentration and crystallisation, safe handling and disposal of the residue, and the markets for brine-derived products and salts. Coaltech is more interested in the market and the economics of recovery than in its technical possibility.

Part D. Enablers

WP8. Rail, logistics and corridor

Rail has been the stated reason for every stalled Waterberg project and it has never been analysed properly in public. This work package should change that.

Establish what the corridor actually carries today and why, from primary sources, and what the practical constraint is: track, signalling, axle load, loops, locomotives, wagons, terminal capacity at the mine end, or paths. No public source gives a Waterberg tonne-kilometre rate. Closing that gap on its own would be worth a good deal to the sector.

Then cost the interventions. What does each increment of capacity require, what does it cost, and how long does it take? Treat the 2012 expansion programme as one option among several. It is not the only one. Assess third-party train operating economics, given that access begins in 2027 and no Waterberg slot is publicly allocated. Assess terminal, siding and rolling stock requirements at the coalfield end, which a producer can build and a state operator will not. Assess the regional options, including links to and through Botswana, on evidence and with the scepticism applied to any other capital proposal.

Then reverse the question. Instead of asking when rail will arrive, establish what volume and product mix would justify building it, who would pay, and on what commercial structure. A complex producing several products at several specifications has a different case for a railway than a single mine with one product, and nobody has put that case together.

Bound the road and multimodal options instead of dismissing them, and state the practical and regulatory limits.

WP9. Land, closure and post-mining land use

Land assembly and authorisation for a complex rather than a mine, and what that changes. Land released, or released earlier, by a smaller processing footprint. Generation sited on disturbed and rehabilitated land. Post-mining land use that earns revenue through the transition instead of only at the end, which the main call names as a Surface Environment priority. And the closure obligation reduced by processing discard away instead of covering it. That last item is excluded from the values in Section 4 and could be worth more than several of the revenue lines.

Part E. Integration

WP10. Integrated regional model and case

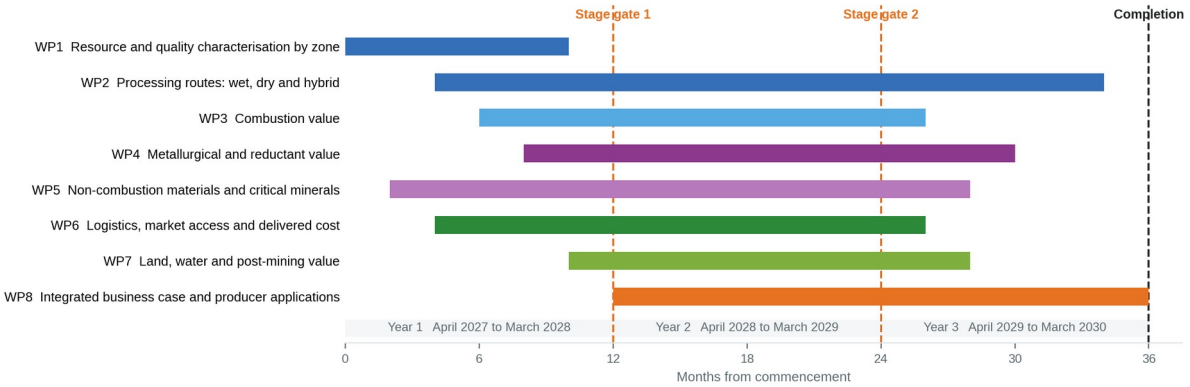
This work package is what makes the programme worth funding. It ties the other nine together and answers the second question in Section 2.

Build the model. Value every route on a per tonne of run-of-mine basis, since pit capacity, fleet hours, water, plant throughput and the closure obligation are all incurred on that basis and routes with different yields cannot otherwise be compared. Compute gross value first and net value second, with capital and operating estimates carried separately and visibly, so a reader can see which conclusions depend on cost assumptions and which do not.

Then model the region. Compare at least three configurations on the same basis: a standalone mine selling into the current market; a mine with expanded beneficiation and a widened product slate; and an integrated complex with captive generation, conversion, residue products and shared enablers. Show what shared infrastructure does to unit costs, what product diversity does to revenue risk, and where the crossover sits.

Address the institutional question, because it decides whether any of this happens. Who owns and funds shared rail, water and power? Does an anchor tenant have to exist first, and what would it be? What is the role of a special economic zone or an industrial park designation, given that the Limpopo zone gazetted in May 2026 sits at Fetakgomo-Tubatse and is directed at platinum and chrome? What would the state have to do, and by when?

Rank the parameters by how much they move the answer, so a producer can see where the uncertainty really sits. Show capital as a stage-gated profile, not one number, because a complex gets built in increments and the increments are the point. Then run the model on the two positions described in Section 5 and present the results to the Steering Committee and to the membership.



Programme structure. Work packages run in parallel from Year 1, so the case grows with the technical and market work instead of being bolted on at the end. Year 2 and Year 3 are released at the stage gates.

8. Phasing, deliverables and stage gates

Year	Work	Deliverables	Stage gate
Year 1 Apr 2027 to Mar 2028	WP1 in full; WP2 bench programme; WP5 screening half; WP3, WP7 and WP8 opened	D1 Inception report, sampling design, test matrix, risk register, month 2 D2 Characterisation report by zone, including trace element and co-product grades, month 8 D3 Conversion route screening report, month 10 D4 Corridor and enabler baseline report, month 10 D5 Bench test report and route down-selection, month 12	SG1. Do the characterisation, bench results and enabler baseline support at least two viable routes to market, and has the screening closed off the routes that are not real?
Year 2 Apr 2028 to Mar 2029	WP2 pilot campaign; WP3, WP4 and WP6 in full; WP7 and WP8 completed; WP9 and WP10 built	D6 Pilot test report, month 20 D7 Product qualification report across all target markets, month 24 D8 Energy complex options and costing report, month 22 D9 Rail, logistics and delivered cost report, month 24 D10 Water balance and brine report, month 24 D11 Model, first release with source, month 24	SG2. Does at least one product meet a named market specification, does the delivered cost hold, and does the integrated case show a crossover against the standalone case?
Year 3 Apr 2029 to Mar 2030	Demonstration campaign; physical buyer qualification; WP9 completed; WP10 regional case, applications and transfer	D12 Demonstration campaign report, month 32 D13 Buyer qualification report, month 34 D14 Regional development case, including institutional and staging analysis, month 34 D15 Final report, national reference, model and the two worked applications, month 36 D16 Member presentation and transfer session, month 36	Completion. Steering Committee acceptance of the case and the implementation pathway

At each stage gate the Steering Committee can continue the programme, change its scope, or stop it. State the criteria you expect to be measured against at each gate, in numbers, and the results that would mean the programme should not go on.

Indicative reference values

The values below are the specifications products would be tested against, drawn from published market requirements and from Coaltech performance data. They are reference points for proposers setting their own stage-gate criteria, not targets imposed by Coaltech.

Parameter	Export utility coal	DRI kiln feed	Basis
Ash, air dried	12.5 per cent or lower	20 per cent maximum	Producer product specification; coal-based rotary kiln requirement
Calorific value	About 25.1 MJ/kg, 6,000 kcal/kg	20.9 to 23.0 MJ/kg, 5,000 to 5,500 kcal/kg	Export grade specification; the range described in trade analysis as well suited to the kiln process
Total sulphur	1.0 per cent or lower	Below 1.0 per cent, lower preferred	Vryheid zones typically sit below 1 per cent air dried; Volksrust reaches 1.6 per cent
Fixed carbon	Not specification-limiting	45 per cent minimum	Rotary kiln requirement
Ash fusion temperature	Not specification-limiting	Above 1,400 degrees Celsius	Rotary kiln accretion control. Waterberg values are not published and are a Year 1 output
Yield on the coarse fraction	30 to 38 per cent on the wet route	75 per cent reported for DE-XRT on a 38 per cent ash test feed	Coaltech Project 4.8.5, Table 2; producer expansion disclosure

Parameter	Export utility coal	DRI kiln feed	Basis
Char and reductant	n/a	Above 80 per cent fixed carbon, below 5 per cent volatiles	Existing Lephalale char plant specification

9. Contents of the case

Component	What it should show
Value per tonne of run-of-mine, by route	Gross first, then net of operating cost, with capital carried separately. Every route in Section 4, including the current product slate as the base case
Delivered cost build-up	Mining, processing, rail at a stated tariff basis, port and port-side handling, per tonne of product and per gigajoule, by route and by market
The three configurations compared	Standalone mine, mine with expanded beneficiation, integrated complex, on one basis, with the crossover identified
Enabler cost, shared and standalone	Rail, water, power and land costed once as a shared burden and once carried by a single project, so the difference is visible
Capital profile	Modular and stage-gated, showing what has to be spent to reach each increment of capacity. Not one project number
Energy position	Cost and emissions of captive, embedded and grid supply, and what each does to the cost of every other route on the site
Water, land and closure account	Water and land consumed or released by each configuration, and the closure obligation reduced, each carrying a price
Market entry requirement	What a buyer in each target market requires before taking the product, and how long qualification takes
Institutional model	Who owns, funds and operates the shared enablers, including the rail corridor and the volume commitment it would require, what the anchor tenant would be, and what the state would have to do
Sensitivity ordering	Which parameters actually move the answer, ranked, so a producer knows where the next study rand is best spent
Routes screened out	The routes assessed and found not to be commercially real at Waterberg scale, with the evidence, so the finding is reusable
What would change the answer	The conditions under which the conclusion reverses: rail tariff, product price, yield, market specification, power cost, carbon cost, policy

10. Scope boundaries

In scope: sampling and characterisation; bench, pilot and demonstration testing across wet, dry and hybrid routes; product requalification and physical buyer qualification across every market named in Section 4; energy complex options and costing; evidence-based screening of the chemical, fuel and carbon materials routes; ash and residue products; the regional water balance and brine; rail, logistics and corridor analysis; land, closure and post-mining land use; the integrated model and its applications; and transfer of the method and the dataset.

Outside this scope: front end engineering design; plant or infrastructure procurement; binding commercial negotiation with any offtaker or authority on behalf of a member; and primary process development of a chemical conversion route. WP5 assesses those routes on the evidence; it does not develop them. If you want to develop a specific conversion technology, the Future Technologies scopes in the same call are the place for it.

11. What to include in the proposal

The requirements of the FY2027 call apply without amendment: a single PDF of no more than twenty pages, font no smaller than 11 point, built on the Coaltech Standard Proposal Template, with the focus area and priority scope stated on the cover. In addition, this scope asks for seven things.

- **How the breadth will be held together.** This programme spans geology, processing, combustion, metallurgy, materials, water, rail, land and economics. Set out how the work packages connect and name who integrates them. Ten parallel studies that never meet will not produce the deliverable in Section 5.
- **Which work packages you are bidding for,** and which you are not. A coherent subset is acceptable. Silence about the gaps is not.
- **How the multiple-seam character will be handled.** The deposit is interbedded, not seam-hosted. Show how the test programme deals with that.
- **Evidence of equipment access** at bench, pilot and demonstration scale, in-house or through a named arrangement. Where access is charged, state the basis of the charge. It counts toward the subcontractor limit.
- **The economics, energy and infrastructure capability, named.** This programme has a technical side, a commercial side and an infrastructure side. Name who builds the model, who does the market work and who does the rail corridor, water and power analysis, corridor tariff and funding work included, and show comparable work they have delivered.
- **Success criteria at each stage gate,** in numbers, with the results that would mean the programme should not go on.
- **Sample and site access arrangements.** Sampling needs a host operation. Set out what is in place or will be sought, and what the programme does if access is refused on one position.

Consortium proposals are welcome and, at this breadth, are probably the natural form. Coaltech is open to a university, a science council or a specialist firm leading, and to a member hosting sampling or contributing operational expertise. A

proposal that brings a rail or energy specialist alongside a coal processing group will be read with interest, because that combination barely exists in the sector today.

12. Evaluation, budget and conditions

Proposals are scored against the four criteria in the FY2027 call: potential impact and implementation at 45 per cent, alignment with focus areas and priorities at 25 per cent, innovation, scientific merit and value for money at 15 per cent, and team capability and resources at 15 per cent. Impact and a credible path to implementation carry the most weight in this cycle. On this scope, impact means a case the sector can act on.

Budgets are prepared on the Coaltech Standard Cost Guidelines (CT-GUIDE-2026-001) and itemised by cost category, by year and by team member, exclusive of VAT. Human resource costs escalate at a CPI-linked rate from Year 2; equipment and fixed subcontracts do not. Subcontractors are itemised separately, comply with the consultant day rates, and may not exceed 40 per cent of the total budget without prior approval. Universities and public research entities may claim institutional overhead of up to 15 per cent on direct costs, excluding stipends, equipment over R50,000 and VAT; private firms claim no separate overhead, as day rates are inclusive.

Present the budget by year and by work package, and indicate which components are committed at award and which are released at each stage gate.

Co-funding is welcomed and counts in a proposal's favour, but it is not a condition, and a proposal without it is assessed on the same basis. Member-led bilateral arrangements work well, with member contributions typically between 40 and 60 per cent, and all co-funding must be disclosed in full in the budget schedule. On this scope in particular, a member that holds a Waterberg position and will host sampling contributes as much to the programme as cash.

Funding conditions follow the main call: a service level agreement with Coaltech and adherence to the project timeline, progress reporting every two months and at each milestone, milestone-based payment on delivery and after Steering Committee acceptance, intellectual property shared with Coaltech, publication permitted with acknowledgement, and a comprehensive final report and member presentation carrying an implementation pathway.

13. Data, confidentiality and member application

The national reference, the characterisation dataset, the model and the regional development case are Coaltech research output, and the reference, the model structure and the regional case are intended to be citable and public. The worked applications are treated differently. Sample provenance, cost and commercial data supplied by a host operation remain confidential to that operation, and the model run on a specific position goes to that member and to the Steering Committee in camera, not to the membership at large.

Proposals should set out how the two streams are kept separate in practice: how position-specific data is handled, who has access, and how the public output is constructed so that it does not disclose confidential inputs. Where a study depends on company-level data, the main call requires that a third party collects and anonymises it, and that requirement applies here.

14. Timeline

Stage	When	What happens
Submissions close	28 October 2026	Extended window; single PDF by this date
Presentations	November 2026	Shortlisted proposals presented to the Steering Committee
Decision	December 2026	Selection and funding decision
Commencement	1 April 2027	Approved projects start. Inception meeting within four weeks of award

15. Reference material

Proposers are encouraged to read the following before submitting. The Coaltech reports are available at the links given; the remainder are in the public domain.

16. About Coaltech

The Coaltech Research Association is a collaborative research association through which South Africa's coal producers and their partners fund research for the benefit of the sector. It commissions work across three focus areas, Integrated Mining and Processing, Surface Environment, and Future Technologies, contracted to universities, science councils and specialist firms, and governed by focus area steering committees drawn from the funding members.

Submissions and enquiries

Submissions, as for all proposals under the FY2027 call: Carmen Bergman-Ally, Coaltech Research Association, cbergman@coaltech.co.za, 011 498 7168.

Technical enquiries on this scope: Avhurengwi Nengovhela, Chief Executive Officer, anengovhela@coaltech.co.za, 082 082 0873.

This note is issued with the FY2027 Call for Proposals, the Coaltech Standard Proposal Template and the Standard Cost Guidelines (CT-GUIDE-2026-001).