Kingsbury LTO development proposal

A proposed Indiana campus for qualified battery materials, high power cells and energy storage systems.



$35 million

First proposed authorization for diligence and qualification design

Kingsbury Indiana

Reference campus on S 5th Line Road in LaPorte County

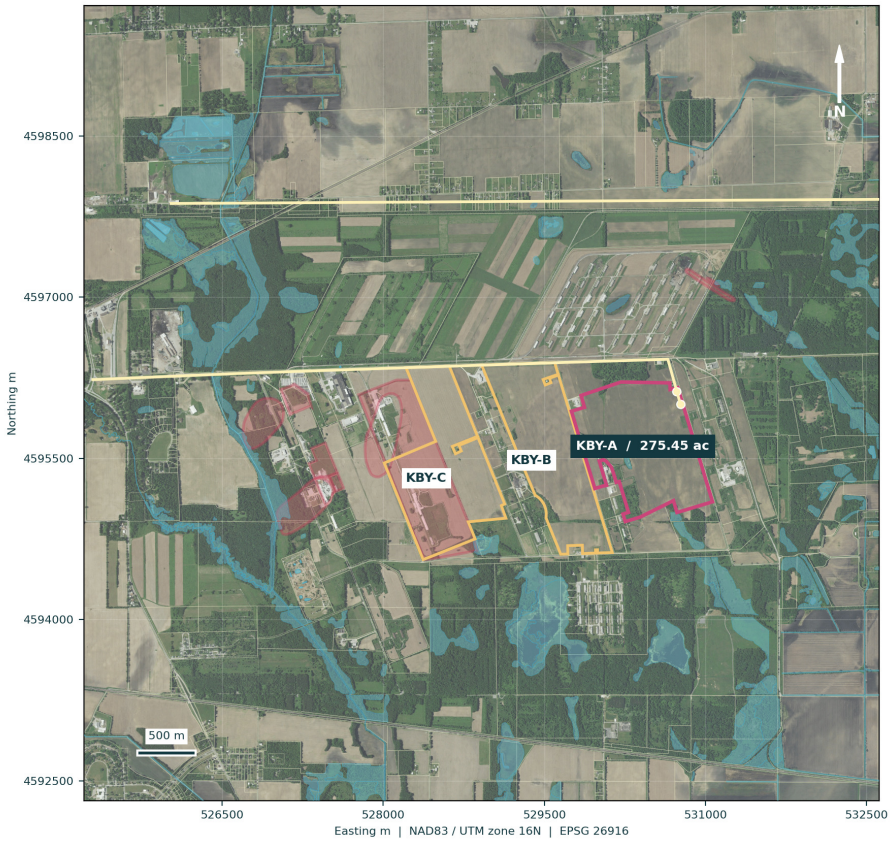
50 MWh pilot

Qualification first, with commercial expansion behind evidence

Milieu Minerals portfolio | Milieu Power program | Proposed campus rendered from controlled site geometry. No construction authorization or supply contract is assumed.

An investable first step in northwest Indiana

Advance a defined evidence program before committing to a commercial factory.



The location. Kingsbury offers an established industrial setting in LaPorte County, access toward Hupp Road and a regional freight network. The mapped KBY-A reference campus is 275.45 gross GIS acres on S 5th Line Road. The record has no verified street number.

The customer opportunity. Focus on industrial fleets, ports, transit and critical-power applications where frequent cycling and short charging windows can justify a premium. Proposed customers have not signed supply commitments.

The decision. Release up to $35 million in controlled work packages for land diligence, pre-FEED, product testing, pilot design, utility studies and customer development. This is included in cumulative funding, not a second authorization on top.

County-origin parcel geometry and acquired regional imagery. The original 41.5090, -86.6310 coordinate remains a search reference, not a gate.

Reference selection is conditional on title, contamination, wetlands, utility availability, access and commercial qualification.

One portfolio with distinct operating roles

Coordinate mineral supply and manufacturing without inventing ownership or a partnership.

Milieu Minerals

Leads the portfolio development proposition, mineral-supply strategy, commercial coordination and investment-stage decisions.

Kingsbury is geographically and commercially separate from the Silver Peak and Petersburg uranium proposals. Neither uranium project is assumed to supply lithium or titanium to this campus.

Public project label: **Kingsbury, Indiana**. Internal project key: **kingsbury-lto**.

Milieu Power

Retains the source plan attribution for the LTO battery and energy-storage program. Leads powder, cell, module, pack and customer qualification.

Building identity: Milieu Power on pilot and manufacturing facilities; Milieu Minerals on the public administration frontage, with Milieu Power program attribution.

These are proposed functional roles. A legal ownership structure, subsidiary or executed joint venture has not been established by this proposal.

Milieu GeoTrace

Provides mapping, prospectivity, sensors, data and integration services. Connects site evidence, environmental monitoring, geometry, quantities and operational traceability.

Laboratory and data spaces carry Milieu GeoTrace attribution within the campus sign schedule.

The spatial register is the common reference for drawings, the Blender scene, web selection and quantity takeoff. No radiometric response is represented as lithium or titanium concentration.

Co-branding schedule KBY-01 applies to the plan, building signs, gallery and website. Corporate and contractual authority must be documented before agreements are executed.

Customers buy a tested duty cycle

LTO is attractive only where its whole-system value exceeds its cost and energy-density tradeoff.

Commercial LTO products demonstrate that the chemistry category can serve demanding power and cycling applications [D10]. A Milieu product must independently prove life, rate, temperature, safety and warranty performance. One initial cell form factor and one qualified cathode pairing limit the first qualification burden.

Priority	Customer problem	Initial offer	Evidence before scale
1	Port and industrial fleets need fast turnaround	Rugged modules and serviceable packs	Paid trial using representative load and charging data
1	Transit depots need predictable availability	Application-specific traction pack	Customer safety acceptance and field duty-cycle validation
1	UPS and critical power need reliable ride-through	Rack or cabinet system	Power, thermal and propagation testing with integrator
2	Rail and defense require tailored qualification	Qualified module platform	Program nomination, sourcing and support obligations
Defer	Long-range passenger vehicles prioritize energy density	No launch product	Revisit only after a separate commercial case

The commercial gate remains at least 1.2 GWh/year of creditworthy binding Phase I demand plus a qualified pipeline. The current demand assumptions are planning inputs. No market-share estimate substitutes for signed customer evidence.

Source: Toshiba commercial category context [D10]; customer priorities and advancement thresholds are Milieu planning assumptions.

Compare real campus configurations

A reference parcel is selected for coordinated design, with two actual alternatives kept in view.

Configuration	Spatial basis	Merit	Selection constraint
KBY-A selected	46-15-03-300-009.000-066; 275.45 gross GIS acres	Single tract; 943 m from mapped EPA boundary	1.04 acres mapped NWI wetland; no mapped SFHA overlap; title and utilities unconfirmed
KBY-B fallback	46-15-04-400-017.000-066; 251.90 gross GIS acres	3rd to 4th Line Road; 662 m from mapped EPA boundary	No mapped NWI or SFHA overlap in retrieved layers; legacy use, ownership and access unresolved
KBY-C disfavored	46-15-04-300-002.000-066 and 46-15-04-300-004.000-066; 265.63 acres	2nd to 3rd Line Road assemblage	122.32 acres overlaps EPA comprehensive site area; direct remedy and land-control interfaces

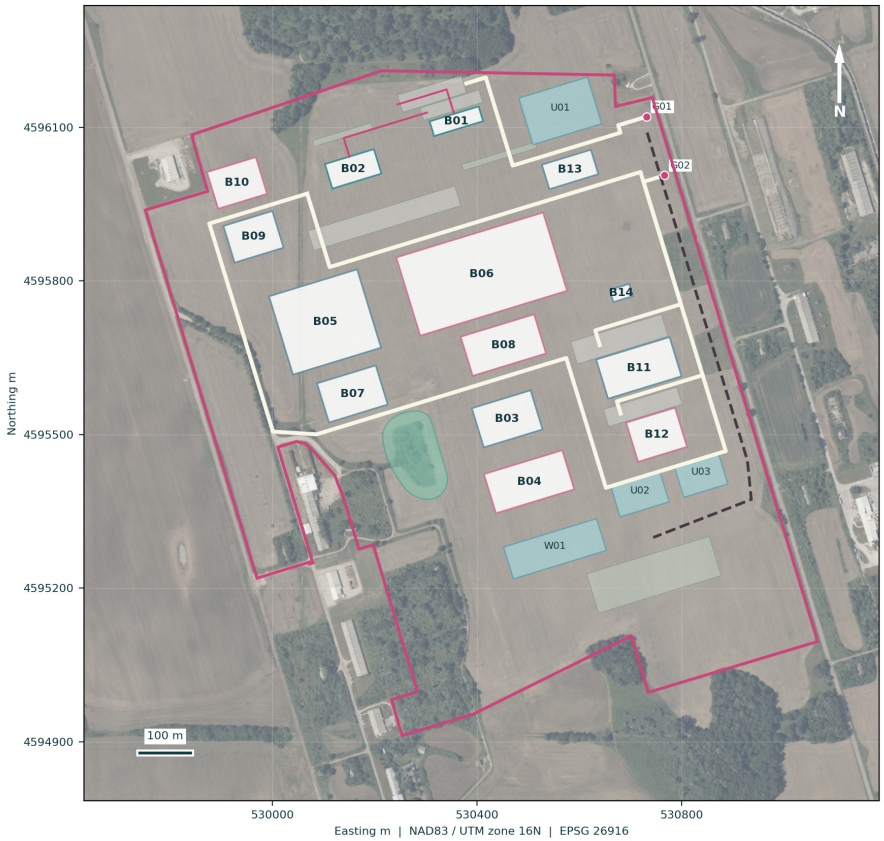
KBY-A has the largest gross area and greater mapped separation from Fisher-Calo than KBY-B. That supports its conditional selection as the design reference. County owner names and legal descriptions were not published in the acquired service; title, seller and current zoning remain outstanding for all three configurations.

The source 260-acre program is rebased to the retrieved parcel. After only NWI and a provisional 30 m avoidance envelope, 271.50 acres remain as a screen, not verified buildable area. The optional 100-acre expansion is excluded. A 2014 M-2 map reproduced by EPA does not replace current written zoning confirmation.

County-origin IGIO parcel service retrieved 17 September 2026; county load 12 August 2025. Marketing acreage and M-2 claims are not title, a zoning determination or service commitments.

A mapped campus with a controlled boundary

Use the parcel as the design frame and confirm each legal right before committing to it.



KBY-A reference campus. County-origin parcel 46-15-03-300-009.000-066, S 5th Line Road, La Porte, Indiana 46350. Record centroid 41.51157874, -86.63550749. Gross GIS area 275.45 acres.

Access. Proposed G01 visitor gate: 41.516135, -86.631704. Proposed G02 logistics and emergency gate: 41.515100, -86.631289. A traced route from G02 toward US 35/US 6 via 5th Line and Hupp roads is 5.79 km, with about 50 m positional precision; road rights and truck suitability are unverified.

Land rights. Seek an assignable option with environmental, survey, utility and access conditions. Title, beneficial owner, legal description, road rights, off-site easements and future expansion rights remain unconfirmed.

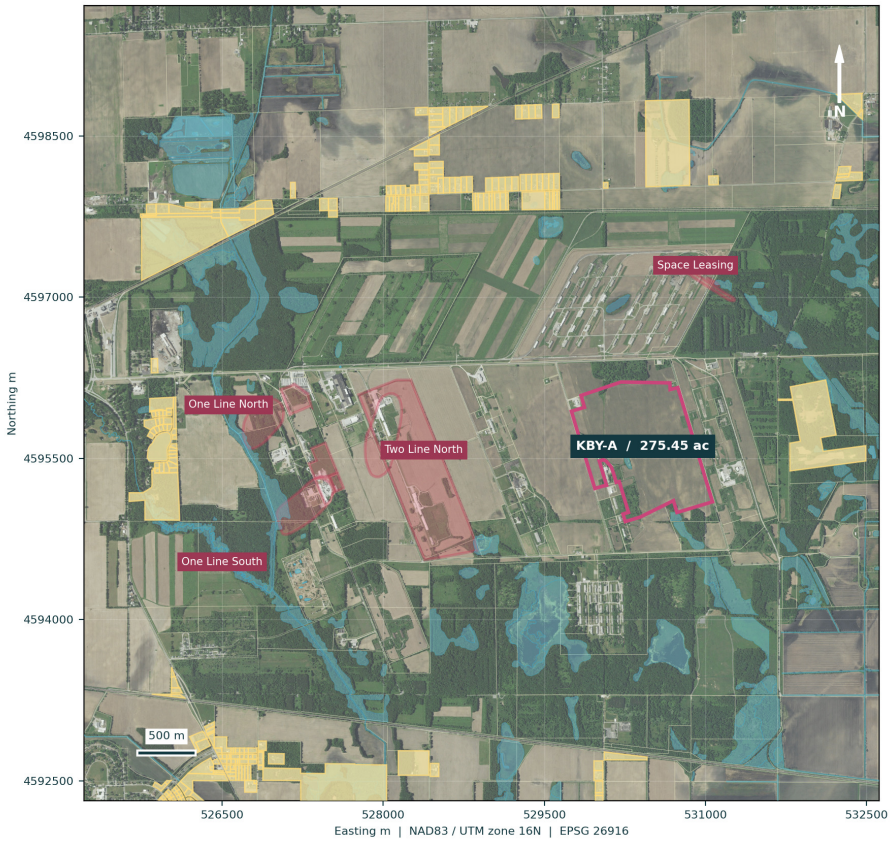
Evidence limit. Parcel mapping has cadastral context but is not an ALTA survey. Existing structures and land uses require field inventory and a disposition plan before layout freeze.

Master plan from the authoritative feature register, over acquired imagery. Detailed dimensions and schedules are in the A3 atlas.

No verified numbered street address is invented. Boundary positions and gate locations must be replaced or confirmed by licensed survey and engineering.

Environmental evidence governs site selection

Fisher-Calo and groundwater controls require affirmative diligence, including outside mapped boundaries.



Current record. EPA's 22 August 2025 five-year review describes one sitewide operable unit and four groundwater plumes. Its short-term protective determination is not unrestricted-use clearance. Groundwater extraction and treatment, vapor work and institutional controls remain relevant.

Open issues. The review identifies vapor monitoring, control finalization and PFAS record-review actions with 2028 milestones, plus a 2030 groundwater-remedy evaluation. The selected parcel is approximately 943 m from the mapped EPA site area; that separation does not establish clean conditions.

Selection gate. Obtain title instruments, remedy access rights, well results and vapor data. Complete a Phase I ESA, targeted Phase II and agency consultation before an unconditional land decision.

Receptors. Nearest residential-class parcel: 772 m, occupancy unverified; improved-residential example: 1,747 m. Official school-point screens: Kingsford Heights Elementary 5.41 km; Kingsbury Elementary 7.05 km. School grounds, childcare and occupied-building inventories remain unverified.

Published environmental layers, with source-specific interpretation. Unmapped plume or vapor conditions remain an investigation need.

Sources SITE-06 to SITE-09 and SITE-12/13. County well ordinance 2015-06 applies countywide. No KBY-A groundwater, soil or vapor samples were acquired.

Terrain and water are design constraints

The landscape model informs a screen; a civil design must establish finished levels and drainage.



Acquired terrain. USGS 3DEP 1 m elevation derived from 2017 LiDAR, published 4 July 2021, ranges from 216.77 to 224.61 m NAVD88 across the parcel. Median slope is 0.96 degrees; the 95th percentile is 3.35 degrees. These are raster screens, not surveyed grades.

Wetlands. Retrieved NWI polygons identify 1.04 acres inside the parcel. The model avoids that feature plus a provisional 30 m envelope. Field delineation, soils, hydrology and agency review determine actual limits and any permit requirements.

Drainage. Concept basins, swales and containment are spatial reservations. Storage volume, outlet ownership, infiltration suitability, groundwater separation and design storms are not yet engineered.

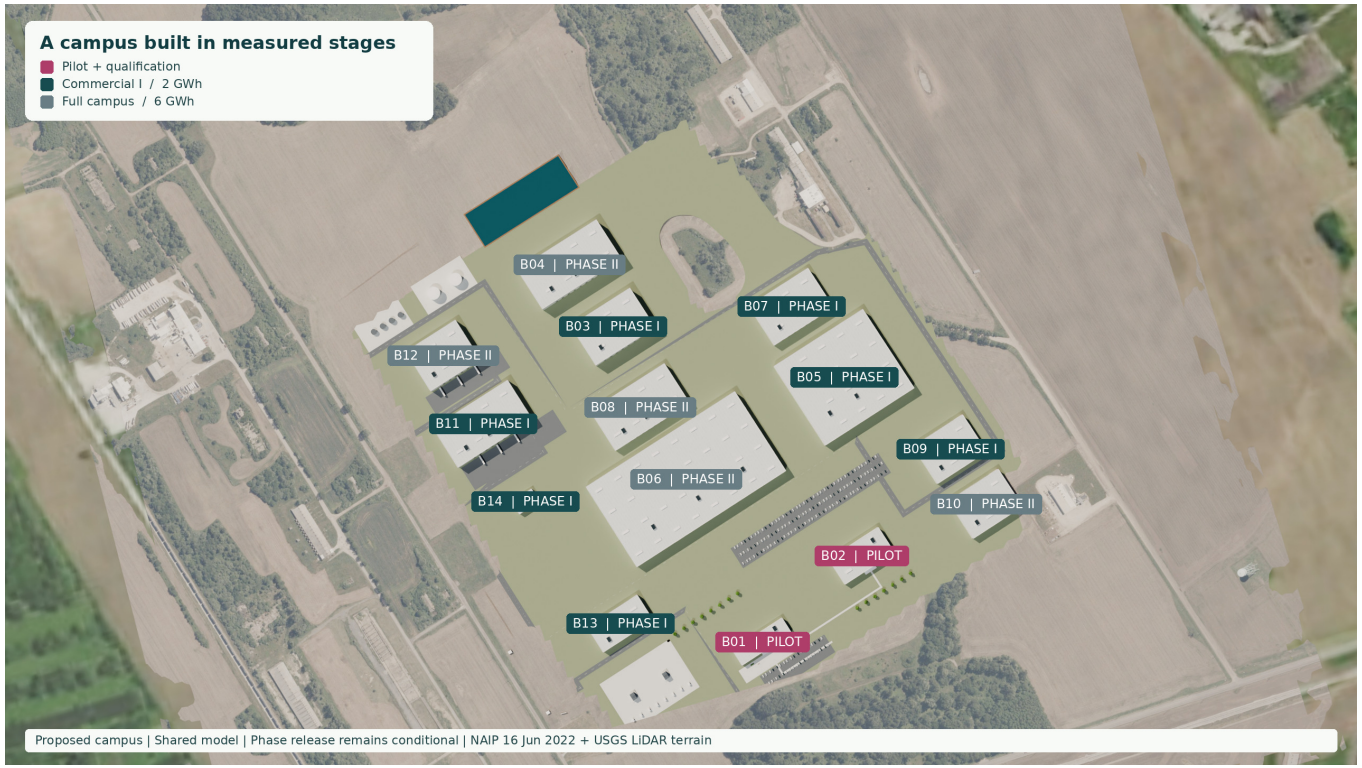
Flood and ground. The retrieved Indiana DNR Best Available layer places the selected parcel in Zone X; the nearest mapped special flood-hazard area is about 112 m away. Confirm a current FEMA determination, survey and drainage design. Geotechnical bearing, infiltration and groundwater levels remain untested.

Terrain and drainage concept share the site register. Preliminary floor levels are model assumptions, not construction benchmarks.

No earthwork balance, flood clearance or stormwater permit is inferred from visualization. Off-site discharge and utility easements remain conditional.

Grow the campus through four release gates

Qualification precedes commercial capacity and repeat construction follows demonstrated demand.



0 Diligence establishes the site and process basis. **1 Pilot** installs a 50 MWh/year qualification line. **2 Commercial I** adds 2 GWh/year cell capacity and 6,000 t/year LTO powder nameplate. **3 Full campus** expands to 6 GWh/year cells and 18,000 t/year powder only after demand, utilities and qualification gates.

Four-phase schedule is the common convention used by the geometry, workbook, drawings and website. Projected building IDs and phase labels identify proposed scope.

Capacity denotes design nameplate. Qualified throughput and shipments are modeled separately. Full-build scope is not authorized by the first $35 million tranche.

A pilot that earns the right to scale

The first physical campus supports materials learning, full-cell qualification and customer acceptance.



50 MWh/year design basis. Pilot and R&D space includes powder and cell development, metrology, cycling, controlled assembly, customer samples and safe test handling. Purchased qualified feed can support early work before commercial synthesis is built.

Qualification sequence. Verify repeat powder lots, select the cathode and electrolyte pairing, build A/B/C samples, close failure modes and freeze the production-intent design.

Release evidence. Customer acceptance, independent safety testing, reproducible rate runs and a process capability record must support expansion. A 90-day representative run is the proposed operating gate.

Budget discipline. The $35 million diligence tranche funds pilot design and reservations. It does not claim to buy a completed 50 MWh facility; installed pilot capital is separately priced in the model.

V03 registered camera. Bright white architecture, tinted glazing and restrained Milieu pink details are generated from the same scene as every final view.

A sample line is not automatically a production-qualified line. Equipment guarantees, throughput and quality must be supported by supplier proposals and testing.

From qualified feed to finished systems

Keep each chemical and product stage distinct, and carry quality records through every transformation.

Materials to LTO

Receive qualified lithium carbonate and titanium dioxide under lot quarantine. Brine and mineral concentrate are upstream products, not direct cell inputs.

Meter and wet mill the feed, spray dry, calcine, classify and finish the LTO powder. Control stoichiometry, phase purity, particle size, surface area, moisture and residual alkali.

Planning reaction: 2 Li_2CO_3 + 5 TiO_2 yields $Li_4Ti_5O_{12}$ + 2 CO_2. Theoretical coefficients per tonne LTO are 0.322 t carbonate, 0.870 t TiO_2 and 0.192 t process CO_2.

Powder to full cells

LTO is the anode material. Complete cells also require a qualified cathode, electrolyte, separator, current collectors and housing.

Mix, coat, dry, calender and slit electrodes; assemble and fill under controlled dry conditions. Follow with formation, aging, grading and traceability.

An NMC or LMO family pairing remains a development baseline. Cathode selection, voltage, energy density, cycle life and fast-charge targets remain conditional on full-cell testing.

Cells to systems

Build modules and packs with busbars, cooling, isolation, BMS, contactors and serviceable enclosures. Perform end-of-line electrical, thermal and functional tests.

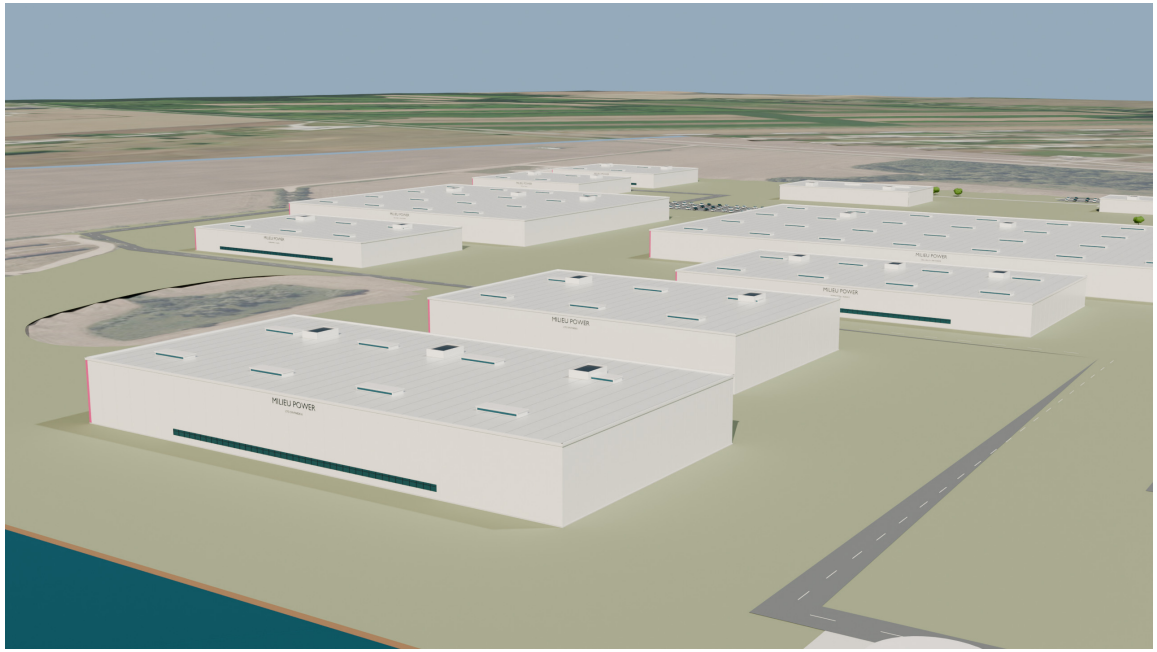
Sell standalone cells, packs or finished systems according to the external product mix. Internally transferred powder and cells are not counted again as external revenue.

The initial on-site scrap role is safe discharge, segregation and pre-processing. Chemical recycling and TiO_2 conversion remain separate, gated scopes.

Stoichiometric coefficients are rounded engineering anchors. The workbook applies synthesis yield to feed once and defines cell-material procurement intensity explicitly.

Buildings are linked to quantities and cost

Permanent feature IDs connect the design schedule to the investment model.



169,800 m2 building footprint. Fourteen facilities provide 172,800 m2 gross floor area, including the two-floor administration and GeoTrace laboratory. Land reservations, footprints and GFA are kept separate.

Permanent IDs. B01 and B02 establish the pilot frontage. B03/B04 synthesize LTO; B05/B06 house cell production; B07/B08 formation and aging; B09/B10 module and pack work; B11/B12 warehouses; B13 utilities; B14 scrap and quarantine.

Process design. Controlled rooms, equipment and service allowances are separately priced. Space is provided for process requirements without claiming a completed engineering layout.

Release control. The A3 schedule records each footprint, GFA, height and phase. The equipment register governs capacity, and the cost ledger covers each feature or shared work package once.

V04 registered manufacturing camera. Buildings, roof forms, roads, materials and landscape remain consistent with the master scene.

The A3 building schedule and Geometry_Register are controlling for dimensions, heights, orientation and floor areas. Land-use reservations, footprints and GFA are not interchangeable.

Visitors and heavy vehicles have separate routes

A welcoming front door can coexist with controlled production and safe logistics.



Public frontage. Administration, training and the pilot welcome area face a clear arrival sequence with short pedestrian connections. Visitors remain outside controlled production unless escorted.

Production access. Truck inspection, material receipt and loading serve the industrial side. Hazardous materials, damaged batteries and returns follow controlled routes with isolation and response access.

Rail. A proposed rail corridor and transload reservation are included only as a conditional connection. Existing district rail availability does not establish a usable siding, turnout, tariff or easement for this parcel.

Emergency access. G02 also serves proposed emergency response through the production loop, separate from the visitor gate G01. Fire-apparatus turning, clearance, hydrant coverage and the need for another independent emergency access must be resolved with the fire authority.

V02 registered entrance camera. The sign hierarchy matches the portfolio and Milieu Power program attribution.

Traffic, emergency and rail approvals remain release conditions. A proposed route is not a right of access.

A logistics campus with clear operating boundaries

Material quality, safe handling and access rights matter as much as the route to the gate.



Inbound. Quarantine lithium carbonate, TiO2 and other components until lot acceptance. Covered receipt and segregated storage reduce contamination and mix-up risk.

Outbound. Release tested cells, modules and systems against serialized records. The reference mix is 5.1 GWh/year external battery shipments, plus 2,500 t/year of external LTO powder.

Returns and scrap. Isolate damaged products, verify state of charge and route them to safe discharge and approved off-site processing. Finished goods do not share uncontrolled space with returns.

Logistics economics. The current freight model uses road movements. Rail is a conditional reservation with no base-case volume credit; access, turnouts, easements and carrier service remain uncommitted.

V05 registered logistics camera from the same controlled Blender scene. Loading aprons and roads match the feature register.

Final operating plans require hazard analysis, trained personnel, emergency coordination and transport-compliant packaging.

Utilities are sized from the operating case

Replace inherited peak targets with a transparent energy and water calculation.

The source plan assumed 90 MW for the first commercial stage and 150 MW for full build. The revised reference calculation is approximately 381 GWh/year, 43.5 MW average and 79.1 MW modeled peak at a 0.55 load factor, with a 90 MW full-campus design reservation. Commercial I uses a 40 MW reservation pending engineering.

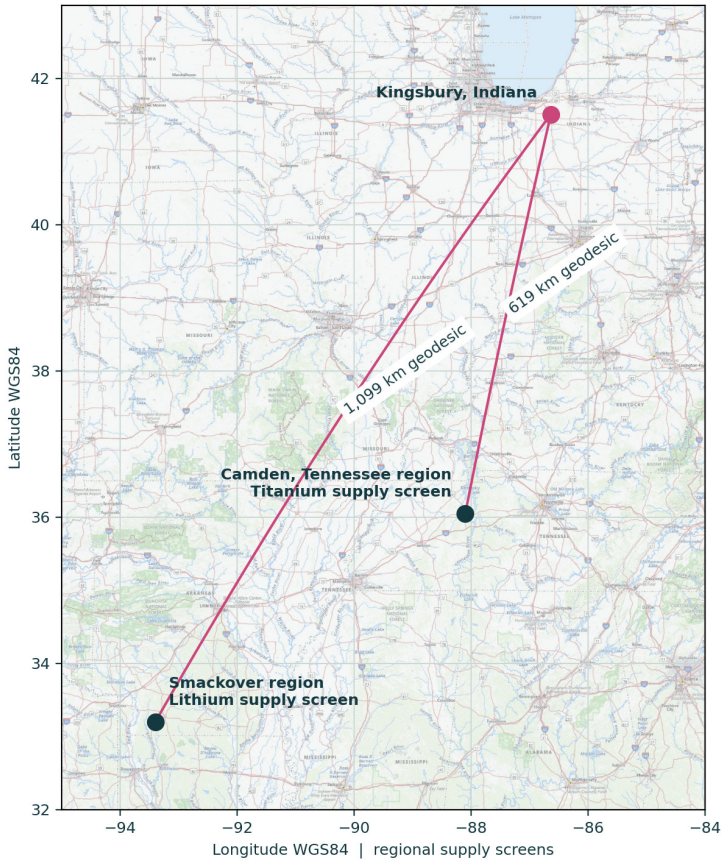
Service	Reference planning basis	What must be committed
Electricity	55 kWh per throughput kWh of cells; 4 MWh/t finished powder; 25 GWh fixed annual campus use	Utility load and fault studies, supply tariff, connection date, reliability and upgrade responsibility
Connection voltage	138 kV retained only as a study concept	Utility determines voltage, substation, route and redundancy; no capacity letter acquired
Water	0.247 MGD fresh-water planning demand after 70% reuse target	Firm source capacity, quality, fire flow, seasonal limits and lawful withdrawal rights
Wastewater	0.148 MGD modeled wastewater; segregated process, sanitary and storm systems	Sampling basis, discharge limits, receiving-system capacity and approvals
Truck and rail	57 truck movements/day reference; 20 t payload; 300 shipping days; zero rail share	Traffic study, payload limits, carrier service, siding agreement and hazardous-goods route

The EIA June 2026 Indiana industrial average of $90/MWh is a benchmark [D12], not a site tariff. The cost model tests $120/MWh downside and $75/MWh upside. No utility marketing statement is treated as a written service commitment.

All utility values are engineering assumptions. Rate, simultaneous demand, recovery systems and process duty cycle require supplier and utility confirmation.

Domestic supply is a geographic network

Arkansas and Tennessee are regional supply screens, separated from the Indiana campus by real distances.



Lithium. Seek battery-quality lithium carbonate through Smackover-linked suppliers. The South West Arkansas DFS is a published third-party benchmark, not Milieu-controlled capacity or a supply commitment [D08].

Titanium. The Titan project near Camden, Tennessee is a mineral-concentrate benchmark. A separate chemical conversion route must deliver qualified TiO2 before it can enter LTO synthesis [D09].

Contract sequence. Prefer supply/offtake and toll-processing agreements. Add milestone-based prepayment or minority investment only where it improves security, quality and economics.

Ownership option. On the historical basis, replacing the full $250 million participation allowance with $1.45 billion DLE and $381.3 million mineral-sands benchmarks gives $4.2113 billion, not $4.4613 billion. This is not an acquisition valuation or a revised ownership-case forecast.

Regional supplier screens are mapped at their true location. Connecting lines are geodesic separation, not surveyed facilities or road freight routes.

No Indiana lithium or titanium mine is assumed. Silver Peak and Petersburg are separate uranium proposals and are not feed sources for Kingsbury.

Qualification is the missing link in the supply chain

A domestic source label alone does not establish a usable battery feed.

Product	Acceptance and conversion test	Commercial protection
Lithium-bearing brine	Resource, rights, DLE recovery, impurities and reinjection are upstream responsibilities	No brine tonnes counted as campus carbonate supply
Lithium carbonate	Assay, sodium, calcium, magnesium, boron, chloride, sulfate, moisture and particle size	Approved lot specification, samples, audit and reject or replace terms
Titanium mineral concentrate	Mineralogy, impurity suite, recoverability and conversion route	Separate mine offtake from conversion toll and purified-product warranty
Purified TiO2	Chemistry, crystal form, particle size, surface area, trace metals and electrochemical correlation	Dual source qualification, no change without notice and revalidation
LTO powder	Phase purity, residual alkali, morphology, carbon coating, moisture and rate behavior	Retained samples, lot genealogy, dispute laboratory and cell correlation
Full cell and pack	Use-case safety, power, temperature, aging, controls and warranty envelope	Paid qualification, binding nominations, throughput warranty and telemetry rights

At reference output, procurement must support finished powder demand of 14,740 t/year. The model applies a 95% synthesis yield to the feed calculation. Long-term agreements should have stepped volume, qualified backups, price formulas, milestone security and contingency inventory.

No supplier quotation, executed offtake, qualified lot or product-performance guarantee has been supplied. These requirements are proposed contracting and test gates.

Acquire evidence at the scale of the question

The data package separates completed spatial work from future acquisition and testing.

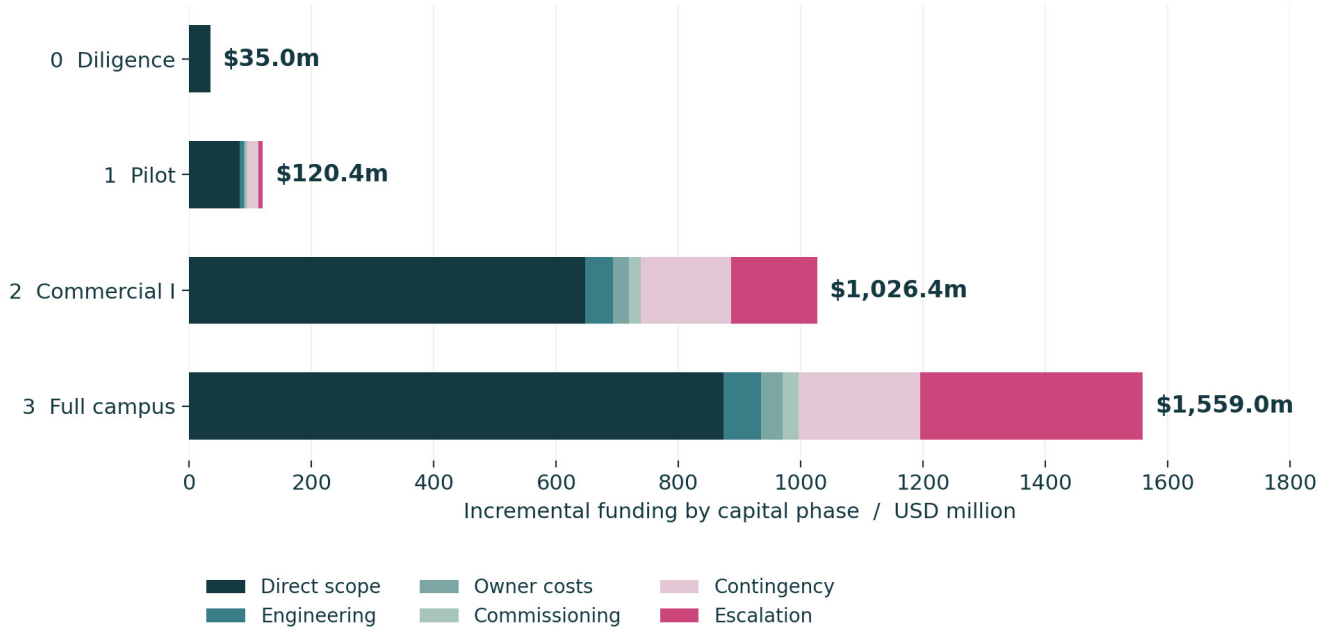
Evidence	Completed use	Limit and next action
Aerial imagery	Acquired regional image and service metadata provide land-cover and access context	Mosaic vintage and resolution vary; obtain licensed survey-grade site orthophoto for design
Elevation and LiDAR	Native 1 m 3DEP DEM and metadata support terrain screening	Raster terrain is not a survey; acquire benchmarks and verify vertical datum
Parcel and environmental GIS	County-origin parcels, NWI and published EPA or IDEM layers overlay the campus	Boundary, ownership, legal controls and wetland jurisdiction require authoritative confirmation
Sentinel and Landsat	No calibrated campus spectral mineral analysis is claimed	Acquire only where seasonal land cover or change detection materially helps; retain dates and native resolution
Geology and boreholes	Regional reconnaissance context is reviewed	Site borings, geotechnics, groundwater levels and lab assays remain future work
Geophysical and radiometric data	No lithium or titanium assay is inferred	Any future survey needs calibration, target model, ground truth and a measured detection limit

The optional Indiana exploration program remains a separate $8 million to $12 million decision. USGS reconnaissance of unconventional critical minerals does not establish a Kingsbury feed reserve [D11]. No value, feed security or revenue from that exploration is included in the manufacturing case.

Analytical files retain their source dates, CRS, resolution and rights. Unavailable or inappropriate data are documented as future work, not portrayed as completed analysis.

Capital follows the actual facility scope

Measured model quantities and explicit planning rates replace the inherited lump-sum headline.



The revised capital program is **$2.741 billion**, including the $35 million early authorization once. Manufacturing capital is **$2.713 billion**: $28 million of early development expense is outside manufacturing, while the $7 million creditable pilot reservation offsets later equipment spending.

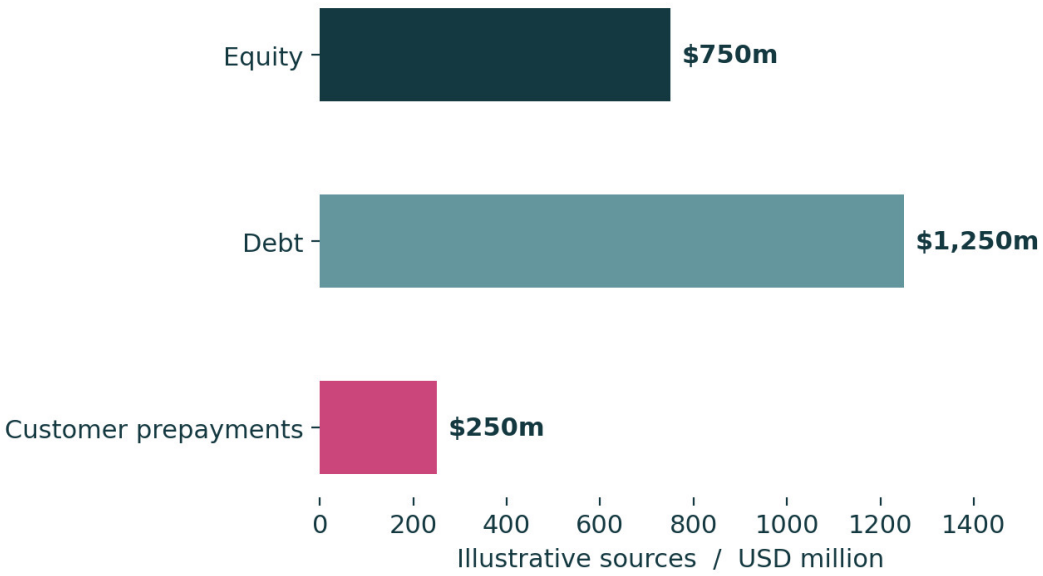
The inherited $2.20 billion manufacturing estimate is retained as history. Quantities now determine scope, with engineering, owner costs, commissioning, contingency and escalation separate. Each major feature has a cost treatment; optional upstream ownership, Indiana exploration and unpriced off-site rights remain outside the base.

2026 planning basis with escalation shown separately. Quantity and cost ledgers reconcile to the authoritative geometry register.

The estimate is not a supplier quotation or an investment-grade feasibility estimate. Unpriced optional scope is excluded and separately identified.

Fund the zero-incentive case first

The financing gap must be resolved with committed capital or a smaller project.



$2.939bn

Peak cumulative project funding

$1.135bn

Peak residual gap after proposed finance

$0

Current committed funding

Peak cumulative project funding is **$2.939 billion** in the reference annual cash forecast, including the $250 million upstream participation allowance and operating ramp. The proposed $2.25 billion private stack leaves a **$1.135 billion peak residual financing gap** after modeled debt service and customer-prepayment repayment. This is a time-based liquidity gap, not simply project funding less sources.

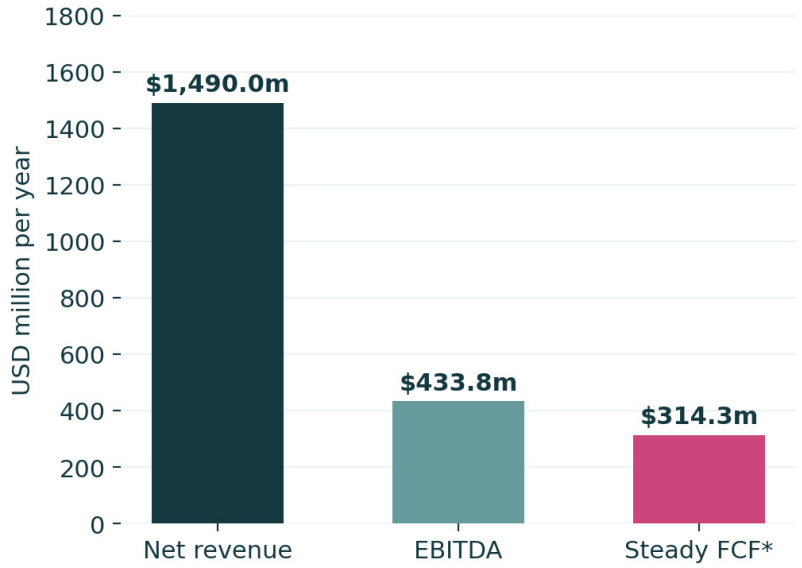
Current committed funding is zero. The inherited $2.63 billion uses included $380 million of unsupported state/local support and federal bridge funding; removing those sources left a $380 million historical gap. Both assistance lines now contribute zero. The revised scope and ramp govern the new funding requirement.

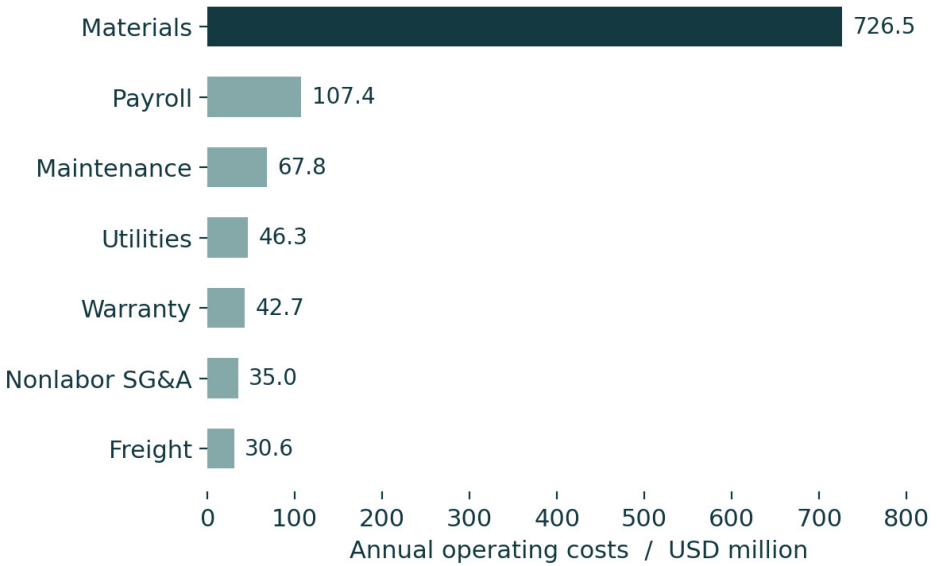
Conditional assistance is shown outside base funding. A source label or government program is not an award, a financing commitment or cash.

No securities offering, credit approval or term sheet is inferred. Construction release requires a financeable completion plan and downside liquidity.

Revenue is external sales after explicit adjustments

The operating case has no double-counted powder or cells.





The reference case produces **$1,490 million net revenue, $433.8 million EBITDA and $314.3 million steady unlevered free cash flow**. Free cash flow includes modeled cash tax, sustaining capital and a closure reserve, before growth capital and working-capital change. Steady working capital is $334.5 million.

Gross sales of $1,627.5 million reduce by proposed $78 million negotiated discounts, $39 million rebates and $20.5 million acceptance credits. These allocations are new assumptions that explain the inherited net figure. They require contract evidence; warranty expense is separate. The full payroll is counted once.

At reference shipment mix, 2.0 GWh cells + 2.5 GWh packs + 0.6 GWh systems = 5.1 GWh total external battery shipments.

Annual cash-flow assumptions include a 25% illustrative tax rate, 15-year straight-line depreciation, 2% sustaining capital, $2 million annual closure reserve and illustrative 8% debt. No investment return is asserted.

Material balance and staffing now reconcile

Resolve the inherited arithmetic before attaching capacity or employment claims to the project.

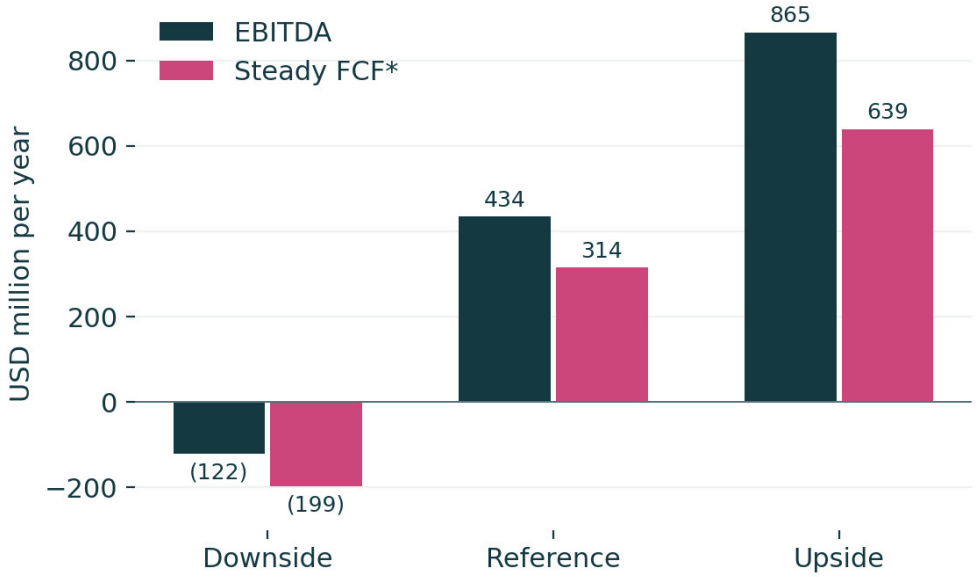
Item	Reconciled reference basis	Interpretation
Saleable battery output	6.0 GWh x 90% throughput utilization x 94.444% qualified saleable yield = 5.1 GWh	Demand cap applies once; utilization and yield are separate
Internal LTO procurement	5.1 million kWh x 2.4 kg/kWh = 12,240 t/year	Intensity includes reference cell losses; do not divide by cell yield again
Finished powder output	12,240 internal + 2,500 external = 14,740 t/year	81.89% of 18,000 t/year finished-powder nameplate
Powder capacity balance	3,260 t/year unutilized design capacity	No unexplained inventory build or sale assumed for the remainder
Feed inputs	Finished demand / 95% synthesis yield x stoichiometric coefficients	Approximately 4,996 t/year Li2CO3 and 13,499 t/year TiO2
Full-campus organization	1,105 FTE = 875 production and operating support + 230 SG&A and R&D	Corrects printed 1,050; no duplicated payroll in operating overhead

Loaded annual payroll is $107.355 million. Full staff rows are 520 production, 135 maintenance, 110 quality, 95 engineering/R&D, 55 EHS/security, 55 logistics, 35 digital, 45 commercial/service and 55 administration. Rates and ramp are explicit workbook assumptions.

Synthesis yield is applied only to feed for this balance. Downside yield changes affect procurement intensity through a documented ratio to the reference cell yield.

Stress the case before expanding it

Demand, mix, quality and capital are interacting risks, not independent promises.



Case	GWh	Net sales	Margin
Downside	3.6	$851m	-14.4%
Reference	5.1	$1,490m	29.1%
Upside	5.5	$1,903m	45.5%

Reference EBITDA break-even
1.74 GWh/year at fixed reference mix

* Before growth capital and working-capital change.
Cash tax, sustaining capital and closure reserve included.
Downside losses require resizing or stopping.

Downside, reference and upside cases vary selling prices, product mix, demand, throughput, yield, feedstock, electricity, freight, capital, delay and working-capital terms. Each case recalculates output, costs and cash requirements. Qualification delay adds funding pressure before receipts begin.

Advancement requires contracted demand, representative yield and independent capital validation. The workbook reports EBITDA break-even and a cash-flow basis separately; positive EBITDA alone does not establish an acceptable return or financeability.

Editable cases use the same model as the web scenario tool. Scenario outputs are illustrative, with no incentive income in any base operating case.

No resource or demand assumption is backfitted to a target IRR. Returns are meaningful only with explicit ramp, tax, financing and cash-flow assumptions.

A schedule that leaves room for qualification

Commercial I sales are modeled from 2032, full capacity from 2036 and stabilization from 2037.

Period	Operating milestone	Evidence required to advance
2026 to 2027	Diligence and pre-FEED; conditional site control; product and supplier screen	Site investigation, utility study, basis of design, paid customer development and updated estimate
2027 to 2029	Pilot design, procurement, installation and qualification	Repeat lots, closed safety findings, customer sample acceptance and 90-day rate-run evidence
2029 to 2031	Commercial I engineering, permits, financing and construction	Firm demand, qualified suppliers, permits, utility agreements and completion support
2032 to 2033	2 GWh/year nameplate ramp and customer release	Measured utilization, saleable yield, field reliability, cash conversion and covenant headroom
2034 to 2036	Conditional expansion to 6 GWh/year and 18,000 t/year powder	Phase I operating evidence, contracted incremental demand, utility capacity and financed expansion
2037 onward	Reference stabilization	Validated product mix, steady staffing, maintenance, warranty and sustaining-capital provision

The inherited 2030 first-production and 2033 full-build targets are retired as uncommitted assumptions. The revised dates are a development sequence, not a guaranteed critical path. Utility upgrades, environmental diligence, qualification and financing can move each release.

Downside includes two additional years of qualification delay. Dates must be rebaselined after utility studies, site control, equipment bids and customer plans.

Permitting and community are early workstreams

Assign accountable owners while the process design can still respond to constraints.

Responsibility	Authority or counterparty	Required work before release
Land use, access and building safety	LaPorte County and relevant road, building and fire authorities	Written use determination, site plan, road approvals, fire access and hazardous-material review
Air and emissions	IDEM Office of Air Quality [D06]	Inventory kilns, dryers, powder, solvent, combustion and emergency emissions; determine permit class
Water, wastewater and stormwater	IDEM, receiving utility, local drainage or MS4 authority [D07]	Water balance, pretreatment terms, construction erosion control, discharge and industrial coverage
Wetlands and waters	USACE and IDEM as applicable	Field delineation, jurisdictional determination and avoidance before permit applications
Materials, waste and transport	EPA, IDEM, OSHA, DOT and responding agencies	Waste profiles, chemical inventory, threshold reviews, safe return flow and qualified battery packaging
Community and workforce	Local institutions and proposed community advisory process	Publish traffic, water and safety information; training pathway and emergency-response drills

Water reuse, solvent capture, scrap diversion and workforce training remain measurable design targets. Do not present an ISO, IATF, UL or other certification as obtained. Independent tests and the authority having jurisdiction determine the applicable compliance path.

This is a responsibility map, not a legal determination. Final applicability depends on site, equipment, chemicals, discharge, funding nexus and product use.

Public support remains a conditional opportunity

Current programs are screened for fit and excluded from the base funding case.

Route	Current primary-source finding	Project treatment
45X production credit	IRS general components: 75% in 2030, 50% in 2031, 25% in 2032, zero after. Battery-cell thresholds include 100 Wh/L and 12 Wh [D01].	Zero base value. Test LTO full-cell eligibility, sourcing, ownership and integrated-component rules.
Foreign-entity restrictions	IRS Notice 2026-15 gives interim material-assistance guidance; supplier and taxpayer evidence matters [D02].	Tax and sourcing counsel must review contracts and certifications before any claim.
DOE ASPECT	Alternative and waste feedstock chemical technologies; concept deadline 9 October 2026 [D03].	Ordinary virgin-feed LTO fit is unproven. Pursue only after a documented eligible work package.
DOE PROSPECT	University Planning Prize opened 14 September; closes 5 October 2026 [D04].	Potential university-led workforce partnership, not an assumed campus award.
OSC NSFF	Financing to qualified fund managers; proposals due 1 November 2026 [D05].	Potential private-capital channel. No direct grant or commitment is assumed.
State and local support	Project-specific lawful approvals, milestones and fiscal review would be needed.	Inherited $180 million stays conditional; no award or written commitment acquired.

Policy reviewed 17 September 2026. Reverify live notices before filing. The recovered county activation brief is supporting context, not evidence of government endorsement.

Use the next 180 days to earn the next release

Release the first tranche through accountable work packages and independent gate review.

Site and infrastructure

Days 1 to 60. Confirm authorized sponsor representatives, request title and survey, negotiate conditional access and scope the Phase I ESA.

Days 30 to 120. Complete wetlands, groundwater and vapor scoping; commission geotechnics and utility studies. Revisit alternatives if KBY-A fails.

Gate question. Can the parcel support the phased process without unacceptable environmental, access or infrastructure obligations?

Product and customers

Days 1 to 90. Select a cathode shortlist, test qualified feed, issue pilot equipment RFQs and obtain representative duty-cycle data.

Days 60 to 180. Develop paid sample and qualification agreements; document acceptance criteria, forecast bands and warranty boundaries.

Gate question. Can repeatable lots and a customer-valued full-cell system justify the next engineering and capital stage?

Capital and governance

Days 1 to 90. Assign project, technical, EHS, commercial and controls leads. Preserve source evidence and open a controlled data room.

Days 90 to 180. Reprice quantities with RFQs, update ramp and liquidity, close material model gaps and submit a proceed, resize or stop recommendation.

Gate question. Is the next tranche supported by committed funding, independent evidence and clear downside limits?

Safety, environmental, title, utility and liquidity failures override announcements and sunk cost. Gate owners do not approve their own evidence.

Evidence and delivery register

The document is one view of a coordinated model, with source lineage and editable companions.

Companion	Use	Control
Business plan PDF and DOCX	Investment narrative and editable text	KBY-01; 17 September 2026; Milieu Power source attribution retained
A3 site and evidence atlas	Georeferenced plan views, schedules, sources and constraints	Drawing IDs, north arrow, scale, CRS and geospatial file companions
GIS and geometry registers	Boundaries, gates, buildings, roads, utilities and reservations	Permanent feature IDs; source vs proposed geometry distinguished
Blender scene and web model	Shared architecture and six registered cameras	Same feature geometry; proposed materials and floor levels
Financial workbook and ledgers	Formulas, quantities, rates, equipment, labor and scenario outputs	Geometry IDs and work packages; measured quantities vs assumptions
Source register and analytical data	Retrieved records, imagery, native terrain and lawful acquisition instructions	Dates, metadata, rights, resolution, uncertainty and transformations
Reproducible scripts and change log	Rebuild outputs and trace revisions	Original source hashes retained; derived files versioned

Visit milieuminerals.com/projects/kingsbury for the coordinated project experience and downloads. The exact model quantities, candidate parcel schedule and finance outputs are governed by the final packaged registers.

Software actually used: Python spatial and document tools, interoperable GIS outputs and Blender. No native ArcGIS authoring or surveyed engineering design is claimed.

Selected primary sources

Source URLs are live references; dated sponsor reports remain benchmarks rather than Milieu assets.

ID	Source and use	Direct source
D01	IRS Form 7207 instructions December 2025	www.irs.gov / D01
D02	IRS Notice 2026-15	www.irs.gov / D02
D03	DOE ASPECT notice DE-FOA-0003647	www.energy.gov / D03
D04	DOE PROSPECT program and Planning Prize	www.energy.gov / D04
D05	Office of Strategic Capital Investment Fund Financing	www.cto.mil / D05
D06	IDEM Air Permitting	www.in.gov / D06
D07	IDEM Construction Land Disturbance Permitting	www.in.gov / D07
D08	Standard Lithium South West Arkansas DFS announcement September 3 2025	www.standardlithium.com / D08
D09	IperionX Titan DFS announcement June 4 2026	iperionx.com / D09
D10	Toshiba SCiB technology overview	www.global.toshiba / D10
D11	USGS Earth MRI critical minerals work in Indiana	www.usgs.gov / D11
D12	EIA Electric Power Monthly Table 5.6.A	www.eia.gov / D12

All listed sources reviewed 17 September 2026. Complete site sources, acquired files, dates and limitations accompany the GIS/evidence package. No source is a signed project commitment.

Site evidence sources and spatial method

Acquired native data support the screen while ownership, permit and sampling gaps remain visible.

ID	Acquired record	Date and interpretation
SITE-01	IGIO county-origin parcel service	LaPorte load 12 August 2025; retrieval 17 September 2026. Cadastral screen, not survey or title.
SITE-02	USDA NAIP via USGS National Map	16 June 2022; 0.6 m four-band service export. Natural color and NIR values are not calibrated mineral assays.
SITE-03	USGS 3DEP native 1 m DEM	2017 LiDAR; 4 July 2021 publication. NAD83 / UTM16N and NAVD88 metres. Raw LAS/LAZ not acquired.
SITE-04	USFWS National Wetlands Inventory	Retrieved 17 September 2026; polygon-specific imagery date unavailable. Not a jurisdictional determination.
SITE-05	Indiana DNR Best Available flood layer	NFHL source 18091C_FIRM1; retrieved 17 September 2026. Direct FEMA query unavailable; verify effective mapping.
SITE-06	EPA comprehensive Superfund site geometry	2020 report basis, 10 August 2022 change. Not a current plume edge or legal institutional-control perimeter.
SITE-07	EPA Fisher-Calo sixth five-year review	22 August 2025. Current review; appended remedy figure uses a 1998 base. Short-term protective finding has continuing obligations.
SITE-08/09	2022 ESD and 2023 review addendum	7 July 2022 and 6 December 2023. Read with current review and recorded controls.

GIS authority is NAD83 / UTM zone 16N, EPSG 26916, metres. Local scene origin is E 530400, N 4595600, H 220 m. Blender coordinates subtract this origin; glTF uses X, Z, negative Y. Concept campus grade is 221.3 m NAVD88 and building floor elevation 221.5 m, subject to survey and civil design.

Complete source register preserves acquisition method, files, rights and uncertainty. GeoTIFF drawing viewports and interoperable GIS accompany the georeferenced PDF atlas.