

Peel Business Park (Nambeelup) — Australia's First Industrial Microgrid

Complete 10-Phase Forensic Breakdown: Who started it, who handed the baton to whom, what went wrong in the Western Power Q&A phase, how Zenith engineered the 'Skinny Connection', ERAWA licensing Q&A, EPC construction, and 25-year retail/VPP operations.

PROJECT IDENTITY & SCALE

Developer:	DevelopmentWA (formerly LandCorp) + WA State Cabinet ('Transform Peel' Initiative) + Shire of Murray
Location:	Nambeelup, WA (10 km NE of Mandurah, 70 km south of Perth CBD along Kwinana Freeway / Forrest Highway)
Land & Yield:	1,000 Hectares Total Masterplan Stage 1 = 128 Hectares (~66+ Industrial Lots, expanding to 200+ ha)
Substation:	Pinjarra (PJR) Zone Substation — 0.0 MVA Remaining Thermal Headroom (Long 22kV Rural Feeders)
Legal Category:	Green-Title Heavy C&I / Agro-Industrial Estate (Crosses Public Roads)

WITHOUT MICROGRID (THE PHASE 5 WESTERN POWER SHOCK)

8–12 MVA Standard Grid Connection Request → Western Power demanded ~\$7M+ in customer-funded upstream 22kV feeder & Pinjarra substation headworks (~30% of DevelopmentWA's entire Stage 1 civil development budget!) + 3–4 year wait.

WITH MICROGRID (THE PHASE 6 'SKINNY CONNECTION' PIVOT)

Compressed by ~70% to a 1.2 MW → 4.0 MW CMD 'Skinny Connection' at a single 22kV Master Boundary Meter + 1.2 MW On-Site Ground Solar PV + 2.5 MWh Central Lithium-Ion BESS + Private 22kV/415V Underground Ring Main.

Commercial Result: \$0 Upfront Microgrid CapEx to DevelopmentWA (25-Year Build-Own-Operate by Zenith) | Saved ~30% of Stage 1 Headworks Budget | Delivers ~30% Cheaper Electricity to Industrial Tenants vs Standard Bundled Grid Tariffs.

VISUAL 10-PHASE TIMELINE AT A GLANCE (FROM FIRST LAND PURCHASE TO 25-YEAR VPP OPERATIONS)

● Early Stealth & Planning (Phases 1–3) | ● Western Power Q&A Shock & Zenith Pivot (Phases 4–6) | ● Licence Q&A, Build & Titles (Phases 7–9) | ● 25-Yr Operations (Phase 10)

PHASE 1 T – 48 to 60 Months Cabinet Mandate, Broadacre Land Assembly & Funding Lock-In	PHASE 2 T – 36 Months District & Local Structure Plan Lodged (Green-Title Subdivision Layout)	PHASE 3 T – 24 Months EPA Environmental Referral (s.38), Peel Drainage & Water Corp Headworks	PHASE 4 T – 20 Months Civil & HV Electrical Engineer Calculates 8–12 MVA Load & Lodges Western Power ENAR	PHASE 5 T – 18 to 14 Months The Western Power Q&A Black Hole & 'The \$7M+ Shock Letter' (30% of Budget!)	PHASE 6 T – 12 Months The Microgrid Pivot, Competitive EOI/RFP & 'Skinny Connection' Engineering	PHASE 7 T – 9 Months Microgrid SPV Incorporation & ERAWA 21-Day Public Q&A for EDL7 & ERL28	PHASE 8 T – 5 Months EPC Construction (Sunrise Energy + Fimer), Common Trenching & WP Relay Q&A	PHASE 9 T = 0 Completion, WAPC Servicing Clearance, Title Issuance & 'Lights On'	PHASE 10 T + 1 Month to 25+ Years Ongoing Operations: Unbundled Retail Billing (95% Rev), WEM IRCR (5% Rev) & VPP
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COMPLETE BATON-HANDOFF ROSTER (EVERY FIRM, CONSULTANT, CONTRACTOR & REGULATOR ON PEEL BUSINESS PARK (EDL7))

DEVELOPER / LANDOWNER DevelopmentWA (Industrial Lands Authority / LandCorp) & Shire of Murray	TOWN PLANNING & URBAN DESIGN Taylor Burrell Barnett (TBB) / RobertsDay / DevelopmentWA Planning	ENVIRONMENTAL & WATER Strategen-JBS&G / Emerge Associates (EPA s.38 & Peel-Harvey drainage) + Water Corp	CIVIL & HV ENGINEERING Cossill & Webley (C&W — Lead Civil/Network Engineer) + Stantec / GHD
GRID OPERATOR (Q&A SHOCK) Western Power (Access Planning & Pinjarra PJR Substation Network Team)	MICROGRID IPP / BOO WINNER Peel Renewable Energy Pty Ltd (Zenith Connected Energy — Rob Breden & Thomas Friberg)	ECONOMIC REGULATOR Economic Regulation Authority of WA (ERAWA — EDL7 & ERL28 21-day public Q&A)	EPC CONSTRUCTION & OEM Sunrise Energy Group (Turnkey Solar/BESS EPC) + Fimer (Inverters & BESS PCS) + RJ Vincent (Civil)

Early Stealth Land Assembly, SPV/GST Trigger & Town Planning Structure Plan

PHASE 1 T - 48 to 60 Months (2015–2016) STAGE A: STEALTH LAND & PLANNING

Cabinet Mandate, Broadacre Land Assembly & Funding Lock-In

PLAIN-ENGLISH TRANSLATION (WHAT ACTUALLY HAPPENS & WHY)

Imagine the WA Government wants to create a massive new industrial hub south of Perth near Mandurah so factories, food processors, and logistics warehouses can set up shop. They set aside 1,000 hectares of sandy farmland in Nambeelup and hand it to DevelopmentWA (the State's land developer) with a fixed budget to build Stage 1 (128 hectares). At this point, nobody is thinking about microgrids—they just secure the land and announce the 'Transform Peel' vision.

DEEP FORENSIC FACTS (EXACT ENTITIES, NUMBERS, DATES & FILINGS)

- WA State Cabinet & Royalties for Regions / Transform Peel program earmarked 1,000 hectares at Nambeelup (Shire of Murray), 10 km north-east of Mandurah.
- DevelopmentWA (then LandCorp) carved out Stage 1 covering 128 hectares (~66 industrial lots ranging from 2,000 sqm to 5+ ha) with a total Stage 1 infrastructure budget of ~\$24M–\$30M.
- In private-sector equivalents (like Wolfdene's BMP Pinjarra Pty Ltd or Ciraterra Kemerton), this is the exact moment the developer registers a suburb-named SPV on ASIC and activates GST on the Australian Business Register (ABR) to claim back the 10% GST input tax credit on the land deposit.

BATON HANDOFF: WA State Cabinet / Treasury & Private Rural Landowners →

DevelopmentWA Industrial Development Director & Project Team

Trigger Event: Cabinet funding approval & Crown/freehold land assembly at Nambeelup

Q&A & FRICTION IN THIS PHASE

Internal Treasury & Cabinet business-case Q&A: How do we service 1,000 ha of rural land at Nambeelup with roads, water, sewer, and power without blowing the State's Stage 1 civil infrastructure budget?

AI DATA TRAIL & PHONE QUESTION

Data Caught: ASIC New Company Incorporation API (data.gov.au) + ABR GST Activation Timestamp + Landgate Large Rural Parcel Settlement + State Budget Papers.

Ask on Call: To Developer Acquisitions Director: 'When you first lock up a 100-to-200 hectare industrial parcel in the Peel or South-West corridor, do you budget a standard per-hectare allowance for Western Power headworks, or do you assume grid capacity is available until your engineers lodge the ENAR?'

PHASE 2 T - 36 Months (2017) STAGE A: STEALTH LAND & PLANNING

District & Local Structure Plan Lodged (Green-Title Subdivision Layout)

PLAIN-ENGLISH TRANSLATION (WHAT ACTUALLY HAPPENS & WHY)

Before you can chop a giant 1,000-hectare farm into 66 individual factory lots, you have to hire a Town Planner to draw the map of where the public roads, drainage basins, and industrial lots will go. Crucially, because these factories will sit on standard 'Green-Title' lots separated by public roads owned by the Shire of Murray, any private power cable that crosses under those public roads will eventually require a rare government Electricity Distribution Licence (EDL).

DEEP FORENSIC FACTS (EXACT ENTITIES, NUMBERS, DATES & FILINGS)

- Town planners (Taylor Burrell Barnett / DevelopmentWA) prepared the Peel Business Park District Structure Plan and Nambeelup Industrial Core Local Structure Plan with the Shire of Murray and WA Planning Commission (WAPC).
- Locked in a Green-Title Industrial Subdivision layout (zoned General Industry / Agribusiness) where all internal roads are dedicated as public Crown roads to the Shire of Murray.
- Under the WA Electricity Industry Act 2004, distributing electricity across public Crown roads to multiple green-title lots is strictly illegal unless you are Western Power OR hold an ERAWA Electricity Distribution Licence (EDL)—a massive legal moat that only Zenith Connected Energy holds in WA today.

BATON HANDOFF: DevelopmentWA Project Director →

Town Planning Consultants (TBB) → Shire of Murray & WA Planning Commission (WAPC)

Trigger Event: Lodgement of the Peel Business Park Local Structure Plan (SLIP DPLH-024)

Q&A & FRICTION IN THIS PHASE

Council & WAPC planning Q&A: Traffic access off Forrest Highway/Kwinana Freeway, bushfire setbacks, industrial buffer zones, and carving out Public Utility (PU) reserve lots.

AI DATA TRAIL & PHONE QUESTION

Data Caught: SLIP WAPC Structure Plans GeoJSON ([slip_structure_plans_dplh024.geojson](#)) showing exact polygon geometry, hectare area, and 'Lodged / Under Assessment' status.

Ask on Call: To Town Planner (TBB / CLE): 'When you draw the Structure Plan for an industrial estate in Pinjarra or Mundijong, do you reserve a 2,500 sqm Public Utility lot for a central community battery and private HV switchroom up front, or do you have to amend the structure plan later when Western Power's quote comes back too high?'

● Environmental (EPA s.38) & Water Corp Clearances
→ Civil/HV Engineer Lodges Western Power ENAR

PHASE 3 T - 24 Months (2018) ● STAGE A: STEALTH LAND & PLANNING

EPA Environmental Referral (s.38), Peel Drainage & Water Corp Headworks

🧠 PLAIN-ENGLISH TRANSLATION (WHAT ACTUALLY HAPPENS & WHY)

Nambeelup sits in a flat, waterlogged Peel-Harvey catchment area. Before a single bulldozer can move dirt, environmental scientists have to prove to the Environmental Protection Authority (EPA) that clearing the land and draining rainwater won't pollute the Peel Inlet, and engineers have to arrange water and sewer pipes with the Water Corporation. These public environmental filings reveal the exact size and lot yield of the project two years before it opens.

📁 DEEP FORENSIC FACTS (EXACT ENTITIES, NUMBERS, DATES & FILINGS)

- Environmental consultants lodged EPA Section 38 referrals (DWER-120) and Native Vegetation Clearing applications (DWER-116), plus the Nambeelup Brook District Water Management Strategy (DWMS).
- Simultaneously, civil engineers initiated Water Corporation scheme water and wastewater pressure-main extensions from Mandurah/Pinjarra into the Nambeelup site.
- Applying Thomas Friberg's Goldilocks Sizing Rule (200 ha industrial ≈ 5 MW peak demand / ~20 GWh/yr): Stage 1 (128 ha expanding to 200+ ha) sits dead-center in Zenith's 5 MW–10 MW C&I sweet spot.

🏃 BATON HANDOFF: Town Planners & DevelopmentWA →

Environmental Consultants (Strategen-JBS&G / Emerge) → EPA (DWER-120) & Water Corporation

Trigger Event: Submission of EPA Section 38 Environmental Referral & Water Strategy

⚡ Q&A & FRICTION IN THIS PHASE

EPA & DWER Q&A on nutrient stripping, wetland buffers, black cockatoo foraging habitat, and engineered fill levels across the 128 ha Stage 1 footprint.

🤖 AI DATA TRAIL & 📞 PHONE QUESTION

Data Caught: SLIP EPA Referred Proposals (slip_epa_referred_proposals_latest1000_dwer120.geojson) & Native Vegetation Clearing (dwer116.geojson) + WAPC Subdivision Form 1A.

Ask on Call: To Environmental / Development Manager: 'Once your EPA referral and Water Management Strategy are lodged, how many months typically elapse before your civil engineer submits the formal Western Power ENAR connection application?'

PHASE 4 T - 20 Months (Late 2018) ● STAGE B: THE WESTERN POWER SHOCK & MICROGRID PIVOT

Civil & HV Electrical Engineer Calculates 8–12 MVA Load & Lodges Western Power ENAR

🧠 PLAIN-ENGLISH TRANSLATION (WHAT ACTUALLY HAPPENS & WHY)

DevelopmentWA now hires major engineering firms (Stantec / GHD / Mott MacDonald) to design the actual underground power cables, transformers, and roads. Using Western Power's rulebook, the engineers calculate that 128+ hectares of food factories, cold-storage warehouses, and heavy fabricators will need 8 to 12 Megawatts (MVA) of grid electricity. They fill out Western Power's official application form (called an ENAR) and send it in, expecting a normal connection quote.

📁 DEEP FORENSIC FACTS (EXACT ENTITIES, NUMBERS, DATES & FILINGS)

- Civil and electrical engineering consultants (Stantec / Wood & Grieve, GHD, Mott MacDonald) calculated the After Diversity Maximum Demand (ADMD) for Stage 1 and full precinct build-out.
- Based on industrial power density (~35–65 kVA per hectare for agro-processing, cold storage, and manufacturing), the precinct required ~8 MVA to 12+ MVA of feeder capacity.
- Engineers lodged a formal Electricity Network Access Request (ENAR) and Feasibility Study application with Western Power's Access Planning / Grid Transformation division.

🏃 BATON HANDOFF: DevelopmentWA Engineering Lead →

Civil & HV Electrical Consultants (Stantec / GHD) → Western Power Access Planning

Trigger Event: Formal submission of Western Power ENAR (Electricity Network Access Request) & Feasibility Fee

⚡ Q&A & FRICTION IN THIS PHASE

Initial engineering Q&A with Western Power over industrial diversity factors, cold-storage motor starting currents, and future Stage 2/3 load ramp trajectories.

🤖 AI DATA TRAIL & 📞 PHONE QUESTION

Data Caught: Western Power Network Opportunity Map (NOM) Constraint API showing Pinjarra (PJR) at 0.0 MVA remaining capacity + Subdivision Engineering Tender notices.

Ask on Call: To Civil/HV Consultant (Stantec / Cossill & Webley / UPD): 'When you lodge an 8–12 MVA industrial ENAR on a rural 22kV feeder like Pinjarra or Byford, how long is Western Power taking right now to return the Feasibility Quote?'

THE SWEET SPOT: The Western Power 'Shock Letter' Q&A → Calling Zenith & Engineering the ≤4 MVA 'Skinny Connection'

PHASE 5 T - 18 to 14 Months (Early 2019) - #1 AI INTERCEPT WINDOW STAGE B: THE WESTERN POWER SHOCK & MICROGRID PIVOT

The Western Power Q&A Black Hole & 'The \$7M+ Shock Letter' (30% of Budget!)

PLAIN-ENGLISH TRANSLATION (WHAT ACTUALLY HAPPENS & WHY)

This is the make-or-break crisis moment of the entire project. After months of back-and-forth emails and technical studies, Western Power drops a bombshell letter on DevelopmentWA's desk: the local Pinjarra Substation is completely full, and the long 22kV country power lines can't carry 8–12 MW to Nambeelup. If DevelopmentWA wants standard grid power, they must pay ~\$7M+ out of their own pocket to upgrade Western Power's lines and substation—wiping out 30% of their entire Stage 1 budget and delaying the project by years!

- DEEP FORENSIC FACTS (EXACT ENTITIES, NUMBERS, DATES & FILINGS)
- Western Power's Pinjarra (PJR) Zone Substation sat over 15 km away via constrained, high-impedance 22kV rural overhead feeders with 0.0 MVA spare firm capacity.
 - Western Power's Feasibility Study response required massive customer-funded deep network augmentation (new 22kV express feeders + substation transformer/switchgear works) costing ~30% of DevelopmentWA's entire Stage 1 development budget (~\$7M–\$9M+).
 - Even worse: under Western Power's NFIT / Access Code rules, DevelopmentWA would have to pay 100% of those millions upfront with zero tariff rebate, and wait years for Western Power crews to build it—killing the commercial viability of Peel Business Park.
 - As Thomas Friberg noted in your interview: if you also ask Western Power to export 5 MW of solar into a constrained zone, they demand \$750,000 and 3 years just to do the connection study!

BATON HANDOFF: Western Power Grid Transformation / Access Planning Engineers → Stantec / GHD & DevelopmentWA Executive Board (Crisis Review)

Trigger Event: Receipt of Western Power HV Feasibility Study Quote ('The Shock Letter')

Q&A & FRICTION IN THIS PHASE

6–12 months of brutal technical Q&A with Western Power trying (and failing) to negotiate lower ADMD allowances, staged feeder upgrades, or alternative 22kV switching ties.

AI DATA TRAIL & PHONE QUESTION

Data Caught: Our AI Engine predicts this exact collision 12–18 months BEFORE it happens by intersecting SLIP/ASIC land size (128+ ha = 5–10 MW) against Western Power's Pinjarra (0.0 MVA) constraint polygon.

Ask on Call: To Civil/HV Consultant or Developer PM: 'Which active industrial or residential estates on your desk right now just got hit with a Western Power headworks quote exceeding \$3M–\$5M or a multi-year substation delay?'

PHASE 6 T - 12 Months (Mid–Late 2019) STAGE B: THE WESTERN POWER SHOCK & MICROGRID PIVOT

The Microgrid Pivot, Competitive EOI/RFP & 'Skinny Connection' Engineering

PLAIN-ENGLISH TRANSLATION (WHAT ACTUALLY HAPPENS & WHY)

Refusing to lose 30% of their budget to Western Power, DevelopmentWA and their engineers ask: 'What if we only ask Western Power for a tiny trickle of power (a 1.2 MW to 4 MW "Skinny Connection" that fits on the existing country wire right now), and we get a private company to build a solar farm, a giant battery, and a private underground power network inside the estate at THEIR own cost?' DevelopmentWA runs a tender, and Zenith Energy (Peel Renewable Energy) wins it!

- DEEP FORENSIC FACTS (EXACT ENTITIES, NUMBERS, DATES & FILINGS)
- DevelopmentWA issued a two-stage competitive Expression of Interest (EOI) and Request for Proposal (RFP) for a 25-year Build-Own-Operate (BOO) renewable industrial microgrid.
 - Zenith Energy (forming Peel Renewable Energy Pty Ltd , led commercially by Rob Breden & Thomas Friberg's Connected Energy team) won the tender with a radical electrical compression design:
 - 1. 'Skinny Connection' Compression: Slashed the Western Power grid request by ~70%—down to a single 22kV Master Boundary Connection capped at 1.2 MW initial (scaling to ≤4.0 MW CMD), completely eliminating the ~\$7M upstream feeder upgrade!
 - 2. Behind-the-Meter Generation & Storage: 1.2 MW Ground-Mount Solar PV array (expanding to 5+ MW) + 2.5 MWh Central Lithium-Ion BESS (<10 MW AC inverter cap with zero/controlled export so Western Power waived the \$750k / 3-year export study).
 - 3. Commercial Deal: DevelopmentWA paid \$0 for the solar/battery plant, leased a dedicated compound lot to Zenith, saved ~30% on Stage 1 headworks, and locked in a 30% electricity tariff discount for all future Peel Business Park tenants via Restrictive Covenants on every land title.

BATON HANDOFF: DevelopmentWA & Engineering Advisors (Stantec / Marsden Jacob) → Zenith Connected Energy (Peel Renewable Energy Pty Ltd — Rob Breden & Thomas Friberg)

Trigger Event: Execution of 25-Year Microgrid Development & Concession Agreement (BOO)

Q&A & FRICTION IN THIS PHASE

Intense commercial & technical Q&A during tender: negotiating the 25-year concession term, peppercorn land lease for the solar/BESS compound, mandatory title covenants so every lot buyer must connect to Peel Renewable Energy, and guaranteeing 99.98% industrial reliability.

AI DATA TRAIL & PHONE QUESTION

Data Caught: Tenderlink / VendorPanel / WA Tenders notices + ASIC registration of PEEL RENEWABLE ENERGY PTY LTD (ACN 639 385 065 on 27 Feb 2020).

Ask on Call: To Developer Project Director: 'If Zenith Connected Energy could compress your Western Power grid connection by 70% down to a ≤4 MW skinny connection and fund the solar, battery, and embedded network on a turnkey BOO basis, how much headworks CapEx would that save Stage 1?'

● Microgrid SPV & ERAWA 21-Day Public Licence Q&A → EPC
Common Trenching, BESS Build & WP Relay Witness Testing

PHASE
7

T - 9 Months (Feb 2020 - Oct 2020)

● STAGE C: REGULATORY Q&A, EPC BUILD & COMPLETION

Microgrid SPV Incorporation & ERAWA 21-Day Public Q&A for EDL7 & ERL28

🧠 PLAIN-ENGLISH TRANSLATION (WHAT ACTUALLY HAPPENS & WHY)

Because Peel Business Park's private power cables have to run underneath public roads owned by the Shire of Murray to reach 66+ separate Green-Title factory lots, Zenith cannot legally turn the power on without becoming an official licensed power utility—just like Western Power and Synergy! So Zenith incorporates 'Peel Renewable Energy Pty Ltd' and goes through an 8-month regulatory interrogation and 21-day public Q&A with the Economic Regulation Authority (ERAWA) to win Licence EDL7 and ERL28.

📄 DEEP FORENSIC FACTS (EXACT ENTITIES, NUMBERS, DATES & FILINGS)

- On 27 February 2020, Zenith incorporated **PEEL RENEWABLE ENERGY PTY LTD** (ACN 639 385 065) and lodged formal applications with the Economic Regulation Authority of WA (ERAWA) for an Electricity Distribution Licence (**EDL7**) and Electricity Retail Licence (**ERL28**).
- ERAWA opened a mandatory 21-day public consultation and regulatory Q&A period, interrogating Peel Renewable Energy on:
 - Financial and technical capacity to operate an underground 22kV/415V distribution network for 25+ years;
 - Asset Management System (AMS) audit framework and bushfire/electrical safety management plans (Building & Energy / EnergySafety WA);
 - Small-use customer protection framework, Standard Form Contract, hardship policies, and Ombudsman membership.
- In October 2020, ERAWA formally granted **EDL7** and **ERL28** —making Peel Renewable Energy the first private green-title industrial microgrid utility in Australia.

🏃 BATON HANDOFF: Zenith Connected Energy Legal & Regulatory Team →

Economic Regulation Authority of WA (ERAWA Secretariat & Governing Board)

Trigger Event: Lodgement of ERAWA EDL7 & ERL28 Application + 21-Day Public Consultation Notice

⚡ Q&A & FRICTION IN THIS PHASE

ERAWA 21-day public Q&A + EnergySafety WA technical review of the Asset Management System (AMS), metering code compliance, and Retailer of Last Resort (RoLR) ring-fencing.

🗄️ AI DATA TRAIL & 📞 PHONE QUESTION

Data Caught: ERAWA Active Licences & Public Consultation Register (erawa.com.au) + ASIC Registry (**ACN 639 385 065**).

Ask on Call: To Rival Embedded Network Operators (Enpowered / Clear Energy): 'When a green-title estate crosses public Crown roads and requires a full ERAWA EDL distribution licence like Peel EDL7, do you partner with an EDL holder like Zenith or only bid on single-title strata sites?'

PHASE 8

T - 5 Months (Mid-Late 2020)

● STAGE C: REGULATORY Q&A, EPC BUILD & COMPLETION

EPC Construction (Sunrise Energy + Fimer), Common Trenching & WP Relay Q&A

🧠 PLAIN-ENGLISH TRANSLATION (WHAT ACTUALLY HAPPENS & WHY)

While civil contractor RJ Vincent digs the road trenches for water pipes and asphalt, Zenith's construction contractor (Sunrise Energy Group) drops private 22kV underground power cables into the exact same trenches, builds a 1.2 MW solar farm next to the estate, and installs a 2.5 MWh giant battery using Fimer inverters. Before Western Power lets them flip the switch, Western Power's safety engineers come out to test the 'reverse-power relays' to make sure the microgrid never accidentally pushes unauthorized solar power back into Pinjarra's full grid.

📄 DEEP FORENSIC FACTS (EXACT ENTITIES, NUMBERS, DATES & FILINGS)

- Civil contractor RJ Vincent executed Stage 1 earthworks, drainage, and road trenches while Zenith's appointed turnkey solar/storage EPC **Sunrise Energy Group** installed the 1.2 MW ground-mount solar array and 2.5 MWh central BESS.
- Equipment OEM **Fimer** supplied the solar inverters, bidirectional PCS, and microgrid controller capable of dynamic peak-logging, power-factor correction, and seamless grid-synchronized control.
- Inside the estate, private 22kV HV ring-main cables, padmount transformers, and smart commercial sub-meters were laid in common trenches alongside water and NBN conduits.
- Western Power Protection & Commissioning Q&A: Western Power engineers conducted strict witness testing on the 22kV boundary circuit breaker and reverse-power protection relays (**32R**) to guarantee zero unauthorized export into the constrained Pinjarra feeder.

🏃 BATON HANDOFF: Zenith Engineering & Delivery Team →

Sunrise Energy Group (EPC) + Fimer (OEM) + RJ Vincent (Civil) + Western Power Commissioning Engineers

Trigger Event: Execution of EPC Contract & Western Power Boundary Connection Witness Test Plan

⚡ Q&A & FRICTION IN THIS PHASE

Technical Protection Relay Q&A with Western Power: proving millisecond trip times on reverse power flow, anti-islanding protection, SCADA telemetry, and harmonic distortion compliance.

🗄️ AI DATA TRAIL & 📞 PHONE QUESTION

Data Caught: DevelopmentWA Construction Updates + Sunrise Energy Group / Fimer EPC case study publications + Western Power energizing queue.

Ask on Call: To EPC / HV Commissioning Lead: 'During Western Power witness testing on a constrained 22kV feeder, what is the biggest hold-up on zero-export relay sign-off, and how much time does keeping inverters under 10 MW AC save?'

● **Completion, WAPC Power Clearance & Title Issuance → 25-Year Retail Billing (95% Rev), WEM IRCR (5% Rev) & Phase 2 VPP**

Completion, WAPC Servicing Clearance, Title Issuance & 'Lights On'

PLAIN-ENGLISH TRANSLATION (WHAT ACTUALLY HAPPENS & WHY)

In December 2020, Western Power flips the switch on the single boundary meter at the entrance to Peel Business Park! Because Zenith (Peel Renewable Energy) is now an official licensed utility (EDL7), Zenith signs the official government 'Power Servicing Clearance Letter' for the WA Planning Commission. That single piece of paper lets DevelopmentWA immediately issue Landgate property titles for all 66 Stage 1 lots and collect tens of millions of dollars from factory buyers!

DEEP FORENSIC FACTS (EXACT ENTITIES, NUMBERS, DATES & FILINGS)

- In December 2020, the Peel Business Park microgrid was officially commissioned and energized via its single 22kV Western Power boundary connection.
- Crucial Developer Accelerator: Under WAPC Subdivision Approval Conditions, a developer cannot get Landgate titles issued until the electricity network operator signs a 'Clearance of Underground Power Condition'. Because [Peel Renewable Energy \(EDL7\)](#) is the licensed distributor inside the estate, Zenith issued the servicing clearance directly—bypassing Western Power's notorious 6-to-9 month multi-stage handover bottleneck!
- First anchor industrial tenants (including Doral Fused Materials, Peel Food Zone processors, and specialist manufacturers) connected behind the microgrid's smart child sub-meters.

BATON HANDOFF:

Sunrise Energy Group / Western Power Commissioning + Peel Renewable Energy (EDL7) →

WA Planning Commission (WAPC) / Landgate → DevelopmentWA Sales Settlement & Industrial Tenants

Trigger Event: Energization of Master Boundary NMI + Issuance of WAPC Subdivision Power Clearance Certificate

Q&A & FRICTION IN THIS PHASE

Final WAPC clearance verification ensuring every individual green-title lot has a tested underground LV/HV pillar connection and registered restrictive covenant.

AI DATA TRAIL & PHONE QUESTION

Data Caught: Landgate Survey Plan Deposit & Title Creation + ERAWA Annual Compliance Report ([EDL7](#) operational commencement).

Ask on Call: To Developer Project Director: 'How many months earlier were you able to clear WAPC subdivision power conditions and settle Stage 1 lot titles by having Zenith issue the EDL clearance versus waiting in Western Power's standard handover queue?'

Ongoing Operations: Unbundled Retail Billing (95% Rev), WEM IRCR (5% Rev) & VPP

PLAIN-ENGLISH TRANSLATION (WHAT ACTUALLY HAPPENS & WHY)

How does Zenith actually run the microgrid and make money for the next 25 years? Every factory in Peel Business Park gets their monthly power bill from Peel Renewable Energy at a 30% discount compared to normal Synergy prices. Why can Zenith charge 30% less and still make a huge profit? Because on a normal power bill (as Thomas Friberg's Slide 4 showed), 58.6% of the bill is Western Power wire fees and AEMO peak capacity charges! By generating solar on-site, using the 2.5 MWh battery during the 4pm–9pm summer peak so the estate barely touches the Western Power grid, and owning the internal wires, Zenith keeps that 58.6% margin while expanding solar and batteries as new factories move in!

DEEP FORENSIC FACTS (EXACT ENTITIES, NUMBERS, DATES & FILINGS)

- Revenue Stream #1 (95% of Cashflow — Unbundled Tariff Arbitrage): As Thomas Friberg's Slide 4 ([2 GWh Industrial Bill = \\$536,448.38/yr](#)) proves, a standard grid bill is 37.55% Variable Energy ([\\$200.2k](#)), 30.12% Western Power Network ([\\$160.6k](#)), 16.78% AEMO Peak Capacity/IRCR ([\\$89.5k](#)), 11.16% Market Fees ([\\$59.5k](#)), and 4.39% Enviro ([\\$23.4k](#)). Inside Peel Business Park, Zenith supplies ~50%+ of total energy from on-site solar + BESS, pays Western Power only for the tiny [1.2–4.0 MW](#) skinny connection at the boundary, and bills tenants directly via smart sub-meters at a ~30% discount.
- Revenue Stream #2 (5% of Cashflow — AEMO WEM Reserve Capacity [IRCR](#) & Peak Shaving): During AEMO's 12 Peak SWIS Trading Intervals (4:00 PM – 9:00 PM on the 4 hottest summer days, Dec–Mar), Zenith's 24/7 Control Room discharges the 2.5 MWh BESS so boundary import drops near zero—slashing/monetizing AEMO Individual Reserve Capacity Requirement ([IRCR](#)) charges worth [\\$360,700 to \\$488,500 per MW per year](#) !
- Phase 2 VPP Expansion: As Stage 2 and Stage 3 lots fill up with new warehouses and factories, Zenith installs additional rooftop solar and BESS units orchestrated as a Virtual Power Plant (VPP)—keeping the entire growing industrial park under the original ≤4.0 MW boundary cap without ever triggering a Western Power grid upgrade.

BATON HANDOFF: Zenith Construction & Commissioning Team →

Zenith Connected Energy Retail Billing ([ERL28](#)) & 24/7 Remote VPP Control Room + Thomas Friberg (Phase 2 Expansion)

Trigger Event: Commercial Operations Date (COD) & First Monthly Tenant Utility Billing Cycle

Q&A & FRICTION IN THIS PHASE

Ongoing operational Q&A: onboarding new industrial tenants, sizing customs connection pillars for high-load factories (like Doral's electric kilns), and annual ERAWA performance reporting.

AI DATA TRAIL & PHONE QUESTION

Data Caught: ERAWA Annual Retail & Distribution Performance Reports ([EDL7](#) / [ERL28](#)) + AEMO WEM Reserve Capacity Register.

Ask on Call: To Zenith / Industrial Estate Manager: 'As Stage 2 and 3 industrial tenants move in with heavy process loads, at what load threshold do you trigger the next modular expansion of the on-site solar and central BESS?'