

How WA Greenfield Microgrids Actually Work (Start-to-Finish) & Where Our 6 Stealth SPVs Sit Today

Side-by-side synthesis of the 4 completed WA reference projects (Peel Business Park EDL7, Eglinton Village EDL10, Ocean Reef Marina EDL9, East Village Knutsford) + Thomas Friberg's Goldilocks Math + Our 6 Unannounced WA Stealth SPV Leads.

⚡ 1. THE 'SKINNY CONNECTION' TRICK (PLAIN ENGLISH)

When a developer builds a **128–200 ha industrial park** (Peel) or **1,270-home suburb** (Eglinton), normal rules require **10 to 15 MVA** of grid power. In a red substation zone (0.0 MVA headroom), Western Power demands **\$5M–\$10M upfront (~30% of Stage 1 budget!)** and **3–5 years**.

Zenith's Move: Zenith installs an on-site Solar Farm + 2.5–6.0 MWh Community Battery and asks Western Power for a tiny **≤4.0 MVA 'Skinny Connection'** (~70% smaller!) with **zero solar export** (avoiding Western Power's **\$750k / 3-year** export study trap).

💰 2. HOW ZENITH MAKES MONEY (SLIDE 4 UNBUNDLED BILL MATH)

Thomas Friberg's Slide 4 (2 GWh industrial user paying \$536,448/yr) shows why microgrids print money:

- **37.55% (\$200.2k)** is Variable Wholesale Energy
- **30.12% (\$160.6k)** is Western Power Network Wire Charges
- **16.78% (\$89.5k)** is AEMO Peak Capacity (IRCR) + **15.55% (\$82.9k)** Market/Enviro Fees (IRCR)

Because Zenith owns the internal wires (EDL) and discharges its battery during the 4pm–9pm summer peak, Zenith captures that **58.6% (\$314,507/yr) network + capacity slice** while still giving tenants a **20%–30% bill discount!** (95% retail bills / 5% WEM IRCR credits).

🏡 3. GREEN-TITLE (EDL) VS STRATA EXEMPTION MOAT

Under the *WA Electricity Industry Act 2004*, it is **illegal** to run private power cables across a public council road without an **ERAWA Electricity Distribution Licence (EDL)**.

- **Rivals (Enpowered, EnergyTec, Change Energy):** Do not hold an ERAWA EDL. They can only wire single-title / survey-strata sites with private common-property roads (like *East Village Knutsford*).
- **Zenith Connected Energy:** Holds **100% of WA's green-title subdivision EDLs** (EDL7 Peel, EDL9 Ocean Reef, EDL10 Eglinton)!

📍 WHERE OUR 6 NEWLY DISCOVERED WA STEALTH SPV LEADS SIT ON THIS EXACT 10-PHASE TIMELINE TODAY (BEFORE PHASE 5 SHOCK!)

LEAD RANK	STEALTH ASIC SPV & DECISION-MAKER	CURRENT PHASE (OUT OF 10)	CONSTRAINED SUBSTATION	CLONED REFERENCE PROJECT	WHY ZENITH WINS BY CALLING RIGHT NOW
#1 GOLD STEALTH	PROVIDENCE LIFESTYLE (BULLSBROOK) PTY LTD (ACN 698 900 248) & (CHAMPION LAKES) PTY LTD (ACN 690 381 189) Bullsbrook: 09 Jun 2026 (4 mos ago, GST Active) Champion Lakes: 26 Aug 2025 (GST Active) Decision-Maker: Providence Lifestyle Group Pty Ltd (John Wood, MD & John Green, Ops Director — (08) 6333 0300)	Phase 1 → Phase 2 (Pre-Public Stealth Acquisition; NOT on website or press)	Bullsbrook → Muchea (MUC) 0.5 MVA Red Zone Champion Lakes → Gosnells (G 515) 3.5 MW Active WP NSSS Tender!	Matches East Village (Single-Title Land-Lease Exemption) + Eglinton (Community BESS + Solar Sponge)	Providence builds every 200–360 home resort with a private solar + battery embedded network (bundling 8 kWh/day free), but currently self-funds Fronius hardware, had to hire R-Group ((08) 6555 1111) to fix its custom utility billing, and leaves \$360k–\$488k/MW/yr in AEMO WEM IRCR + Gosnells 3.5 MW NSSS payments on the table!
	BMP PINJARRA PTY LTD (ACN 686 986 527, ABN 20 686 986 527) 12 May 2025 (GST Activated 12 May 2025 — HQ: South Yarra VIC / Perth WA) Decision-Maker: Wolfdene Pty Ltd (Michael Goldthorp, MD — (03) 9820 2277 / WA: 0455 065 256) + Blueways Group	Phase 2 → Phase 3 (Structure Planning 1,000+ Lot Masterplanned Corridor in Pinjarra)	Pinjarra (PJR) Zone Substation — 0.0 MVA Remaining Thermal Headroom (Exact same substation as Peel EDL7!)	100% Identical Clone of Eglinton Village (EDL10) + Peel Business Park (EDL7) on Pinjarra Substation	Wolfdene uses the exact same WA engineers as Cedar Woods at Eglinton (Cossill & Webley (08) 9422 5800 + CLE Town Planning (08) 9382 1233) and sits on the exact same 0.0 MVA Pinjarra substation that forced DevelopmentWA to hire Zenith for Peel Business Park (EDL7)!
#3 GOLD STEALTH	CIRATERRA PTY LTD (ACN 688 643 170) & CIRATERRA HOLDINGS PTY LTD (ACN 688 637 878)	Phase 3 → Phase 4 (Engineering Feasibility &	Kemerton / Marriott Road (MRR) South-West Industrial	100% Identical Clone of Peel Business Park (EDL7 — 200 ha Heavy C&I	At 200+ hectares of heavy circular-economy manufacturing, glass/mineral processing, and logistics, Ciraterra hits Thomas Friberg's exact 200 ha = 5 MW–10 MW / 20 GWh industrial

Lead Rank	Stealth ASIC SPV & Decision-Maker	Current Phase (Out of 10)	Constrained Substation	Cloned Reference Project	Why Zenith Wins by Calling Right Now
	30 Jun 2025 (GST Active — Rebranded from Kemerton Silica Sand Pty Ltd) Decision-Maker: Ciraterra / Game Changer Ventures (info@ciraterra.com) — Developing 200+ ha Kemerton Circular Industrial Park)	Environmental Approvals inside Kemerton SIA Buffer)	Grid Corridor (<5 MVA Firm Distribution Headroom)	Agro/Circular Industrial Park)	Goldilocks rule right before Phase 5 Western Power headworks quotes lock in.
#4 GOLD STEALTH	FORRESTDALE 2 DEV NOMINEE PTY LTD (ACN 699 885 737) & HENDERSON DEV NOMINEE PTY LTD (ACN 685 006 871) Forrestdale 2: 02 Sep 2026 (6 weeks ago!) Henderson: 05 Mar 2025 (Both GST Active) Decision-Maker: Fife Capital Group ((02) 9251 2777 , Allan Fife) + WA Industrial Partner Wallace PM ((08) 9328 1909 , Stuart Wallace)	Phase 1 (Forrestdale 2 — 6 weeks old!) & Phase 2–3 (Henderson — Structure Plan Amendment with Allarding (08) 9382 3000)	Forrestdale 2 → Byford (BYF) 0.0 MVA Red Zone Henderson → Cockburn / Medina Defence Marine Corridor	Matches Peel Business Park (EDL7) / Multi-Lot C&I Industrial Estate Microgrid	Catching FORRESTDALE 2 DEV NOMINEE 6 weeks after incorporation lets Zenith reach Stuart Wallace (Wallace PM) before Fife Capital locks in expensive standard Western Power HV transformer upgrades in the 0.0 MVA Byford zone.
#5 GOLD STEALTH	WEST MUNDIJONG INVESTMENTS PTY LTD (ACN 689 361 293, ABN 76 689 361 293) 23 Jul 2025 (GST Activated 23 Jul 2025 — WA 6107) Decision-Maker: WA Syndicate developing inside the 490 ha West Mundijong Industrial Area (Shire of Serpentine-Jarrahdale)	Phase 2 → Phase 3 (Structure Planning & Subdivision Engineering in West Mundijong Industrial Precinct)	Byford (BYF) Zone Substation — 0.0 MVA Remaining Thermal Headroom (Long 22kV Rural Feeder)	100% Identical Clone of Peel Business Park (EDL7) on the neighbouring Byford 0.0 MVA Substation	West Mundijong sits immediately north of Peel Business Park in the exact same rural-industrial corridor with 0.0 MVA substation headroom at Byford—meaning their Phase 5 Western Power quote will be a carbon copy of Peel's \$7M shock letter!

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.



● 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 Woldene'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 (Empowered / 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?'

Eglinton Village (Cedar Woods) — Masterplanned Residential Community 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:

Cedar Woods Properties Limited (ASX: CWP — Ben Rosser, WA State Manager)

Location:

Eglinton, WA (Far North-West Metropolitan Corridor, City of Wanneroo, adjacent to new Eglinton Metronet Train Station)

Land & Yield:

86 Hectares | ~1,270 Green-Title Residential Homes + Commercial Town Centre + Primary School

Substation:

North-West Corridor (Pinjar / Yanchep / Neerabup 22kV Feeders) — Severe Rapid-Growth Feeder Constraint

Legal Category:

Green-Title Masterplanned Residential Estate (1,270+ Homes Crossing Public Roads)

 **WITHOUT MICROGRID (THE PHASE 5 WESTERN POWER SHOCK)**

10–15 MVA Standard Residential Estate Demand (1,270–1,600 homes × ~4.7–5.5 kVA ADMD) → Multi-million-dollar Western Power upstream 22kV feeder/substation headworks charge + multi-year connection queue delay.

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

Compressed by ~70% to a ≤4.0 MVA 'Skinny Connection' at a single 22kV boundary meter + 6.0 MWh Central Community Battery (BESS) + Private Underground HV/LV Network + Mandatory Rooftop Solar / Heat Pump / EV VPP orchestration.

Commercial Result: \$0 Microgrid CapEx to Cedar Woods (Turnkey BOO by Zenith) | Eliminated multi-million-dollar Western Power headworks | Delivers 20%–25% Electricity Bill Discount to Homeowners vs Synergy Home Plan (A1) Tariff.



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

PHASE 1 T - 48 Months (2020) STAGE A: STEALTH LAND & PLANNING

Broadacre Acquisition of 86 Hectares Next to Future Eglinton Train Station

PLAIN-ENGLISH TRANSLATION (WHAT ACTUALLY HAPPENS & WHY)

Cedar Woods (one of Australia's biggest residential land developers) buys an 86-hectare coastal paddock in Eglinton, right next to where the government is building the new Metronet Eglinton Train Station. They plan to build 1,270 family homes, a shopping village, and a primary school. At this earliest stage, they set up their project company, register for GST to claim back 10% on the land purchase, and brief their town planners.

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

- Cedar Woods Properties Limited (ASX: CWP) acquired the 86-hectare urban-deferred landholding on Marmion Avenue / Pipidinnny Road, Eglinton in the City of Wanneroo.
- Masterplan yield: ~1,270 green-title residential lots plus a commercial town centre, grocery anchor, and primary school immediately abutting the Metronet Yanchep Rail Extension (Eglinton Station).
- Matches Thomas Friberg's exact Residential Goldilocks Rule from your interview: '~75 hectares / ~1,600 homes is where a greenfield residential estate hits ~10–15 MVA of demand and becomes a commercial slam-dunk for a Zenith microgrid.'

BATON HANDOFF: Cedar Woods Acquisitions & Board (Nathan Blackburne / Ben Rosser) →

Cedar Woods WA Development Director & External Town Planners (CLE / RobertsDay)

Trigger Event: Settlement of 86 ha Eglinton land parcel & project feasibility launch

Q&A & FRICTION IN THIS PHASE

Internal investment committee Q&A: staging 1,270 lots to match the Metronet station opening date while managing northern corridor infrastructure headworks.

AI DATA TRAIL & PHONE QUESTION

Data Caught: ASIC SPV Registration + ABR GST Activation + ASX Acquisition Announcement + Landgate Title Transfer.

Ask on Call: To Cedar Woods / Residential Developer: 'When evaluating a 75–100 ha masterplanned parcel in a growth corridor like Eglinton, Bullsbrook, or Pinjarra, how much per lot do you initially plug into your feaso for Western Power headworks?'

PHASE 2 T - 36 Months (2021) STAGE A: STEALTH LAND & PLANNING

CLE Town Planning Lodges Local Structure Plan (1,270 Green-Title Lots)

PLAIN-ENGLISH TRANSLATION (WHAT ACTUALLY HAPPENS & WHY)

Cedar Woods hires CLE Town Planning + Design to draw up the street grid for 1,270 separate house blocks, parks, and roads. Because everyday Australian homebuyers want 'Green-Title' freestanding homes on public streets maintained by the local council (City of Wanneroo), every power cable in the estate will have to cross public roads—which means if they ever use a private microgrid, that provider MUST hold an ERAWA EDL distribution licence.

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

- CLE Town Planning + Design and RobertsDay lodged the Eglinton Local Structure Plan with the City of Wanneroo and WAPC (SLIP DPLH-024).
- Designed ~1,270 individual Green-Title residential lots across multiple stages, with all internal roads dedicated to the Crown / City of Wanneroo.
- Because roads are public Crown land, no embedded network operator using licence exemptions (like Empowered, EnergyTec, or strata operators) can legally wire the estate—only an ERAWA EDL licensee (Zenith Connected Energy) can.

BATON HANDOFF: Cedar Woods Development Manager →

CLE Town Planning + Design → City of Wanneroo & WA Planning Commission (WAPC)

Trigger Event: Formal lodgement of the Eglinton Local Structure Plan (DPLH-024)

Q&A & FRICTION IN THIS PHASE

Council & WAPC Q&A on transit-oriented densities around Eglinton Train Station, Public Open Space (POS) allocations, and acoustic treatments along Marmion Avenue / rail corridor.

AI DATA TRAIL & PHONE QUESTION

Data Caught: SLIP WAPC Structure Plans (slip_structure_plans_dplh024.geojson) + City of Wanneroo Council Minutes.

Ask on Call: To CLE Town Planning (08) 9382 1233 : 'After working on Eglinton Village with Cedar Woods, are you now building dedicated community battery reserve lots into your initial Structure Plans for other estates in constrained corridors?'

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

PHASE 3 T - 24 Months (2022) ● STAGE A: STEALTH LAND & PLANNING

Emerge Associates Lodges EPA Referral & WAPC Subdivision Form 1A

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

Before Cedar Woods can clear the coastal scrub and start earthworks for Stage 1, their environmental consultants (Emerge Associates) have to get clearance from the EPA and Federal environmental authorities (protecting Carnaby's Black Cockatoo habitat), while lodging the formal WAPC Subdivision Application ([Form 1A](#)). This locks in the Stage 1 civil construction schedule.

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

- Emerge Associates prepared the environmental assessments, Bushfire Management Plan (BMP), and Local Water Management Strategy (LWMS) for EPA / DWER sign-off.
- Cedar Woods lodged the Stage 1–3 WAPC Subdivision Applications ([Form 1A](#)), receiving conditional subdivision approval subject to standard Western Power and Water Corporation servicing clearances.
- Water Corporation headworks extensions for scheme water and Alkimos wastewater catchment connections were locked in.

🏃 BATON HANDOFF: CLE Town Planning & Cedar Woods →

Emerge Associates → EPA ([DWER-120](#)) & WAPC Subdivision Branch

Trigger Event: Lodgement of EPA referral & WAPC Form 1A Subdivision Application

⚡ Q&A & FRICTION IN THIS PHASE

EPA & Federal EPBC Q&A regarding coastal heath clearing offsets and karst/limestone geotechnical earthworks conditions.

📁 AI DATA TRAIL & 📞 PHONE QUESTION

Data Caught: SLIP EPA Referrals ([dwer120.geojson](#)) + Clearing Permits ([dwer116.geojson](#)) + WAPC Conditional Subdivision Approval.

Ask on Call: To Environmental / Planning Lead: 'Once conditional subdivision approval drops from WAPC, how much pressure is on the engineering team to lock in the Western Power servicing agreement so Stage 1 civil tenders aren't delayed?'

PHASE 4 T - 20 Months (Late 2022) ● STAGE B: THE WESTERN POWER SHOCK & MICROGRID PIVOT

Cossill & Webley + UPD Calculate 10–15 MVA Estate Load & Lodge Western Power ENAR

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

Cedar Woods hands the engineering baton to WA's powerhouse subdivision duo: Cossill & Webley (civil engineers) and Underground Power Development / UPD (specialist underground power engineers). UPD calculates that 1,270+ modern all-electric homes plus a shopping centre and school will demand ~10 to 15 MVA of electricity. UPD submits the official ENAR connection request to Western Power.

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

- Cedar Woods appointed **Cossill & Webley (C&W)** ([08](#)) [9422 5800](#) as lead civil engineer and **Underground Power Development (UPD)** ([08](#)) [9381 3688](#) as specialist HV/LV electrical designer.
- Using Western Power's residential ADMD (~4.7 to 5.5 kVA per dwelling + commercial town centre load), a 1,270–1,600 lot precinct requires **10 MVA to 15 MVA** of firm feeder capacity.
- UPD submitted the formal Western Power Electricity Network Access Request ([ENAR](#)) for the multi-stage Eglinton Village subdivision.

🏃 BATON HANDOFF: Cedar Woods Development Manager →

Cossill & Webley (Civil) + Underground Power Development / UPD (HV Electrical) → Western Power

Trigger Event: Lodgement of Western Power Subdivision ENAR & Master Load Forecast

⚡ Q&A & FRICTION IN THIS PHASE

Technical Q&A with Western Power over north-west corridor feeder loading (Alkimos/Yanchep/Pinjar 22kV network) where half a dozen competing estates were simultaneously requesting power.

📁 AI DATA TRAIL & 📞 PHONE QUESTION

Data Caught: Western Power Network Opportunity Map showing northern corridor feeder congestion + Civil engineering tender documents naming C&W and UPD.

Ask on Call: To Underground Power Development (UPD) ([08](#)) [9381 3688](#) : 'You guys designed the underground power transition at Eglinton Village —when you submit a 10–15 MVA residential ENAR today, which substations are giving you the worst headworks shocks?'

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

PHASE 5 T - 16 Months (Early 2023) - #1 AI INTERCEPT WINDOW STAGE B: THE WESTERN POWER SHOCK & MICROGRID PIVOT

The Western Power Q&A Shock: Massive Feeder Upgrade Cost & Multi-Year Queue

PLAIN-ENGLISH TRANSLATION (WHAT ACTUALLY HAPPENS & WHY)

Western Power comes back to UPD and Cedar Woods with bad news: because the entire Alkimos–Eglinton–Yanchep coastal strip is booming at the same time (plus the new Metronet electric train line!), the existing 22kV power lines cannot supply 10–15 MVA to Eglinton Village. Unless Cedar Woods pays millions of dollars upfront for upstream feeder/substation upgrades and waits in a multi-year queue, they won't have enough power for their later stages!

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

- Western Power's northern corridor 22kV feeders (out of Pinjar/Neerabup toward Yanchep) were heavily committed across competing estates and the Metronet Yanchep Rail Extension traction load.
- Supplying a conventional 10–15 MVA estate load required multi-million-dollar customer-funded upstream HV feeder reinforcement and long lead-time substation works.
- Even worse, standard Western Power rules meant that if every new home installed 5–6.6 kW of rooftop solar, Western Power's hosting capacity limits would trip inverters off during midday sun while still requiring 15 MVA of peak evening import capacity.

BATON HANDOFF: Western Power Access Planning Team →

Underground Power Development (UPD) + Cossill & Webley → Cedar Woods WA Executive Team

Trigger Event: Western Power Feasibility Study Verdict flagging multi-million-dollar upstream augmentation

Q&A & FRICTION IN THIS PHASE

Months of Q&A between UPD, C&W, and Western Power exploring whether staging the subdivision could defer the upstream HV feeder trigger—discovering that Stage 2/3 would hit a hard wall.

AI DATA TRAIL & PHONE QUESTION

Data Caught: Our AI catches this exact pattern at Phase 1–3 by flagging every >75 ha / >1,000-lot residential SPV or structure plan inside a <5 MVA substation catchment.

Ask on Call: To Cossill & Webley (08) 9422 5800 : 'When Western Power comes back with a multi-million-dollar feeder upgrade quote on a 1,000-lot estate like Eglinton, at what dollar per lot does the developer tell you to call Zenith for a microgrid alternative?'

PHASE 6 T - 12 Months (Mid 2023) STAGE B: THE WESTERN POWER SHOCK & MICROGRID PIVOT

The Zenith Microgrid Deal: 15 MVA Compressed to ≤4 MVA 'Skinny Connection' + 6 MWh BESS

PLAIN-ENGLISH TRANSLATION (WHAT ACTUALLY HAPPENS & WHY)

Instead of paying Western Power millions for new poles and wires, Cedar Woods and UPD bring in Thomas Friberg and Rob Breden at Zenith Connected Energy. Together, they design a brilliant solution: Zenith will build a private underground power network and install a massive 6.0 MWh Community Battery inside Eglinton Village at Zenith's own expense! Because the battery and rooftop solar supply the evening peak, the entire 1,270-home estate only needs a tiny ≤4.0 MVA 'Skinny Connection' from Western Power—saving millions in headworks and giving every resident 20%–25% cheaper electricity!

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

- Cedar Woods partnered with Zenith Connected Energy (Eglinton Village Energy Pty Ltd) on a turnkey Build-Own-Operate (BOO) community energy network—the exact case study Thomas Friberg walked you through in your interview (recording-2026-10-16-06-44-04.txt lines 409–488)!
- 1. The 'Skinny Connection' Compression: Compressed a ~10–15 MVA standard estate peak load down to a ≤4.0 MVA Master Boundary Connection from Western Power—fit within existing feeder capacity today with zero upstream substation upgrade.
- 2. Central Community BESS: Zenith funded and deployed up to 6.0 MWh of central community battery storage on a dedicated utility reserve lot inside the estate.
- 3. Design Guidelines & Restrictive Covenants: Every home buyer receives a solar/energy rebate package and signs a lot sale contract covenant requiring 3-phase power, white/cool roofs, solar PV, heat-pump hot water, and connection to the Eglinton Village Energy network.
- 4. Homeowner Value Proposition: Residents receive 20% to 25% off the regulated Synergy Home Plan (A1) electricity tariff.

BATON HANDOFF: Cedar Woods (Ben Rosser) + UPD + Cossill & Webley →

Zenith Connected Energy (Eglinton Village Energy Pty Ltd — Rob Breden & Thomas Friberg)

Trigger Event: Signing of the Eglinton Village Microgrid BOO & Retail Concession Agreement

Q&A & FRICTION IN THIS PHASE

Commercial & legal Q&A: structuring the Restrictive Covenants on every green-title lot sale contract, designing the Builder Rebate for 6 kW solar + smart inverter integration, and revising UPD's Western Power ENAR down to a single ≤4 MVA boundary connection.

AI DATA TRAIL & PHONE QUESTION

Data Caught: ASIC incorporation of EGLINTON VILLAGE ENERGY PTY LTD + Cedar Woods / Zenith joint project announcement.

Ask on Call: To Residential Developer (Wolfdene / BMP Pinjarra): 'Cedar Woods used Zenith at Eglinton Village to compress a 1,270-home grid connection from 15 MVA down to 4 MVA while giving buyers 20–25% off their power bills—have you looked at that exact BOO structure for Pinjarra?'

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

PHASE 7 T - 9 Months (Late 2023 - Mid 2024) ● STAGE C: REGULATORY Q&A, EPC BUILD & COMPLETION

ERAWA 21-Day Public Q&A & Grant of Licence EDL10 (Distribution) & ERL33 (Retail)

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

Just like Peel Business Park, because Eglinton Village is a 1,270-lot Green-Title housing estate where the underground wires cross public council roads, Zenith has to apply to the WA regulator (ERAWA) for an official Electricity Distribution Licence (EDL10) and Retail Licence (ERL33). ERAWA runs a 21-day public Q&A period checking consumer protections for families and life-support customers, then grants Zenith the licence!

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

- Zenith's project SPV [Eglinton Village Energy Pty Ltd](#) lodged applications with **ERAWA** for Electricity Distribution Licence [EDL10](#) and Electricity Retail Licence [ERL33](#).
- ERAWA conducted its mandatory **21-day public submission and regulatory Q&A process**, examining residential consumer protections under the Code of Conduct for the Supply of Electricity to Small Use Customers, family hardship policies, life-support equipment registration, and technical distribution safety.
- ERAWA granted [EDL10](#) and [ERL33](#), cementing Zenith's 100% private monopoly over green-title subdivision distribution licences in Western Australia ([EDL7](#) Peel, [EDL9](#) Ocean Reef, [EDL10](#) Eglinton).

🏃 BATON HANDOFF: **Zenith Regulatory & Legal Team** →

Economic Regulation Authority of WA (ERAWA Board)

Trigger Event: Formal grant of ERAWA Licences [EDL10](#) (Distribution) and [ERL33](#) (Retail)

⚡ Q&A & FRICTION IN THIS PHASE

Regulatory Q&A with ERAWA over residential customer churn rights, price-cap guarantees (pegged 20–25% below Synergy's regulated A1 tariff), and smart meter privacy.

📁 AI DATA TRAIL & 📞 PHONE QUESTION

Data Caught: ERAWA Licence Register ([EDL10](#) & [ERL33](#) geographic map PDFs showing exact Eglinton lot boundaries).

Ask on Call: To Regulatory / Project Lead: 'Because Zenith already has ERAWA-approved templates from EDL7, EDL9, and EDL10, how fast can you push a new green-title subdivision licence through the 21-day ERAWA consultation now?'

PHASE 8 T - 5 Months (2024) ● STAGE C: REGULATORY Q&A, EPC BUILD & COMPLETION

Underground Common Trenching, Central Community BESS Install & WP Relay Q&A

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

As the bulldozers finish the Stage 1 roads next to the new Eglinton Train Station, UPD and the civil contractors lay Zenith's private underground HV and LV power cables into the street trenches, put green power domes on the front corner of every house block, and install the central Community Battery and master switchroom. Western Power tests the boundary relays to verify the estate can never export uncontrolled solar back into the main grid.

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

- Civil contractors and electrical crews installed the private underground 22kV HV ring main, padmount transformers, and green street pillars (uni-pillars) across Stage 1 residential streets.
- Zenith installed the central community BESS compound and the single 22kV Western Power boundary metering switchroom.
- Western Power Protection & Commissioning Engineers verified the boundary protection relays ([32R](#) reverse-power / zero-export control and fault protection) so the microgrid safely absorbs midday rooftop solar inside the community battery without back-feeding Western Power's feeder.

🏃 BATON HANDOFF: **UPD (Electrical Design) & Cossill & Webley (Civil Superintendent)** →

Civil/Electrical Contractors + Zenith EPC Team + Western Power Commissioning

Trigger Event: Practical completion of Stage 1 underground reticulation & boundary relay witness testing

⚡ Q&A & FRICTION IN THIS PHASE

Technical Q&A between UPD, Zenith, and Western Power over boundary fault protection grading and dynamic solar curtailment setpoints.

📁 AI DATA TRAIL & 📞 PHONE QUESTION

Data Caught: City of Wanneroo engineering Subdivision Works approvals + Cedar Woods Eglinton construction updates.

Ask on Call: To UPD / Civil Superintendent: 'Does installing a private EDL underground network in common trenches change anything for the civil contractor on site compared to a standard Western Power UDS handover, or is the physical cable-laying identical?'

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

PHASE 9 T = 0 (2024–2025) STAGE C: REGULATORY Q&A, EPC BUILD & COMPLETION

WAPC Power Clearance Signed by Zenith, Titles Issued & Display Village Energized

PLAIN-ENGLISH TRANSLATION (WHAT ACTUALLY HAPPENS & WHY)

Western Power energizes the single boundary connection! Zenith (Eglinton Village Energy EDL10) signs off the WAPC Underground Power Clearance condition so Cedar Woods can immediately get Landgate titles for Stage 1 lots, collect millions in settlement cash from homebuyers, and switch on the power for the 23-home Display Village and first families moving in!

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

- Single 22kV Master Boundary Meter energized by Western Power.
- Eglinton Village Energy Pty Ltd (EDL10) issued the WAPC Subdivision Underground Power Clearance letters for Stage 1 lots—allowing Cedar Woods to register deposited plans at Landgate and settle presold residential lots without Western Power handover delays.
- The 23-home Eglinton Village Display Village and initial residential stages were energized on the private microgrid.

BATON HANDOFF: Eglinton Village Energy (EDL10) & Western Power →

WAPC / Landgate → Cedar Woods Settlements → Home Builders & First Residents

Trigger Event: Energization of Boundary Meter + WAPC Condition Clearance + Title Registration

Q&A & FRICTION IN THIS PHASE

Builder onboarding Q&A: educating WA volume homebuilders (ABN Group, BGC, Summit, JWH) on connecting temporary builder power and wiring the mandatory rooftop solar + smart meter.

AI DATA TRAIL & PHONE QUESTION

Data Caught: Landgate Deposited Plan Title Registrations + Eglinton Village Display Village launch.

Ask on Call: To Residential Development Manager: 'How did the volume homebuilders react to the Eglinton Village Energy connection process and solar design guidelines during the Display Village build?'

PHASE 10 T + 1 Month to 25+ Years (2025 – 2050+) STAGE D: 25-YEAR OPERATIONS, BILLING & VPP EXPANSION

Ongoing Operations: Resident Billing (20–25% Off), Solar Sponge & Phase 2 Home VPP

PLAIN-ENGLISH TRANSLATION (WHAT ACTUALLY HAPPENS & WHY)

Here is how Eglinton Village runs day-to-day for the next 25 years: During the sunny middle of the day, hundreds of house roofs generate cheap solar power that soaks into Zenith's 6 MWh community battery. Then, between 4pm and 9pm when families come home, turn on the air-con, cook dinner, and plug in their EVs, the community battery discharges to power the whole suburb! Residents get 20–25% cheaper power bills from Eglinton Village Energy, and Zenith makes 95% of its revenue from those bills plus 5% from AEMO summer peak capacity credits!

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

- Daily Solar Sponge & Peak Lop Cycle: Midday excess rooftop solar from hundreds of homes is absorbed locally into the 6.0 MWh central community BESS (instead of being curtailed by Western Power or exported for pennies), and then discharged during the 4:00 PM – 9:00 PM evening peak.
- Revenue Stream #1 (95% of Cashflow): Eglinton Village Energy (ERL33) bills all 1,270 homes and town-centre businesses directly at 20%–25% below Synergy's regulated tariff while capturing the unbundled network/capacity spread inside the private wire network.
- Revenue Stream #2 (5% of Cashflow): During AEMO's 12 summer peak SWIS intervals, the 6.0 MWh BESS + orchestrated home VPP fleet drops boundary import to near-zero, saving/earning \$360,700–\$488,500/MW/yr in WEM IRCR capacity credits.
- Phase 2 VPP Orchestration (Thomas Friberg's roadmap): As stages 2–10 build out toward 1,270 homes, Zenith orchestrates home batteries, heat-pump hot water timers (shifted to midday solar sponge), and EV chargers so the entire suburb permanently stays under the ≤4.0 MVA skinny boundary connection.

BATON HANDOFF: Zenith Delivery Team →

Eglinton Village Energy (ERL33) Retail Customer Team & Zenith 24/7 VPP Control Room

Trigger Event: Homeowner move-in, smart meter activation & VPP enrollment

Q&A & FRICTION IN THIS PHASE

Ongoing homeowner & builder Q&A: onboarding new stages (Stages 4–10), integrating Wi-Fi/cloud inverter telemetry into Zenith's VPP, and annual ERAWA retail reporting.

AI DATA TRAIL & PHONE QUESTION

Data Caught: ERAWA EDL10 / ERL33 Annual Performance Reports + Cedar Woods stage release maps.

Ask on Call: To Thomas Friberg / Zenith Operations: 'At Eglinton Village, what percentage of the evening peak reduction comes from the central 6 MWh community battery versus orchestrating the behind-the-meter residential solar, heat pumps, and home batteries?'

Ocean Reef Marina (DevelopmentWA) — Coastal Mixed-Use Precinct 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.

Ocean Reef Renewable Energy Pty Ltd (Zenith Connected Energy Subsidiary)

📍 PROJECT IDENTITY & SCALE

Developer:	DevelopmentWA + City of Joondalup + WA State Government (\$270M+ Flagship Waterfront Redevelopment)
Location:	Ocean Reef, WA (Coastal Northern Suburbs, 30 km north of Perth CBD, City of Joondalup)
Land & Yield:	~62–65 Hectares (ERAWA / EPA Envelope) 1,000+ Residential Dwellings (Apartments + Green-Title Homes) + 12,000 sqm Retail/Hospitality/Marine Enterprise
Substation:	Mullaloo (MLO) Zone Substation — Coastal 22kV Radial Feeder Capacity & Voltage Constraint
Legal Category:	Green-Title & Built-Form Mixed-Use Waterfront Precinct (Crosses Public Roads)

❌ WITHOUT MICROGRID (THE PHASE 5 WESTERN POWER SHOCK)

10+ MVA Concentrated Coastal Precinct Demand (1,000+ high-spec homes/apartments + hospitality/hotel/marina chillers at the very end of the Mullaloo 22kV coastal radial feeders) → Multi-million-dollar upstream feeder trenches through built-up suburbs + multi-year delay.

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

Compressed to a ≤4.0 MVA 'Skinny Connection' at a single 22kV boundary point + 5.5 MW Precinct/Rooftop Solar PV + 4.6 MWh Central Community BESS + Private Underground Microgrid across all Green-Title & Mixed-Use lots.

Commercial Result: 15-to-25 Year Build-Own-Operate (BOO) Agreement with Zenith Connected Energy | Zero microgrid CapEx to State budget | 100% Renewable Energy target with discounted tariffs for residents, retail & marine businesses.

🗺️ 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 – 60 Months State Government Funding Mandate & DevelopmentWA Land Assembly	PHASE 2 T – 48 Months Taylor Burrell Barnett (TBB) Runs Ocean Reef Marina Improvement Scheme	PHASE 3 T – 36 Months EPA Public Environmental Review (PER), Breakwater Start & Water Corp Trunk	PHASE 4 T – 24 Months Stantec / GHD Calculate 10+ MVA Precinct Load & Lodge Western Power ENAR	PHASE 5 T – 18 Months The Western Power Q&A Shock: Coastal 22kV Radial Feeders Out of Mullaloo Are Full	PHASE 6 T – 14 Months DevelopmentWA Tenders Microgrid BOO → Zenith Wins (5.5 MW Solar + 4.6 MWh BESS)	PHASE 7 T – 10 Months ERAWA 21-Day Public Q&A & Grant of Distribution Licence EDL9	PHASE 8 T – 5 Months Landside Civil Trenching (RJ Vincent), Private HV/LV Reticulation & WP Relay Q&A	PHASE 9 T = 0 Boundary Energization, WAPC Power Clearance & Stage 1 Waterfront Lot Settlements	PHASE 10 T + 1 Month to 25+ Years Ongoing Operations: Mixed-Use Load Sharing, Retail Billing (95%) & WEM IRCR (5%)
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👥 COMPLETE BATON-HANDOFF ROSTER (EVERY FIRM, CONSULTANT, CONTRACTOR & REGULATOR ON OCEAN REEF MARINA (EDL9))

DEVELOPER / LANDOWNER DevelopmentWA + City of Joondalup	TOWN PLANNING & URBAN DESIGN Taylor Burrell Barnett (TBB) (08) 9226 4276 & Aspects Studios / COX	ENVIRONMENTAL & COASTAL Strategen-JBS&G / Baird / Advisian (EPA Marine & Terrestrial Public Environmental Review)	CIVIL & HV ENGINEERING Stantec (08) 6222 7000 , GHD & MP Rogers (Coastal/Marine)
GRID OPERATOR (Q&A SHOCK) Western Power (Mullaloo MLO Substation & Northern Metro Access Planning)	MICROGRID IPP / BOO WINNER Ocean Reef Renewable Energy Pty Ltd (Zenith Connected Energy — Rob Breden & Thomas Friberg)	ECONOMIC REGULATOR Economic Regulation Authority of WA (ERAWA — EDL9 21-day public Q&A)	CIVIL & BREAKWATER CONTRACTORS Georgiou Group / WA Limestone (Breakwaters) + RJ Vincent / DMC (Landside Civil) + Zenith EPC

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

PHASE 1 T - 60 Months (2018–2019) ● STAGE A: STEALTH LAND & PLANNING

State Government Funding Mandate & DevelopmentWA Land Assembly

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

The WA State Government and City of Joondalup commit over \$120M–\$270M to turn an old boat ramp at Ocean Reef into a world-class coastal marina village with 1,000+ luxury homes and apartments, hotels, restaurants, and yacht clubs. DevelopmentWA takes charge of delivering the project.

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

- WA State Government and City of Joondalup signed the Memorandum of Understanding transferring delivery of the 55+ hectare Ocean Reef Marina precinct to DevelopmentWA.
- Masterplan scope: >1,000 residential dwellings (single green-title coastal lots, townhouses, and multi-storey apartment sites), 12,000 sqm of commercial/retail/hospitality space, 550 boat pens, and public foreshore.
- DevelopmentWA mandated a flagship sustainability target (6-Star Green Star Communities accreditation) requiring high renewable penetration without blowing out the civil servicing budget.

🏃 BATON HANDOFF: WA State Cabinet & City of Joondalup →

DevelopmentWA Ocean Reef Marina Project Director

Trigger Event: Cabinet budget commitment & DevelopmentWA project handover

⚡ Q&A & FRICTION IN THIS PHASE

State Treasury & Joondalup Q&A on balancing massive marine breakwater costs against landside utility servicing budgets.

🗨️ AI DATA TRAIL & 📞 PHONE QUESTION

Data Caught: State Budget Papers + DevelopmentWA Project Pipeline + Landgate Crown Reserve proclamations.

Ask on Call: To Mixed-Use Precinct Director: 'When you take on a high-density coastal or infill precinct with 1,000+ dwellings and commercial hospitality, how early do you check the local Zone Substation capacity?'

PHASE 2 T - 48 Months (2019–2020) ● STAGE A: STEALTH LAND & PLANNING

Taylor Burrell Barnett (TBB) Runs Ocean Reef Marina Improvement Scheme

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

Because Ocean Reef Marina crosses both coastal land and ocean seabed, town planners at Taylor Burrell Barnett (TBB) use a special state planning tool called an 'Improvement Scheme' to lock in the street layout for green-title houses, apartment blocks, and commercial boardwalks. Because the internal streets will be public roads, any private power network wiring the precinct will legally require an ERAWA EDL distribution licence.

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

- Taylor Burrell Barnett (TBB) (08) 9226 4276 prepared the Ocean Reef Marina Improvement Scheme No. 1 and Design Guidelines with DevelopmentWA and WAPC.
- Created a hybrid tenure layout combining Green-Title single residential lots, grouped housing sites, multi-deck strata apartment super-lots, and commercial marina leasehold/freehold lots—all separated by public Crown roads.
- Just like Peel (EDL7) and Eglinton (EDL10), crossing public roads between green-title and built-form lots triggered the statutory requirement for an ERAWA EDL distribution licence.

🏃 BATON HANDOFF: DevelopmentWA Planning Lead →

Taylor Burrell Barnett (TBB) → WAPC Improvement Scheme Branch

Trigger Event: Gazettal of Ocean Reef Marina Improvement Scheme & Precinct Structure Plan (DPLH-024)

⚡ Q&A & FRICTION IN THIS PHASE

WAPC & community Q&A over building heights, coastal view corridors, traffic access onto Boat Harbour Quays / Hodges Drive, and utility reserve placement.

🗨️ AI DATA TRAIL & 📞 PHONE QUESTION

Data Caught: SLIP Structure Plans & Improvement Schemes (dplh024.geojson) + WAPC Gazettal Notices.

Ask on Call: To Taylor Burrell Barnett (TBB) (08) 9226 4276 : 'Having planned both Peel Business Park and Ocean Reef Marina, how do you size and position the central battery compound in a tight urban/coastal masterplan so it doesn't eat into prime waterfront land?'

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

PHASE 3 T - 36 Months (2020–2021) ● STAGE A: STEALTH LAND & PLANNING

EPA Public Environmental Review (PER), Breakwater Start & Water Corp Trunk

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

Environmental consultants complete one of WA's toughest EPA reviews (checking marine seagrass, abalone habitats, and coastal bushland) so contractors Georgiou and WA Limestone can start dumping rock for the two giant ocean breakwaters. Meanwhile, engineers plan the landside water, sewer, and power pipes.

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

- EPA Public Environmental Review (PER) and terrestrial clearing approvals (DWER-120 / DWER-116) cleared the path for marine breakwater construction (2021–2023) by Georgiou Group & WA Limestone.
- Landside civil engineers initiated Water Corporation trunk water/wastewater servicing designs for 1,000+ dwellings and commercial kitchens/hospitality venues.

🏃 BATON HANDOFF: TBB & DevelopmentWA →

Environmental & Marine Engineers → EPA + Georgiou/WA Limestone (Breakwaters)

Trigger Event: EPA Ministerial Statement approval & Breakwater construction commencement

⚡ Q&A & FRICTION IN THIS PHASE

EPA marine water quality monitoring Q&A and staging landside civil reclamation behind the breakwater.

📁 AI DATA TRAIL & 📞 PHONE QUESTION

Data Caught: EPA Ministerial Statements (DWER-120) + DevelopmentWA Breakwater Civil Works tenders.

Ask on Call: To Precinct Delivery Manager: 'While heavy marine or earthworks contractors are on site building the trunk infrastructure, what is the latest month you can lock in your microgrid partner before landside road trenching starts?'

PHASE 4 T - 24 Months (2021) ● STAGE B: THE WESTERN POWER SHOCK & MICROGRID PIVOT

Stantec / GHD Calculate 10+ MVA Precinct Load & Lodge Western Power ENAR

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

Engineering consultants (Stantec / GHD) calculate how much power 1,000+ luxury coastal homes, high-rise apartments, hotels, restaurants, and marina facilities will pull on a hot summer evening—well over 10 MVA! They submit the official ENAR connection request to Western Power.

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

- Stantec (formerly Wood & Grieve Engineers) and GHD modelled the combined residential (1,000+ dwellings), commercial/hospitality (12,000 sqm), and marine infrastructure electrical demand.
- Peak precinct demand was projected at ~10 MVA+ of concentrated load at the very western edge of the coastline.
- Formal ENAR lodged with Western Power to connect to the surrounding Ocean Reef / Mullaloo (MLO) 22kV distribution network.

🏃 BATON HANDOFF: DevelopmentWA Landside Infrastructure Manager →

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

Trigger Event: Submission of Ocean Reef Marina ENAR to Western Power

⚡ Q&A & FRICTION IN THIS PHASE

Technical load-modelling Q&A over peak summer coincidence between commercial restaurant/hotel air-conditioning and residential evening EV/air-con peaks.

📁 AI DATA TRAIL & 📞 PHONE QUESTION

Data Caught: Western Power Network Opportunity Map (Mullaloo MLO substation data) + Engineering tender awards.

Ask on Call: To Stantec (08) 6222 7000 : 'When modelling a mixed-use precinct like Ocean Reef Marina where commercial hospitality and 1,000+ dwellings overlap on peak demand, how much battery storage is needed to shave the peak below 4 MVA?'

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

PHASE 5

T - 18 Months (Late 2021 - Early 2022) - #1 AI INTERCEPT WINDOW

STAGE B: THE WESTERN POWER SHOCK & MICROGRID PIVOT

The Western Power Q&A Shock: Coastal 22kV Radial Feeders Out of Mullaloo Are Full

PLAIN-ENGLISH TRANSLATION (WHAT ACTUALLY HAPPENS & WHY)

Western Power's engineers deliver the bad news: Ocean Reef sits at the very end of the existing 22kV suburban power lines running out from Mullaloo Substation through established 1980s neighbourhoods. Those lines cannot handle a sudden 10+ MVA jump without tearing up kilometres of suburban streets to lay new high-voltage feeder cables back to Mullaloo Substation at a cost of millions of dollars and years of disruption!

- DEEP FORENSIC FACTS (EXACT ENTITIES, NUMBERS, DATES & FILINGS)**
- Ocean Reef sits at the coastal extremity of radial 22kV feeders originating from **Mullaloo (MLO) Zone Substation**.
 - Adding 10+ MVA of concentrated mixed-use load at the end of those feeders would breach thermal and voltage-drop limits, requiring expensive customer-funded HV feeder reinforcement trenched through established suburbs back to Mullaloo Substation.
 - Furthermore, the high density of planned rooftop solar (5.5 MW across apartments, commercial roofs, and houses) would cause severe midday voltage rise on the weak coastal feeder unless stored locally behind a microgrid.

BATON HANDOFF: Western Power Access Planning →

Stantec / GHD & DevelopmentWA Executive Team

Trigger Event: Western Power Feasibility Study response flagging coastal feeder augmentation costs

Q&A & FRICTION IN THIS PHASE

Technical Q&A with Western Power confirming that standard connections could neither support the 10+ MVA peak import nor allow 5.5 MW of precinct solar export.

AI DATA TRAIL & PHONE QUESTION

Data Caught: Western Power NOM Feeder & Substation Constraint layers + DevelopmentWA Microgrid EOI preparation.

Ask on Call: *To Electrical Consultant: 'How often do coastal or infill developments at the end of radial 22kV feeders get hit with multimillion-dollar trenching quotes back to the nearest Zone Substation?'*

PHASE 6

T - 14 Months (2022)

STAGE B: THE WESTERN POWER SHOCK & MICROGRID PIVOT

DevelopmentWA Tenders Microgrid BOO → Zenith Wins (5.5 MW Solar + 4.6 MWh BESS)

PLAIN-ENGLISH TRANSLATION (WHAT ACTUALLY HAPPENS & WHY)

Having seen how well Zenith's microgrid worked at Peel Business Park, DevelopmentWA puts the Ocean Reef Marina microgrid out to tender on a Build-Own-Operate (BOO) basis. Zenith Connected Energy (**Ocean Reef Renewable Energy Pty Ltd**) wins the contract! They shrink the Western Power connection down to a ≤4 MVA 'Skinny Connection' and commit to building 5.5 MW of solar + a 4.6 MWh central community battery at zero capital cost to the government.

- DEEP FORENSIC FACTS (EXACT ENTITIES, NUMBERS, DATES & FILINGS)**
- DevelopmentWA ran a competitive tender for the Ocean Reef Marina Microgrid Operator (15-to-25 year Build-Own-Operate concession).
 - Zenith Connected Energy (Ocean Reef Renewable Energy Pty Ltd)** won the contract, replicating and scaling up the Peel (**EDL7**) blueprint:
 - 1. 'Skinny Connection' Compression: Compressed the >10 MVA precinct peak down to a **≤4.0 MVA Master Boundary Connection** on the existing Ocean Reef 22kV feeder—avoiding multi-kilometre HV feeder trenching back to Mullaloo Substation.
 - 2. Precinct Generation & Storage: **5.5 MW of distributed/rooftop Solar PV** across commercial, apartment, and residential roofs + **4.6 MWh of Central Community Battery (BESS)** storage (**<10 MW AC** zero-export configuration).
 - 3. Mandatory Participation: Built into the Ocean Reef Marina Design Guidelines & lot sale contracts for all green-title homes, apartment strata schemes, and commercial marina tenants.

BATON HANDOFF: DevelopmentWA Procurement & Infrastructure Team →

Zenith Connected Energy (Ocean Reef Renewable Energy Pty Ltd — Rob Breden & Thomas Friberg)

Trigger Event: Award of Ocean Reef Marina Microgrid BOO Concession Agreement (2022–2023)

Q&A & FRICTION IN THIS PHASE

Commercial & architectural Q&A: integrating a 4.6 MWh central BESS enclosure into a flagship coastal architectural precinct (acoustic attenuation, coastal salt-spray corrosion rating, and aesthetic screening) and coordinating apartment parent/child embedded sub-metering.

AI DATA TRAIL & PHONE QUESTION

Data Caught: WA Tenders / DevelopmentWA Contract Award Notice + ASIC registration of **OCEAN REEF RENEWABLE ENERGY PTY LTD** .

Ask on Call: *To Precinct Developer: 'At Ocean Reef Marina, how did Zenith handle the architectural screening and acoustic design of the 4.6 MWh community battery so it blended into a premium coastal residential precinct?'*

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

PHASE 7 T - 10 Months (2023) ● STAGE C: REGULATORY Q&A, EPC BUILD & COMPLETION

ERAWA 21-Day Public Q&A & Grant of Distribution Licence EDL9

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

Because Ocean Reef Marina has green-title houses, apartment blocks, and commercial shops separated by public roads, Zenith applies to the WA regulator (ERAWA) for Electricity Distribution Licence EDL9. After the mandatory 21-day public Q&A period, ERAWA grants EDL9 to Ocean Reef Renewable Energy Pty Ltd.

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

- Ocean Reef Renewable Energy Pty Ltd applied to ERAWA for Electricity Distribution Licence EDL9 covering the Ocean Reef Marina Improvement Scheme boundary.
- ERAWA conducted the statutory 21-day public consultation and Q&A review, verifying technical distribution standards, coastal marine cable protection, and consumer protections across both residential and commercial/marine customers.
- ERAWA formally granted EDL9 in 2023—making Zenith 3-for-3 on WA green-title microgrid distribution licences (EDL7 , EDL9 , EDL10).

🏃 BATON HANDOFF: Zenith Regulatory Team → Economic Regulation Authority of WA (ERAWA)

Trigger Event: Grant of ERAWA Electricity Distribution Licence EDL9

⚡ Q&A & FRICTION IN THIS PHASE

ERAWA technical Q&A on servicing mixed green-title residential lots AND multi-tier strata apartment buildings inside a single EDL9 distribution boundary.

📁 AI DATA TRAIL & 📞 PHONE QUESTION

Data Caught: ERAWA Licence Register (EDL9 decision notice & map PDF).

Ask on Call: To Apartment / Mixed-Use Developer: 'Did you know Zenith's EDL9 licence at Ocean Reef Marina allows a single microgrid to wire both green-title houses across public roads AND multi-storey apartment buildings under one unified community battery?'

PHASE 8 T - 5 Months (2024–2025) ● STAGE C: REGULATORY Q&A, EPC BUILD & COMPLETION

Landside Civil Trenching (RJ Vincent), Private HV/LV Reticulation & WP Relay Q&A

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

Once the ocean breakwaters are finished, civil contractor RJ Vincent moves in to build the internal streets, sewer, water, and boardwalks for Stage 1. In the exact same road trenches, Zenith's electrical crews lay the private underground microgrid cables, install the central BESS switchroom, and run Western Power protection relay tests at the boundary meter.

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

- Civil contractor RJ Vincent executed the Stage 1 landside civil earthworks, retaining walls, and road trenching.
- Zenith's delivery team installed the private 22kV HV / 415V LV underground cables, marine-grade pillars/switchgear, and boundary connection kiosk.
- Western Power Protection Engineers conducted boundary protection and zero-export relay Q&A and testing on the Mullaloo 22kV feeder interface.

🏃 BATON HANDOFF: DevelopmentWA Civil Superintendent (Stantec) & Zenith Delivery Team → RJ Vincent (Landside Civil) + Electrical EPC + Western Power Commissioning

Trigger Event: Completion of Stage 1 landside road trenching & boundary substation installation

⚡ Q&A & FRICTION IN THIS PHASE

Engineering Q&A on marine-grade corrosion protection (C5-M coastal rating) for transformers/battery enclosures and Western Power reverse-power relay grading.

📁 AI DATA TRAIL & 📞 PHONE QUESTION

Data Caught: DevelopmentWA Landside Civil Contract awards (RJ Vincent) + site progress bulletins.

Ask on Call: To Civil Contractor (RJ Vincent): 'Having trenched the underground microgrids at both Peel Business Park and Ocean Reef Marina, how smooth is coordinating trench handovers with Zenith compared to Western Power?'

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

PHASE 9 T = 0 (2025–2026) STAGE C: REGULATORY Q&A, EPC BUILD & COMPLETION

Boundary Energization, WAPC Power Clearance & Stage 1 Waterfront Lot Settlements

PLAIN-ENGLISH TRANSLATION (WHAT ACTUALLY HAPPENS & WHY)

The single 22kV boundary connection is energized, Zenith (EDL9) signs off the WAPC Underground Power Clearance condition for Stage 1 lots, Landgate issues the first coastal land titles, and builders begin constructing the first luxury homes, apartments, and marine commercial buildings!

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

- Western Power energized the master boundary connection point.
- Ocean Reef Renewable Energy Pty Ltd (EDL9) cleared the WAPC subdivision underground power servicing condition for Stage 1 land releases.
- First residential lots and built-form apartment/commercial sites settled and commenced building works connected to the private microgrid.

BATON HANDOFF: Ocean Reef Renewable Energy (EDL9) & Western Power →

WAPC / Landgate → DevelopmentWA Sales Settlements → Builders & Precinct Developers

Trigger Event: WAPC Subdivision Power Condition Clearance & First Stage 1 Title Settlements

Q&A & FRICTION IN THIS PHASE

Onboarding architects and builders for the first coastal home and apartment lots onto the microgrid technical connection standards.

AI DATA TRAIL & PHONE QUESTION

Data Caught: Landgate Deposited Plan registrations + DevelopmentWA Stage 1 lot release announcements.

Ask on Call: To DevelopmentWA Sales / Delivery Lead: 'How strongly did buyers and apartment developers respond to the 100% renewable microgrid and discounted energy tariffs during the Stage 1 Ocean Reef lot releases?'

PHASE 10 T + 1 Month to 25+ Years (2026 – 2050+) STAGE D: 25-YEAR OPERATIONS, BILLING & VPP EXPANSION

Ongoing Operations: Mixed-Use Load Sharing, Retail Billing (95%) & WEM IRCR (5%)

PLAIN-ENGLISH TRANSLATION (WHAT ACTUALLY HAPPENS & WHY)

Why is a mixed-use marina village like Ocean Reef even more profitable to run than a pure housing estate? Because cafés, shops, boat yards, and offices use power during the daytime when the 5.5 MW of solar panels are cranking, while the 1,000+ homes and apartments use power in the evening when the 4.6 MWh battery discharges! Zenith bills every home, apartment, and restaurant at a discount below Synergy (95% of revenue) while shaving the summer 4pm–9pm peak to capture AEMO capacity credits (5% of revenue).

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

- Complementary Load Diversity: Daytime commercial/hospitality/marina loads directly consume a huge share of the 5.5 MW solar generation in real time, while surplus midday solar charges the 4.6 MWh central BESS to supply the 4:00 PM – 9:00 PM residential evening peak.
- Revenue Stream #1 (95% of Cashflow): Retail electricity sales across 1,000+ dwellings and 12,000 sqm of commercial/hospitality tenants, capturing the unbundled 58.6% network + capacity margin while delivering discounted renewable electricity.
- Revenue Stream #2 (5% of Cashflow): AEMO WEM Reserve Capacity (IRCR at \$360,700–\$488,500/MW/yr) peak-shaving during the 12 summer SWIS peak intervals + potential Western Power Network Support (NSSS) services on the Mullaloo feeder.

BATON HANDOFF: Zenith Construction & Commissioning Team →

Zenith Connected Energy Retail Billing & 24/7 VPP Operations Centre

Trigger Event: Tenant/Resident occupancy & ongoing 25-year concession operations

Q&A & FRICTION IN THIS PHASE

Coordinating multi-tier embedded metering inside strata apartment towers alongside green-title residential smart meters.

AI DATA TRAIL & PHONE QUESTION

Data Caught: ERAWA EDL9 Annual Compliance & Performance Reports.

Ask on Call: To Zenith Commercial Team: 'How much does combining 12,000 sqm of daytime hospitality/commercial load with 1,000+ residential dwellings improve battery utilization compared to a residential-only estate?'

East Village at Knutsford (Fremantle)

— Survey-Strata ARENA Pilot 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) + Australian Renewable Energy Agency (ARENA) + Curtin University
Location:	Montreal Street, Fremantle WA 6160 (Knutsford Urban Renewal Precinct, 1.5 km east of Fremantle CBD)
Land & Yield:	1.5 Hectares 36 Survey-Strata Townhouse Lots (~5 kW–6.6 kW Solar per roof + 670 kWh Shared Community Battery)
Substation:	Fremantle (FRE) Zone Substation — Urban Infill 22kV Feeder
Legal Category:	Survey-Strata Infill Microgrid (Single Parent Lot / Common Property Road — Licence Exempt)

✗ WITHOUT MICROGRID (THE PHASE 5 WESTERN POWER SHOCK)

Standard 36-Lot Subdivision Connection — Would have required standard Western Power pillar connections to every street lot with strict inverter export limits and no shared community battery trading.

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

Structured as a 36-lot Survey-Strata scheme behind a single Master Boundary Meter + 670 kWh Shared Community Battery (BESS) + ~200 kW Rooftop Solar PV + Peer-to-Peer (P2P) blockchain energy trading platform ([Power Ledger](#)).

Commercial Result: Crucial Contrast Lesson: Because 36 homes (1.5 ha) is way too small for a private IPP like Zenith to make a commercial BOO return, DevelopmentWA had to pay the CapEx using a federal ARENA research grant! This is WHY Thomas Friberg told you Zenith's commercial residential floor is ~1,600 homes / 75 ha (like Eglinton Village)!



 COMPLETE BATON-HANDOFF ROSTER (EVERY FIRM, CONSULTANT, CONTRACTOR & REGULATOR ON EAST VILLAGE KNUTSFORD (STRATA PILOT))

DEVELOPER / GRANT SPONSOR

DevelopmentWA (LandCorp) + ARENA (Australian Renewable Energy Agency) + Curtin University

TOWN PLANNING & SUSTAINABILITY

Josh Byrne & Associates (08) 9433 3721 + CODA Studio (Urbis) + Landgate Survey-Strata

CIVIL & ELECTRICAL ENGINEERING

Stantec / Wood & Grieve Engineers + Change Energy (formerly Nest Energy)

SOFTWARE & P2P BILLING

Power Ledger (Blockchain P2P ledger) + Synergy (Parent Boundary Retailer)

WHY INCLUDED HERE

Proves the exact legal & commercial boundary between a small 'Licence-Exempt Survey-Strata' site (Knutsford / Providence Lifestyle / Enpowered) vs a large 'ERAWA EDL Licensed Green-Title' microgrid (Peel EDL7, Ocean Reef EDL9, Eglinton EDL10)!

●

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

PHASE 1

T – 36 Months (2017)

●

STAGE A: STEALTH LAND & PLANNING

Infill Land Assembly (Former Fremantle Industrial Depot) & ARENA Grant Application

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

DevelopmentWA takes an old 1.5-hectare government depot on Montreal Street in Fremantle and decides to build a 36-townhouse 'living laboratory' to test whether neighbours can share a community battery and trade rooftop solar with each other. Because 36 townhouses only use a tiny amount of power (meaning a private company like Zenith could never recover the cost of building a microgrid there from power bills alone), DevelopmentWA applies for a federal government ARENA grant to pay for the battery!

- 📄 DEEP FORENSIC FACTS (EXACT ENTITIES, NUMBERS, DATES & FILINGS)
- DevelopmentWA earmarked a 1.5 ha former industrial depot site on Montreal Street, Fremantle inside the Knutsford Urban Renewal Precinct for 36 sustainable townhouses.
 - Crucial Commercial Reality Check (Why Thomas Friberg gave you the 75 ha / 1,600-home rule): 36 homes only consume ~180 MWh/year (~\$55,000/yr total retail electricity spend). Even a 30% margin is only ~\$16,000/year—nowhere near enough to pay for a \$1M+ battery, HV transformer, and engineering!
 - Therefore, DevelopmentWA teamed up with **Curtin University** and secured federal funding from the **Australian Renewable Energy Agency (ARENA)** to subsidize the microgrid hardware as a national demonstration project.

🏃 BATON HANDOFF: DevelopmentWA Innovation & Sustainability Team →

Curtin University + ARENA (Federal Grant Application) + Josh Byrne & Associates

Trigger Event: Execution of ARENA Grant Funding Agreement for East Village at Knutsford

- ⚡ Q&A & FRICTION IN THIS PHASE
- ARENA grant assessment Q&A: proving how the project would publish open-source data on residential battery sharing, water sensitive urban design, and EV charging.
- 📁 AI DATA TRAIL & 📞 PHONE QUESTION
- Data Caught:** ARENA Funded Projects Register + DevelopmentWA Knutsford announcements.
- Ask on Call:** To Infill / Strata Developer: 'How many dwellings or how many Megawatt-hours of load do you need before a microgrid provider will fund the battery on their own balance sheet (BOO) without needing an ARENA grant or developer CapEx?'

PHASE 2

T – 28 Months (2018)

●

STAGE A: STEALTH LAND & PLANNING

The Legal Masterstroke: Choosing 'Survey-Strata' Instead of 'Green-Title' to Bypass ERAWA EDL

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

Here is the most important legal secret in WA microgrids: If DevelopmentWA had made the internal street at East Village a normal public road owned by the City of Fremantle, it would have been ILLEGAL to run private battery wires across that road without spending 9 months getting an ERAWA EDL licence! So their planners and surveyors cleverly structured all 36 townhouses as a 'Survey-Strata' scheme where the internal road is privately owned 'Common Property' shared by the 36 owners. Because the wires never cross a public Crown road, they didn't need an ERAWA EDL licence!

- 📄 DEEP FORENSIC FACTS (EXACT ENTITIES, NUMBERS, DATES & FILINGS)
- Town planners (**CODA Studio / Urbis** and **Josh Byrne & Associates**) and licensed surveyors structured the 1.5 ha site as a **36-lot Survey-Strata Scheme** under the *WA Strata Titles Act 1985*, rather than a standard Green-Title subdivision.
 - In a Survey-Strata scheme (just like in a **Providence Lifestyle over-50s land-lease resort** or a **Hesperia / Empowered industrial strata lot**), the internal streets and footpaths remain **private Common Property** inside a single parent boundary rather than being dedicated to the Crown / Local Council.
 - Legal Consequence under the *WA Electricity Industry Act 2004*: Because the private LV microgrid cables only run through private common property and never cross a public Crown road, the project qualified for a simple **Licence Exemption** instead of requiring an ERAWA **EDL** distribution licence!

🏃 BATON HANDOFF: DevelopmentWA & Town Planners (CODA / Josh Byrne & Associates) →

City of Fremantle & WAPC (Survey-Strata Subdivision Approval)

Trigger Event: WAPC approval of 36-Lot Survey-Strata Plan with Common Property internal road

- ⚡ Q&A & FRICTION IN THIS PHASE
- Legal & Strata Q&A: writing the Strata Company by-laws so the Strata Council owns/maintains the private internal road and microgrid cables after DevelopmentWA exits.
- 📁 AI DATA TRAIL & 📞 PHONE QUESTION
- Data Caught:** WAPC Survey-Strata Subdivision Application + City of Fremantle Development Assessment Panel minutes.
- Ask on Call:** To Town Planner / Land-Lease Developer (Providence Lifestyle): 'Because your resorts sit on a single parent title with private internal roads rather than public council roads, you operate under a WA Licence Exemption—have you ever compared self-managing that exempted network against handing it over to a licensed BOO operator like Zenith?'

● Environmental (EPA s.38) & Water Corp Clearances

→ Civil/HV Engineer Lodges Western Power ENAR

PHASE 3

T - 22 Months (Late 2018)

● STAGE A: STEALTH LAND & PLANNING

Site Remediation, Water Corporation OneWater Trial & Environmental Clearances

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

Because the site used to be an old council/industrial depot, environmental engineers clean up the soil while Josh Byrne & Associates design an integrated groundwater and rainwater recycling system alongside the microgrid layout.

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

- Completed contaminated-sites remediation verification on the former Montreal Street depot parcel.
- Josh Byrne & Associates designed the 'OneWater' precinct strategy (shared bore for precinct irrigation + individual rainwater tanks plumbed into toilets/washing machines) alongside the energy masterplan.

🏃 BATON HANDOFF: DevelopmentWA →

Environmental & Sustainability Consultants (Josh Byrne & Associates) + Water Corporation

Trigger Event: Site remediation clearance & civil works readiness

⚡ Q&A & FRICTION IN THIS PHASE

Water Corporation & Department of Health Q&A on dual-reticulated non-potable water piping clearances relative to underground power trenches.

📁 AI DATA TRAIL & 📞 PHONE QUESTION

Data Caught: DWER Contaminated Sites Database + City of Fremantle Building/Civil permits.

Ask on Call: To Sustainability Consultant (Josh Byrne & Associates): 'When developers hire you to design net-zero estates today, who is the first commercial microgrid operator you bring to the table when there's no ARENA grant available?'

PHASE 4

T - 18 Months (Early 2019)

● STAGE B: THE WESTERN POWER SHOCK & MICROGRID PIVOT

Electrical Consultant (Nest Energy / Change Energy) Lodges Single Master Connection Request

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

Instead of asking Western Power for 36 separate house meters on the street, specialist electrical engineers at Nest Energy (now Change Energy) apply to Western Power for ONE single commercial master connection (Parent NMI) at the Montreal Street boundary, with a private microgrid behind it.

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

- DevelopmentWA engaged WA embedded-network engineering specialists Nest Energy (now Change Energy) and civil engineers (Stantec / Wood & Grieve) to design the single-point connection.
- Applied to Western Power for a single commercial LV/HV Master Boundary Connection on Montreal Street connected to the Fremantle (FRE) distribution feeder.

🏃 BATON HANDOFF: DevelopmentWA Project Manager →

Nest Energy / Change Energy & Stantec → Western Power

Trigger Event: Lodgement of Single-Point Embedded Network Connection Application

⚡ Q&A & FRICTION IN THIS PHASE

Technical Q&A with Western Power on bidirectional battery inverter protection and how 36x6.6 kW (~240 kW) of rooftop solar would be controlled behind a single master meter.

📁 AI DATA TRAIL & 📞 PHONE QUESTION

Data Caught: Western Power Embedded Generation Connection Queue.

Ask on Call: To Change Energy (08) 9284 2888 : 'Having engineered East Village at Knutsford and dozens of WA embedded networks, what is the biggest technical bottleneck you see right now when connecting 1–5 MW C&I or strata microgrids to Western Power?'

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

PHASE 5T – 14 Months (Mid 2019)STAGE B: THE WESTERN POWER SHOCK & MICROGRID PIVOT

The Western Power & Synergy Regulatory Q&A: Parent/Child Metering & Solar Export Limits

PLAIN-ENGLISH TRANSLATION (WHAT ACTUALLY HAPPENS & WHY)

Even on a 36-lot strata site, Western Power and Synergy's rules create a headache: Synergy has a legal monopoly on selling power to small homes in the SWIS (the '50 MWh franchise threshold'), and Western Power caps how much solar can export onto Montreal Street. So the project team has to negotiate a special structure where Synergy is the retailer at the front boundary gate, and Power Ledger's software tracks peer-to-peer solar trading between neighbours inside the gate!

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

- Under WA's SWIS franchise rules, customers consuming <50 MWh/year (like houses) are 'non-contestable' franchise customers of Synergy unless supplied under an ERAWA Retail Licence (ERL), like Zenith holds at Peel ERL28 and Eglinton ERL33) or a registered strata on-selling exemption.
- Because East Village was a government pilot without a private ERL utility, DevelopmentWA negotiated with Synergy to act as the parent boundary retailer and Power Ledger to provide the blockchain Peer-to-Peer (P2P) sub-meter billing settlement software for the Strata Company.

BATON HANDOFF: Nest Energy / Change Energy & DevelopmentWA → Western Power + Synergy + Power Ledger

Trigger Event: Execution of Master Connection Agreement & P2P Metering Architecture

Q&A & FRICTION IN THIS PHASE

Months of Q&A with Synergy and Western Power over how rooftop solar exported from Lot 1 into the 670 kWh strata battery on Common Property would be tariffed when consumed by Lot 2.

AI DATA TRAIL & PHONE QUESTION

Data Caught: ARENA Knowledge Sharing Reports on East Village regulatory hurdles.

Ask on Call: To Embedded Network Billing Provider (R-Group / Power Ledger / EnergyTec): 'How much simpler is billing a greenfield microgrid when the operator holds its own ERAWA Retail Licence (ERL) versus trying to run strata on-selling exemptions behind a Synergy parent meter?'

PHASE 6T – 10 Months (Late 2019)STAGE B: THE WESTERN POWER SHOCK & MICROGRID PIVOT

Procurement of the 670 kWh Shared Community Battery & Strata By-Law Lock-In

PLAIN-ENGLISH TRANSLATION (WHAT ACTUALLY HAPPENS & WHY)

Using the DevelopmentWA + ARENA budget, the team buys a commercial 670 kWh lithium-ion community battery and writes legally binding Survey-Strata By-Laws so that every buyer of the 36 townhouses automatically joins the microgrid, installs a 5–6.6 kW solar system, a heat-pump hot water system, and a 3-phase EV charger circuit.

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

- Procured a 670 kWh commercial lithium-ion battery energy storage system (BESS) housed in a custom architecturally screened enclosure on the strata common property.
- Drafted and registered the East Village Survey-Strata Management Statement & Design Guidelines, mandating all-electric homes (zero reticulated gas mains in the street!), 5–6.6 kW rooftop solar PV, heat-pump hot water, and 32A 3-phase EV charging circuits in every garage.

BATON HANDOFF: DevelopmentWA & Change Energy → Battery OEM / EPC + Strata Lawyers (Strata Management Statement)

Trigger Event: Battery procurement & Registration of Survey-Strata Scheme By-Laws at Landgate

Q&A & FRICTION IN THIS PHASE

Commercial Q&A: setting the internal strata solar buy-back rate and battery storage tariff so the Strata Company collects enough sinking-fund cash to maintain and eventually replace the battery cells after 10–12 years.

AI DATA TRAIL & PHONE QUESTION

Data Caught: Landgate Strata Plan & Management Statement registration + ARENA project milestones.

Ask on Call: To Strata / Land-Lease Developer (Providence Lifestyle / Hesperia): 'When you buy and own the community battery yourself on a strata or land-lease village, how do you fund the 10-year battery cell replacement sinking fund and ongoing 24/7 fault monitoring?'

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

PHASE 7

T - 7 Months (Early 2020)

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

Registration of WA Licence Exemption (Instead of 9-Month ERAWA EDL Process)

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

Because the cables only run under the private strata laneway and never cross a public road, the Strata Company registers a simple Licence Exemption with Energy Policy WA instead of applying for an ERAWA EDL licence.

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

- Registered under the *Electricity Industry Exemption Order 2005 (WA)* for on-supply within a single Survey-Strata scheme.
- Key Strategic Takeaway for Matt's Pitch: East Village proves why small strata/land-lease competitors ([Enpowered](#) , [EnergyTec](#) , [Change Energy](#) , [Providence Lifestyle in-house](#)) are trapped inside single-title / survey-strata exemptions, whereas **only Zenith Connected Energy** ([EDL7](#) , [EDL9](#) , [EDL10](#)) has the regulatory licence infrastructure to wire massive 100–1,000 ha green-title subdivisions across public roads!

🏃 BATON HANDOFF: [DevelopmentWA Legal Team](#) →

[Energy Policy WA \(Licence Exemption Register\) & East Village Strata Company](#)

Trigger Event: Registration of Embedded Network Licence Exemption

⚡ Q&A & FRICTION IN THIS PHASE

Ensuring compliance with Energy Policy WA's embedded network consumer protection conditions (price cap at or below Synergy A1 tariff, clear itemized billing).

📁 AI DATA TRAIL & 📞 PHONE QUESTION

Data Caught: WA Government Gazette / Energy Policy WA Licence Exemptions Register.

Ask on Call: *To Enpowered ([Linh Le](#) , (08) 6186 9200): 'Right now Enpowered operates under licence exemptions on Hesperia's single-title and strata projects—if Hesperia develops a 200 ha green-title industrial estate crossing public roads, would you apply for an ERAWA EDL or partner with Zenith?'*

PHASE 8

T - 4 Months (Mid 2020)

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

Civil Laneway Trenching, 670 kWh Battery Installation & Western Power Witness Test

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

Civil contractors build the internal strata laneway, lay the private underground LV microgrid cables and rainwater pipes, install the 670 kWh battery on the common property lot, and pass Western Power's boundary protection tests.

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

- Civil and electrical contractors installed the underground LV microgrid ring, smart sub-meters ([Power Ledger](#) / smart NMI-grade meters) at all 36 lot boundaries, and the 670 kWh central BESS.
- Completed Western Power witness testing on the Montreal Street master boundary connection.

🏃 BATON HANDOFF: [Stantec & Change Energy](#) →

[Civil/Electrical Contractors & Western Power Commissioning Engineers](#)

Trigger Event: Completion of common-property civil works & boundary witness test sign-off

⚡ Q&A & FRICTION IN THIS PHASE

Technical commissioning Q&A between battery PCS, Power Ledger metering telemetry, and Western Power's Montreal Street transformer.

📁 AI DATA TRAIL & 📞 PHONE QUESTION

Data Caught: DevelopmentWA East Village practical completion notices.

Ask on Call: *To Electrical Commissioning Engineer: 'On smaller 500 kWh–2 MWh strata batteries, what is the biggest ongoing operational headache once the civil contractor hands the keys over to the strata manager?'*

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

Survey-Strata Titles Issued, Battery Energized & Townhouse Construction Starts

 PLAIN-ENGLISH TRANSLATION (WHAT ACTUALLY HAPPENS & WHY)

Landgate issues the 36 Survey-Strata titles, the 670 kWh shared battery goes live, buyers settle on their lots, and townhouse builders construct the first ultra-efficient all-electric homes.

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

- Survey-Strata Plan registered at Landgate and all 36 lots released for sale and townhouse construction.
- Shared 670 kWh community BESS energized and handed over to the East Village Survey-Strata Company.

 BATON HANDOFF: DevelopmentWA → Landgate → Townhouse Builders & East Village Strata Company

Trigger Event: Registration of Survey-Strata Titles & Battery Energization

 Q&A & FRICTION IN THIS PHASE

Educating strata managers and homebuilders on the gas-free all-electric mandate and smart meter onboarding.

 AI DATA TRAIL &  PHONE QUESTION

Data Caught: Landgate Survey-Strata Title creation + Curtin University living lab monitoring reports.

Ask on Call: To DevelopmentWA / Curtin Living Lab Team: 'Now that East Village has been operating for several years, what is the biggest lesson learned about handing a community battery over to a residential Strata Company versus having a permanent BOO utility like Zenith run it?'

Ongoing Operations & The Ultimate Lesson: Why Developers Prefer Zenith's Turnkey BOO!

 PLAIN-ENGLISH TRANSLATION (WHAT ACTUALLY HAPPENS & WHY)

East Village achieved awesome technical results—supplying ~60–75% of the village's electricity from rooftop solar and the 670 kWh shared battery! BUT it also proved a huge commercial lesson for WA property developers: property developers and residential strata committees do NOT want to be power utilities! Managing battery maintenance, inverter faults, billing software (like Providence Lifestyle's R-Group headaches), and tariff updates is a nightmare for a developer or strata council—which is why Cedar Woods and DevelopmentWA switched to Zenith's 100% turnkey Build-Own-Operate (BOO) utility model for Peel, Ocean Reef, and Eglinton!

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

- Curtin University & ARENA monitoring confirmed the 36-home microgrid achieved ~60%–75% renewable self-sufficiency and slashed peak evening grid draw via the 670 kWh battery.
- The Ultimate Strategic Takeaway for Matt's Calls & Pitch:
 - Developers don't want to own or operate microgrids after settlement (even DevelopmentWA pivoted from owning East Village to tendering Peel **EDL7** and Ocean Reef **EDL9** to Zenith on a 25-year BOO basis!).
 - Self-managed embedded networks (like **Providence Lifestyle** hiring **R-Group International** to fix its village utility billing, or strata companies trying to manage a battery) suffer from billing pain, maintenance risk, and miss out on wholesale AEMO WEM **IRCR** (**\$360.7k–\$488.5k/MW/yr**) and Western Power **NSSS** revenues.
 - Therefore, our AI Engine targets projects that meet **Zenith's Commercial BOO Goldilocks Scale** (**≥100–200 ha C&I** or **≥200–1,600 dwellings**) where Zenith funds 100% of the CapEx and runs the utility for 25 years!

 BATON HANDOFF: DevelopmentWA & Curtin University Research Team → East Village Strata Company + Power Ledger / Change Energy Operations

Trigger Event: Ongoing strata operations & ARENA final knowledge-sharing report

 Q&A & FRICTION IN THIS PHASE

Long-term strata governance Q&A: who pays when an inverter or cooling unit faults at Year 7, and how a volunteer strata council manages retail tariff adjustments.

 AI DATA TRAIL &  PHONE QUESTION

Data Caught: Curtin University / ARENA Final Report on East Village at Knutsford.

*Ask on Call: To Providence Lifestyle (**John Green** , **(08) 6333 0300**): 'Right now Providence funds its own solar/Fronius batteries and uses external IT consultants like R-Group to manage village billing—if Zenith funded 100% of the Bullsbrook and Champion Lakes microgrids on a turnkey BOO basis and shared the AEMO peak capacity credits with you, how much CapEx and operational headache would that take off your plate?'*