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Response to PUO Public Consultations

Various consultation papers and presentations pertaining to Constrained Network Access and Reserve Capacity Certification

Standing

Community Electricity is:

- a a licensed Electricity Retailer and provider of Electricity Retail Services and Market Consultancy;
- b a member of the Access Code Development Committee (2003 to 2004)
- c a member of the Rule Change Panel's Market Advisory Committee (2008 to date);
- d a member of the Economic Regulation Authority's previous Technical Rules Committees from time to time;

Further information is available at: www.communityelectricity.net.au

Response

Community Electricity establishes the context and responds as follows.

Context

1. The previous state government conducted a comprehensive Electricity Market Review (EMR) with the objectives of:
 - reducing the subsidy paid to Synergy without commensurate tariff increases;
 - attracting to the SWIS Wholesale Electricity Market (WEM) market participants with investment grade balance sheets;
 - remove from government the financial burden of underwriting new generation developments;
2. The EMR found that the WEM should as far as practicable adopt the approach of the National Electricity Market (NEM) as that market had up to that time proved to be effective, efficient and robust. The government accepted many of the EMR recommendations but decided to retain Synergy in its recently re-integrated form, which precluded adoption of key features of the NEM (such as an energy-only market).
3. The government decided to retain the WEM's Reserve Capacity Mechanism and implemented Market Rule Changes to:
 - substantially revise (and effectively nearly eliminate) the participation of Demand Side Management;

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- implement the "Lantau Curve" linking Capacity Price to demand-supply balance;
 - transition to a Capacity Price Auction over several years;
4. The government also framed legislation to:
 - regulate the network on a constrained access basis under national rules under the Australian Energy Regulator;
 - implement Full Retail Contestability (FRC);
 - implement various commensurate energy market reforms;
 5. The government failed to pass the legislation and lost office, to be replaced by the current government.
 6. The standing of the NEM was coincidentally diminished by its failure to manage the uptake in renewable energy generation driven by federal legislation and state-based initiatives.
 7. The incoming (present) government has resumed a separate but similar neo-reform process (ERM-2) centred on:
 - adapting and developing local legislative instruments and rules instead of national rules;
 - FRC has been discontinued;
 - constrained network access;
 - continuation of various energy market reforms;
 - continuation of Reserve Capacity Mechanism reforms;

Consultation and industry participation

8. Industry commitment to the content of the reforms is now taken by the government to be axiomatic.
9. However, key features of the original reforms (EMR-1) included:
 - the high level decisions were imposed by the government regardless of the wishes of industry;
 - the process was overseen confidentially by a Steering Committee composed primarily of government officials and the chair of Synergy;
 - industry participation was invited only at the lower, detailed, levels.
 - the process and strategy relating to constrained network access was confidential.
 - operational details of the network and its constraints were kept confidential. Even major generators have very little knowledge of the network characteristics the other side of their connection. Western Power was free to deem reality without accountability, challenge or review.
10. Opposition to EMR-1 was muted by:

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- generators had an expectation of benefiting from the abolition of network charges under national rules;
- all Market Participants stood to benefit from FRC;

Neo-reform (ERM-2) objectives

11. The EMR-2 objectives are not stated. The original concern of eliminating the subsidy paid to Synergy has been remedied by the Tariff increases that they sought to avoid. The original means of attracting new market participants with investment grade balance sheets - FRC - has been discontinued. The market has long been told that conversion to a constrained access network regime is the "solution" to facilitating new generation developments but the underlying facts and justification have not been published and subjected to review and scrutiny.

Bankability

12. New generator bankability is a principal issue in designing the WEM.
13. Generation projects require optimum debt financing (gearing level and interest rate), which in turn requires revenue streams that are sufficient, predictable and stable. Anything that disrupts the revenue stream inhibits bankability. The ideal revenue stream is from an AAA-rated entity that buys the full output at a defined price that sufficiently exceeds defined costs. The debt interest rate increases to reflect lesser credit ratings of the offtaker, vagueness of terms, and uncontracted quantities.
14. Debt providers require covenants which when breached enable them to call in the loan. This compels refinancing under distressed conditions. Regulatory readjustments, such as changes to the Reserve Capacity Mechanism, can force refinancing.
15. The principal test of a regulation is that it should facilitate, or at least not interfere with, bankability. EMR-1 was premised on new market participants with strong balance sheets providing that bankability. This prospect was contingent on FRC providing the necessary financial incentives to attract such entities.
16. Historically, Synergy has been the principal source of bankability via its parent guarantee (the state government) and its supply monopolies from time to time.
17. Other important sources of bankability include:
 - large retailers such as Alinta, ERM, and Perth Energy supplying their respective market shares;
 - the Reserve Capacity Mechanism, whereby the market underwrites generating capacity (but not the energy it produces);
 - the Clean Energy Regulations (and particularly LGCs)

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18. Bankability in the current environment is driven by the Clean Energy Regulations and the blow-out in the price of LGCs. This has created a surge of investment in renewable energy plants within a window of opportunity that has now effectively closed. Western Power admirably adapted to facilitate access to hundreds of MW of renewable plants on a pseudo-constrained basis - Generator Interim Access (GIA).
19. The Reserve Capacity Mechanism (RCM) has previously underwritten diesel peaking stations. However, this contributed to capacity oversupply and provided 'low quality' generation that would rarely be used. The RCM was subject to the regulatory shock of the Lantau Curve which immediately saw the capacity price fall significantly. Public submissions around this time from diesel peakers claimed that debt covenants were potentially about to be breached. [Subsequently, the capacity price surged and those same participants instead looked to expand].
20. Large retailers have successfully developed over a quarter of the scheduled generation on the SWIS and secured retail market shares commensurate with that. Further expansion is much more difficult as the contestable market is competitive, relatively static in size, and the residential market is inaccessible.

Synergy's "Clean Energy Fund"

21. Synergy is seeking to establish a Clean Energy Fund to build renewable energy generation, whereby it will contribute existing plants as equity and write bankable offtake agreements for new plants. The intent is that in so doing this would keep the underwriting off the state government's balance sheet, but the accounting viability of this has not been confirmed.

EY Modelling Paper - prospective new generation developments

22. We note that of the listed plants, most are private and already committed (where we assume that the Cunderdin 100MW PV plant is replaced by the Merredin 100MW PV plant).
23. The notable exception is Synergy's Warradarge project - 180MW located in the heart of the (highly congested) wind generation belt and Greenough River Stage 2 (30MWPV) in a nearby location. There are no other projects listed that do not already possess capacity accreditation by AEMO (including Byford, which currently has no capacity credits).

Capacity Price Trajectory

24. The final price calculated under the original administered formula was \$122,000 per MW per year.
25. The Lantau Formula was developed by the former IMO with the intention of increasing the sensitivity of the capacity Price to supply-demand balance and thereby, initially, to drive down the price and force capacity out of the market.

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26. The IMO intended to retain DSM in a 'harmonised' form. At that time, DSM stood at 550MW.
27. On introduction of the Lantau Curve, the price immediately fell to \$112,000 per MW with further downward expectation. "Capacity plays" and their lenders balked. In public submissions, there were claims of impending breach of debt covenants.
28. In Lantau Y2, DSM was targeted out of existence, reducing to 57MW with Synergy now the market leader. Synergy additionally retired 437MW of scheduled generation, all of which was old, none of which was energy-producing, and some of which was used to support the network via a contract that ends mid-2018. The Capacity Price increased to \$139,000 per MW.
29. In Lantau Y3 Some 200MW-nameplate of renewable generation was certified and the Capacity Price fell to \$127,000 per MW.
30. All that remains on the EY new generation list is Synergy's 180MW (~50MW-certified) Warradarge Stage 1 project and its Greenough River 30MW PV Stage 2 (~10MW certified).
31. AEMO is forecasting supply-demand balance from 2024 and supply deficit thereafter.
32. Synergy is the only entity that is likely to retire generation, with some 1,000MW of very old assets that it can retire at any time and thereby elevate the Capacity Price.
33. Private generators are no older than the market itself having been spawned by it (15 years including development) and therefore will not retire. Rather, a low capacity price is more likely to breach debt covenants, put the owner into default, followed by receivership, followed by repricing and sale to a new owner, followed by continued operations.
34. There is an entry-exit asymmetry in generation capacity in that capacity can (and has) retired arbitrarily without material penalty, while replacement plant requires at least 2 years to build plus up to a similar period to plan.
35. The price trajectory is therefore to the cap (110% of the Benchmark Price; \$168,000 per MW currently). This is inevitable unless sufficient new plant is certified or the load forecast is reduced commensurately. If insufficient plant is built, the Supplementary Reserve Capacity provisions may also be triggered, exposing Market Participants to extremely high energy prices by local standards.
36. We suggest that the capacity mechanism will incentivise small, low capital cost projects with fast paybacks - small diesel peakers. Ironically, these were a principal cause of the original capacity oversupply that the reformed capacity mechanism was intended to deter.

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Unstable Reserve Capacity Mechanism

37. On the face of it, a high capacity price improves the bankability of capacity-play generation projects albeit with the potential for the price to collapse should significant new capacity be certified.
38. On the face of it, under constrained access incumbent generators should easily be able to expand their plants.
39. However, bankability needs stability and predictability of revenue as well as sufficiency. This is compromised by uncertainty over:
 - the prospective confiscation of access rights and the consequential impact of capacity certification under constrained access;
 - whether a Capacity Auction will be introduced;
 - the review of the Benchmark Reserve Capacity Price Method due to be completed by mid 2019 for commencement effective Capacity year 2022;
 - the review of the method of allocating capacity credits to renewable energy generators, due to commence later this year to take effect from CY2022-23;
 - the future of incentives to renewable energy generation post "LGC" era and in particular how the National Energy Guarantee will apply to the NEM;
 - uncertainty over system load growth in the face of the 'new energy paradigm';

Perverse incentives

40. The capacity revenue is the Capacity Price multiplied by the Assigned Capacity Credits.
41. Under the Lantau Curve the capacity price decreases as approximately the fourth power of excess capacity.
42. We suggest that via the Lantau Curve, Synergy's capacity revenue in 2018-19 is actually higher as a result of its retirements than it would have been without them.
43. The DSM wipe-out is predicated on payment of a minimum value when it is not actually used. Insofar as DSM is used, the payments are potentially very lucrative. DSM is likely to be needed in the event of supply shortage. Synergy controls whether such a shortage occurs via its retirement decisions.
44. We note that Synergy is now the principal DSM provider. We further note that the EMR-1 intention was to reinstate participation of DSM once the price is set by capacity auction.

Network Access Rights

45. Network access rights are central to the market reforms. Under the current unconstrained access system, generators are required to fund the full cost of interconnection and network upgrade. This is prohibitively expensive and a

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barrier to entry. However, the converse is not true; cost-effective network access will not of itself promote new generation entrants. Network access is a prerequisite that enables new entrants to progress to the next hurdle - bankable PPAs and financing.

46. Synergy controls the Capacity Price through its dominant generation fleet (2,520MW-certified in 2018-19) and its ability to retire up to around 1,000MW at any time in increments of 35MW (a Pinjar F6 unit).
47. The reform is predicated on the proposition that constrained network access necessitates the confiscation of all existing network access rights, with the issue of compensation mooted but not yet addressed.
48. We suggest that the materiality of access rights is essentially the right to access the market for the sale of production (capacity and energy). Confiscation of access rights will thereby impair debt-rollover and potentially breach debt covenants. This is a major issue for incumbent private generators and should not be entertained arbitrarily. Equally, effort should not be wasted on the design of compensation if the core problem can be reframed away.
49. On the face of it, the confiscation of access rights might not be a material issue. Given that incumbent generators are entitled to unconstrained access, we presume that the network is currently not congested except in circumstances where the consequences of that congestion are sheeted home to the causers (new generators) via Western Power's GIA. If this is the case, then only new generators that get built would cause curtailment of incumbents. (And those generators - Synergy's Warradarge and Greenough River 2 on the EY list - could be identified as the targeted beneficiaries of the reform.)
50. However, the *perception of the possibility* of an unknown level of curtailment will disrupt bankability or private plants, whether or not it actually occurs.

Issue definition & the governing paradigm

51. We perceive that the entire constrained access initiative has been shrouded in confidentiality if not outright secrecy, and that Synergy as a member of the Steering Committee was uniquely placed to integrate market development with its own strategic planning.
52. We suggest that Western Power's analyses have been taken on trust without scrutiny. We suggest that Western power is notoriously network-centric with a track record of bungles at the interface of the wholesale market. We cite as examples:
 - the blow-out in capacity prices in the two years 2012-2014 , when Western Power was tasked with calculating benchmark connection charges and increased the prevailing values by 400%. This elevated costs to the Capacity Market by several hundred million dollars;

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- the MBT^T2 transformer failure whereby failure of a network asset led to consequential market costs (constrained generation) that wiped out the margin of private baseload generators for several months;
 - Declared Sent Out Capacity (DSOC). This feature is central to Western Power's charges for network access with penalties being charged for excesses. However, it is also used to cap the output of generators regardless of operating conditions. Western Power applies a single value under all conditions - a severe hot afternoon is treated the same as a cold winter night or a mild autumn evening.
53. We have seen no proof that there is a genuine access problem that is best solved by confiscating the access rights of all incumbent generators.
54. We have no confidence that Western Power's (still confidential) constraint equations are fit for purpose. We fully expect that the starting point of their analyses is based on dysfunctional assumptions to the effect of, "assume that all other generators are operating at full DSOC at all times". [Including PV plants in the middle of the night.]
55. We have seen no evidence that alternative solutions have been contemplated - such as strategically located utility-scale batteries.
56. We have not seen answers to the obvious questions, such as:
- what is to become of the 240MW of access rights released by the retirement of Muja AB?
 - what became of the access rights to Synergy's former Kwinana C (350MW) which retired a few years ago?
 - how compares the holistic economics of a wind farm located in a high-wind congested region compare with a low-wind non-congested area?
 - to what extent have these access rights been retained by Synergy and contribute to constraints even though the power stations have been retired?
 - will Muja C (440MW) and Muja D (440MW) retire in the near future? How does their retirement impact on congestion?
 - given that incumbent generators have funded unconstrained access, has Western Power actually made all the investments that have been paid for? Is constrained access a means for Western power to avoid making some of those investments?
57. We recommend a proper starting point is to audit the issues, define the problem and review potential solutions - with particular emphasis on implementation of the 'no-brainers' (such as redefined DSOC).
58. In the absence of such an audit, the initiative looks a lot to us like all private access rights are to be confiscated so that Synergy can progress its Clean Energy Fund and finance its Warradarge and Greenough River 2 projects in a congested region of the network at connection costs subsidised by its competitors.

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Conclusion

59. We suggest that the market is trending to capacity shortfall and there is no clear funding mechanism for new projects except for Synergy's Clean Energy Fund.
60. We suggest that the price trajectory is to the price cap within a few years, supplemented by extremely high energy prices via triggering of the Supplementary Reserve Capacity mechanism.
61. We suggest that Synergy controls the rate of increase of the Capacity Price through its dominant generation fleet and ability to retire at any time up to around 1,000MW in increments of 35MW. It has a track record of increasing its capacity revenues even after having reduced its capacity quantity.
62. We suggest that private power stations, including marginal expansions of incumbents, will not be developed because of the destabilising of the financial climate through the confiscation of access rights and uncertainty over the development of the Reserve Capacity Mechanism for at least 5 years plus a further 2 years build time.
63. We suggest that the current consultation initiative is merely putting lipstick on the pig of ill-considered constrained network reform that was imposed on the market and for which industry support has not been demonstrated.
64. We suggest that confiscation of access rights will impair generation project debt-rollover and potentially breach debt covenants. This is a major issue for incumbent private generators and should not be entertained arbitrarily. It could lead to write downs of their asset values and change of ownership through debt default.
65. We have no confidence that Wester Power's constraint equations are fit for purpose and take proper account of operational realities.
66. We recommend that a proper starting point is to audit the issues, define the problem, define the beneficiaries and review the potential solutions and their funding. We suggest that proper transparency is half of the solution.
67. In the absence of such an audit, the initiative looks a lot to us like all private access rights are to be confiscated so that Synergy can progress its Clean Energy Fund and finance its Warradarge and Greenough River 2 projects in a congested region of the network with its connection costs subsidised by its competitors.

Contact

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