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By electronic submission **epwa-submissions@deed.wa.gov.au**

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Submission: FESO 2027 draft Methodology, Inputs, Scenarios and Assumptions (MISA)
https://www.wa.gov.au/system/files/2026-10/feso-2027-draft-misa.pdf

We welcome the opportunity to make a submission and are happy to provide any clarifications and additional information as required.

Whilst we applaud FESO's alignment with the SWIS transmission plan, the AEMO's Electricity Statement of Opportunity and AEMO's Gas Statement of Opportunity, we think a FESO is a step backwards from an Integrated System Plan or Whole of System Plan.

Recommendations

Our main concern is that the FESO should identify the least-cost transition pathway for each scenario.

Recommendation	Where in the draft MISA
1. Commit to a technology-cost sensitivity at Central demand	Table 4.3 (potential sensitivities); Workbook, New entrant capex
2. Publish one numeric parameter-by-scenario matrix	Appendix I; Workbook (parameters spread across sheets)
3. Decompose the Central – Rapid Change gap by driver	Section 4.2; Table 4.3
4. State or test how costs feed back to demand and DER	Sections 5.1 and 5.4 (demand and resource planning)
5. Test market settings rather than assume them	Sections 5.4 and 5.5.3; Appendix F; Table 4.3

1. Commit to a technology-cost sensitivity with demand held at Central

The workbook assigns each scenario a different CSIRO GenCost pathway (Central: Global NZE post 2050; Rapid Change: Global NZE by 2050; Constrained: Current policies). Technology costs therefore move with the demand narrative, and we would like to see a clear incremental cost difference across scenarios.

Promote 'Technology costs and performance' from a potential to a committed sensitivity (Table 4.3), run at Central demand with each alternative GenCost pathway, and report the change in build, cost and emissions.

2. Publish one numeric parameter-by-scenario matrix

Appendix I summarises the scenarios and the workbook contains the numbers, but they are spread across sheets in different units and node structures. A single table makes it possible to see, for each parameter, how far each scenario departs from Central.

WOSP 2020 published no numbers for its demand drivers. When its scenarios were tested against 2021–2026 actuals, electric vehicles were the largest departure (SWIS EV stock is about 63,000 in June 2026, against at most about 14,500 in the July 2019 WOSP forum trajectories) but could not be traced through the assumptions, because no EV values or links had been stated.

Our request is that you add to Appendix I a numerical table: for each scenario, the value of each key parameter category at 2030, 2040 and 2050 (growth rates, population, EV numbers, DER capacity, major-load energy and peak, capital-cost index, gas price).

3. Decompose the Central – Rapid Change gap by driver

Rapid Change differs from Central in most key parameters at once. Coherent narratives are a sound design, but without a decomposition, readers cannot tell which assumptions drive the results that matter for investment.

SEN suggests reporting the sensitivities against Central in a sequence that steps from Central towards Rapid Change (for example, demand, then technology cost, then electrification and new industry), or provide an equivalent attribution of the gap in total cost, build mix and emissions. Run the emissions budget, which only the lowest-demand scenario omits, as its own sensitivity at Central demand, after reconciling the draft's three versions of it: none before 2032 (section 5.8), DEED budgets to 2032 (Appendix D) and an unqualified net zero constraint (Appendix B, sections 1.2 and 2.2). As written, the section 5.8 rule leaves about 4.6% of modelled 2031 emissions in 2050 (0.85 to the power 19), not net zero, and ties each scenario's post-2032 budget to its own 2026–31 path. A common trajectory would avoid both.

4. State or test how costs feedback to demand and DER

Demand traces are produced first and then held fixed as inputs to the resource planning model (sections 5.1 and 5.4). If a scenario's least-cost system implies much higher prices, consumer and industrial demand and DER uptake would respond, but the modelling does not appear to include this feedback.

The draft MISA's 2050 operational consumption ranges from 26.9 to 64.6 TWh across the scenarios, a 2.4-fold spread. WOSP 2020 stated that bills drive DER uptake but likewise held demand fixed. The draft MISA does not mention a price response.

SEN therefore requests that the FESO results indicate whether demand and DER respond to modelled costs. If not, test the effect in at least the Rapid Change scenario, by iterating demand once on the resulting price path or by a demand-response sensitivity.

5. Test market settings rather than assume them

The capacity build must meet the Reserve Capacity Target under current capacity-credit and storage-duration rules (sections 5.4.2 and 5.4.5). Frequency co-optimised ESS are modelled only

in the dispatch model, at current settings (Appendix F). These settings are common to all three scenarios, and none appears in Table 4.3. The commerciality assessment (section 5.5.3; Appendix B, section 3) tests whether revenues cover costs only after the build is fixed. It prices energy at short-run marginal-cost bids, explicitly excludes NCESS revenue, and does not mention State-owned procurement. Since the 2026 WEM ESOO counts procured NCESS as capacity, this overstates the shortfall for contracted facilities and could point to a new mechanism where NCESS already serves.

WOSP 2020 held the then-draft ESS design constant across scenarios and expected ESS participation to drive storage before 2030, mostly as 2-hour batteries. Its two low-demand scenarios projected 187 to 261 MW of new storage by 2030. By 2025-26 the WEM held about 1,140 MW of battery Capacity Credits (2026 WEM ESOO), mostly 4-hour units. They were driven by the storage duration requirement, NCESS procurement and the State's coal-exit investment program, none of which WOSP treated as a variable. WOSP's own model did apparently feed commerciality back into the build. For example, the WOSP report stated that a new entrant that failed its commercial assessment test was “taken out of the mix and replaced with the next lowest cost option” (Report, section 2.4.3).

Add a case study at Central demand that varies the key market settings, at a minimum the ESR Duration Requirement and the capacity-credit method for storage. Report the commerciality assessment by scenario and technology and include NCESS and State-owned procurement, or state how investment that depends on them is treated. State also whether Regulation requirements scale with variable renewable penetration or are held at historical levels. In the V2G sensitivity, vary distribution headroom as well, since local network constraints take the first call on VPP capability (section 5.2.1).

6. Validate the wind traces and how wind counts toward the Reserve Capacity Target

The workbook’s wind traces average a 63% capacity factor (97% in February); the webinar reported over 70%. Metered output (AEMO SCADA) for July 2024 to June 2026 shows the SWIS wind fleet (ten farms, 1,073 MW) averaging 40%. The best farms, Badgingarra and Flat Rocks, reached 49%. Flat Rocks has the fleet’s tallest turbines (125 m hub), so neither the assumed 150 m hub height nor curtailment can close the gap. The seasonal shape also differs: October is the weakest observed month (33%) but one of the strongest in the traces (77%). The reported 91.7% correlation tests timing, not level.

Appendix B (section 1.6) both applies existing facilities’ average capacity credits and gives renewables “a percentage that is approximate to their output”. AEMO assigned the same ten farms Capacity Credits of about 18% of their capacity for 2026-27 (2026 WEM ESOO). Credited at trace output, new wind would count toward the Reserve Capacity Target at more than three times its assessed contribution, understating the firm capacity the system needs.

Recalibrate the wind traces so that each existing farm’s mean capacity factor, annual and monthly, matches its metered output, and publish the facilities, years, bias and hub-height method used. Credit new wind toward the Target using AEMO’s 2026-27 Capacity Credits.

7. Publish the zonal network inputs

The zonal model (section 5.4.1) decides where new capacity is built, yet its parameters are unpublished: the Network topology sheet lists zone names only ("Western Power – tbc"), connection costs are "TBC", and no transfer limits, CEL candidates, costs or dependencies are given. Batteries are barred from Metro Central, North and South, where storage near load is most likely to defer network investment. The Existing and committed sheet uses legacy zone codes (EC, NT, BPS, ST, GLT) and leaves about 900 MW unzoned.

Publish these inputs before modelling begins, justify or remove the metro storage exclusion, and map every facility to one of the 25 zones.

We hope you find our submission sufficiently interesting: we are happy to provide any clarifications and additional information as required.

Yours sincerely

Fraser Maywood
Chair, Sustainable Energy Now

Submission approved by the SEN Committee by circular resolution

Sustainable Energy Now (www.sen.asn.au) formed in 2006 is a grass-roots not-for-profit member based advocacy group promoting renewable energy and decarbonisation. Supported by the best science and our own modelling and simulation, we advocate on how Western Australia can make a swift and orderly transition to clean renewable electricity safely, reliably, and affordably with commercially proven technologies.