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The Chairman
Australian Energy Market Commission
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Dear Dr Tamblyn

REVIEW OF ENERGY MARKET FRAMEWORKS IN LIGHT OF CLIMATE CHANGE POLICIES – SCOPING PAPER

Synergy appreciates this opportunity to comment on the Australian Energy Market Commission **(AEMC)** Scoping Paper: Review of Energy Market Frameworks in Light of Climate Change Policies. Synergy supports the position enunciated in the submission by the Electricity Retailers Association of Australia **(the ERAA)**. However, we take this opportunity to identify to some perspectives which are critical to the effective and efficient adoption of the Mandatory Renewable Energy Target **(MRET)** and the Carbon Pollution Reduction Scheme **(CPRS)** {**(the schemes)**} in Western Australia **(WA).**

Synergy is WA's largest energy retailer, with more than 900,000 industrial, commercial and residential customer accounts and generating total revenue of more than $1.5 billion annually. Our interest in the AEMC Scoping Study manifests itself through the potential for direct impacts of the CPRS on our gas retailing activities, the broader impacts of both schemes on our wholesale procurement activities, and through the implications to energy pricing which arise with the pass through of these costs to consumers.

The energy industry structure and the underlying economics are vastly different in WA in comparison to our East Coast counterparts, who have the ability to participate in the National Electricity Market **(the NEM)** and who have an integrated gas supply network. The WA industry must operate in an environment which addresses the physical separation of the industry and the State-specific cost structures, including those for each of the dominant fuel sources - coal and gas. Given these differences, it is imperative that the implementation of the schemes is managed in a manner which gives due consideration to the specific needs of the WA energy industry.

While Synergy strongly supports the review currently being undertaken by the AEMC, and acknowledges that from national perspective the scoping paper addresses the key impacts that will affect East Coast industry participants, we

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are very troubled by the scant consideration of matters relating to the WA electricity and gas supply industries.

Issues of key concern in this State include:

- **Locational-specific Cost Structures** – As a reflection of our physical separation, there is a critical need for the schemes to make adequate consideration of the WA-specific cost structures underpinning the commercialisation of those technologies which are capable of delivering an efficient reduction in net emissions.

- **Inter-fuel Competition** - Given the limited diversity of wholesale fuel suppliers in WA, it is critical that inter-fuel competition is maintained to provide adequate commercial tension. Further, and reflecting the vast distances to be covered by one dominant pipeline in the delivery of gas to population and generation centres, this fuel diversity is essential in ensuring the ongoing security and reliability of electricity supplies in the State.

- **Cost-reflective Prices** – Costs arising from the schemes must be allowed to flow through fully to wholesale and retail electricity prices, as it properly reflects the cost of carbon in the electricity sector to create the required incentives for demand reduction and other efficiency measures from electricity consumers. In this regard, Synergy views the current capped tariff regime in WA, with limited headroom, as being a significant constraint which if left unaddressed will limit the investment in renewable generation going forward.

- **Interplay between CPRS and MRET** - MRET is to be phased out between 2020 and 2030 as electricity prices rise enough under an CPRS to allow renewable generators to compete. Synergy points to current uncertainties as to whether the CPRS will adequately address the life cycle of MRET scheme to ensure that renewable projects have sufficient time to make an economic return. This is critical, given the large investment we intend to make in renewable projects as the outworking of our substantial recontracting needs, and the need to ensure that we meet the overall obligations of MRET targets as part of our contracting strategy. In our current commercial undertakings we have identified significant conjecture as to the future price of carbon in a post MRET environment. We see this uncertainty as adversely impacting on the attractiveness of investment in renewable projects.

The risks and issues associated with these matters are outlined in Synergy's detailed response to the various questions posed by the AEMC, attached.

As an acknowledgement of the substantial differences in industry structure evident in WA, Synergy advocates that the Scoping Study give specific and detailed consideration of WA's needs, through direct engagement with the State Government's Office of Energy **(the OOE)**, the Independent Market Operator **(the IMO)**, industry bodies and the participants themselves. Further, with the limited size of the markets in operation in WA, it is likely that any structural changes to accommodate the schemes (including those to the underlying information technology/systems) will come at a significant cost to participants. We request that the AEMC give special consideration to this funding concern.

Synergy is keen to further engage on these issues. For further information associated with this submission, please contact Mrs Jenni Conroy (08-6212 1661).

Yours sincerely

TREVOR JAMES
HEAD OF WHOLESALE (ACTING)

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REVIEW OF ENERGY MARKET FRAMEWORKS IN LIGHT OF CLIMATE CHANGE POLICIES – SCOPING PAPER

1. CONVERGENCE OF GAS AND ELECTRICITY MARKETS

1. How capable are the existing gas markets of handling the consequences of a large increase in the number of gas-fired power stations and their changing fuel requirements?

In WA, the supply of gas for electricity generation is predominantly undertaken through long term commercial contracts (usually 10 to 15 years) between producers and the generators. The contracts establish the term, prices and quantities under which natural gas is supplied.

Gas is transported across an interconnected network, with the Dampier to Bunbury Natural Gas Pipeline **(DBNGP)** being the major pipeline. While the DBNGP is subject to access regulation, this regulation has been effectively bypassed as a reflection that the pipeline is fully contracted for capacity and is unlikely to have spare capacity until 2016, at which time it will then be subject to the prescriptions of the access regulation.

The schemes are likely to drive an increase in gas fired generation, as both a baseload generation and as an instantaneous backup for those times when renewables, such as wind, are not able to produce. Gas fired generation is the more likely technology in these circumstances because it is capable of ramping its output up and down quickly and reliably. Further, the CPRS will encourage gas, over other fuels such as distillate, given the lower carbon footprint.

Synergy perceives a significant risk that the existing gas markets in WA are not flexible and responsive to handle the increased volumes and highly variable supply requirements of gas-fired generation. This is exacerbated by the fact that there are very limited gas storage facilities in this State[1].

Further, with the DBNGP not upgraded unless capacity is fully contracted,[2] there remains a high probability of increased congestion on the gas network, such that intermittent gas plant may not be able to acquire non-firm transportation capacity to align its fuel contracting with the operating requirements anticipated for the plant within the Wholesale Electricity Market **(the WEM)** rules.

Clearly, as a reflection of their higher carbon footprint, the implementation of the CPRS has the potential to impact the relative economics of coal generation

[1] There is some limited storage available within the Mondarra gas storage facility,
[2] A prospective capacity upgrade has been the subject of discussion for some 5 years.

over gas generation. Given the limited diversity of wholesale fuel suppliers in WA, it is critical that inter-fuel competition is maintained to provide adequate commercial tension. Further, and reflecting the vast distances to be covered by one dominant pipeline in the delivery of gas to population and generation centres, this fuel diversity is essential in ensuring the ongoing security and reliability of electricity supplies in the State.

These issues have significant potential to affect the financial viability of renewable generators and in turn to place a substantial impost on retail markets and tariffs. Insufficient gas supplies may also result in a shift from gas fired generation to distillate fired generation as the backup quick start plant to complement the operating regime of intermittent renewables. Such a shift has the potential to drive an increase in the carbon footprint of the generation portfolio in this State, which is directly contrary to the stated aims of the schemes.

2. What areas of difference between gas and electricity markets might be cause for concern and how material might the impacts of such differences be?

The WEM contains a capacity mechanism, which requires that those facilities which are capacity credited (mainly generators) are available to generate consistent with the Market Rules. For peaking plant, this requirement translates to a requirement to have fuel supplies for 14 hours per day. Clearly with the congestion concerns in the DBNGP and the high international demand for natural gas, this puts a significant pressure on peaking plant to contract for firm gas supplies and transportation, even though they may not be physically dispatched during this period. In the absence of adequate gas storage, short term gas markets/swaps and adequate non-firm gas transportation arrangements, peaking generators will need to either book firm capacity and make long term fixed bilateral commitments, resulting in an economic inefficiency to be borne by the market and end use consumers or be dual fuelled and utilise distillate, which will have adverse impacts on the State's carbon footprint.

WA's gas market is structured to manage the daily demand cycles. Synergy identifies that this market is likely to incur difficulties in addressing the intra-day demand volatility which is exacerbated with the increased penetration of renewable generation arising as a result of the schemes and the likely usage of gas-fuelled generation as the backup quick-start plant.

Clearly there is a substantial risk for retailers operating in this environment, that cost allocation and recovery regimes may not be able to be amended to shift these risks and costs to the generators who are best able to manage them.

2. GENERATION CAPACITY IN THE SHORT TERM

3. What are the practical constraints limiting investment responses by the market?

For renewable generation proponents to finance these plants it will be necessary for retailers to effectively underwrite the construction by entering into long term bilateral contracts for the key outputs – RECs, Capacity Credits and energy. There will therefore be a cost effect on electricity contracts and tariffs for all energy users over the longer term.

It is critical that the costs arising from the schemes be allowed to flow through fully to wholesale and retail electricity prices, as it properly reflects the cost of carbon in the electricity sector to create the required incentives for demand reduction and other efficiency measures from electricity consumers. In this regard, Synergy views the current capped tariff regime, with very little headroom, as being a significant constraint which if left unaddressed will limit the investment in renewable generation going forward.

We have previously raised concerns with Government as to the allowance for the costs of RECs within WA's tariff regime. Experience has shown that the cost of RECs can change significantly from year to year. Inadequate allowances for variations in REC prices within tariffs will deter retailers from signing contracts of this kind, and this could limit investment by proponents.

The extent of the additional cost for the economy and consumers will depend on the relative costs of renewables. The costs will also depend on the final design of the MRET and constraints applied by Government. A particular issue under discussion is whether the trading with other states or investment in renewables outside of Western Australia will be allowed by the State Government to count towards the target. The measures set out in this paper relate to increasing renewable deployment in Western Australia, but because the cost of renewable projects in some other states are lower than the cost in Western Australia, allowing a specified and limited proportion of our target to be delivered in other states would make the task significantly less expensive to Western Australia's electricity consumers.

However, for those retailers, like Synergy, who do not have a national customer base, any RECs obtained from other jurisdictions are unlikely to act to reduce their carbon footprint under the CPRS. In other words, there is an opportunity cost which will arise under the CPRS for any RECs not purchased within the SWIS.

Further, Synergy also notes from our own experiences in dealing with renewable generation proponents, a range of constraints that have hindered project development:

- Difficulties in securing planning permission – arising from the planning process, and objections from individuals or Government itself (for example, environmental protection regulation);
- Difficulties in connecting new renewables capacity to the electricity grid and the lack of grid capacity in general;
- Regulatory uncertainty regarding the interplay between the CPRS and MRET; and
- Limitations in the ability of the supply chain to meet demand for renewable deployment (queues for wind turbine purchases).

4. How material are these constraints, and are they transitional or enduring?

Synergy is very concerned that these impediments may substantially constrain the level of investment in Renewable Generation in this State and in turn will severely constrain the achievement of the desired outcomes from the schemes.

5. How material is the likelihood of a need for large scale intervention by system operators? How likely is it that this will be ineffective or inefficient?

We note here that the WEM is uniquely complex and requires special consideration within this scoping study.

As a reflection of the geographical separation of the WEM from the NEM, reliability of supply in this State will only be maintained if the existing Market Participants (retailers and generators), are insulated by the transitional arrangements for the schemes. Failure to do so may result in market failure.

In this regard, Synergy sees an urgent need for the AEMC to work with State-based regulators and policy makers to ensure that mechanisms to allow the efficient pass through of carbon costs, in tariffs and retail contracts, to end-users of both electricity and gas are developed in a timely manner. Likewise, we view that the schemes must make appropriate transitional arrangements to ensure that value is maintained in pre-existing commercial arrangements. The stranding of assets and contracts in a market place the size of WA, would have substantial financial implications to not just the participants themselves, but more broadly to the level of competition in this marketplace. Synergy believes that without adequate transitional arrangements being in place it is likely that industry participants will be severely impacted by the schemes with little physical reduction in the levels of Greenhouse Gas **(GHG)** emissions.

3. INVESTING TO MEET RELIABILITY STANDARDS WITH INCREASED USE OF RENEWABLES

6. How material is the risk of a reduction in reliability if there is a major increase in the level and proportion of intermittent generation?

Wind and other forms of intermittent generation have quite different characteristics to the forms of generation around which power system operation and electricity markets have been designed. In addition, the challenge of integrating large scale wind generation into the SWIS is compounded by three factors:

- The SWIS has no interconnections to other power systems and therefore cannot draw upon other power systems' resources;
- The long and stringy nature of the SWIS (generation and load are connected by long transmission lines); and
- The nature of the wind resource (inconsistent and often at the extremities of the transmission system where the network is less robust).

Wind and other forms of intermittent generation are quite different to the forms of generation around which the SWIS has evolved. Conventional thermal generation plant has the ability to control its output by adjusting its fuel input in a controlled manner. The power output of conventional thermal generation is therefore largely predictable and stable.

Wind generation cannot control its power output in this way – it is dependent on the wind that is blowing at the time. While it has some ability to be relied upon to provide a quantum of energy over the long term, it is highly variable and unpredictable in the short term. This has implications for power systems and the operation of electricity markets, which have been designed around generally predictable generation (with certain allowances for generator outages) and the need for instantaneous customer electricity demand to be met by generation supply.

When the level of wind generation penetration is small, the effects of its unpredictability and variability make little impact on the power system. However, with increasing amounts of wind generation connected to the power system, the impacts of unpredictability and variability of wind generation become progressively more and more significant for the operation of the power system.

At present, the installed capacity of wind generation in the SWIS is approximately 200 MW which is relatively small compared to the installed capacity of other types of generation, However we note from discussions with Western Power that this small penetration of wind is already difficult to manage within the existing system procedures. Present trends suggest that a

significant amount of wind generation is likely to be connected on the SWIS within the next 5 to 10 years. There is currently over 1,300 MW of wind capacity seeking connection to the SWIS. The effects of the variability and unpredictability of this additional wind generation on the power system and the energy market are likely to be substantially greater than the effects observed to date.

7. What responses are likely to be most efficient in maintaining reliability?

Clearly, whatever amendments are necessitated to WA's fledgling market must be implemented in a manner which ensures that the cost increases can be managed and existing, thin, retailer margins protected. Without such protections, there remains a real risk that retailers will exit the marketplace, resulting in a substantial lessening of competition.

The WEM is a small marketplace. Synergy anticipates that there may be some substantial costs to market systems and processes to accommodate the schemes and that this may potentially result in a substantial impost to the few market participants operating in this jurisdiction. Synergy requests that the AEMC work with the OOE, the IMO and market participants to establish appropriate funding arrangements.

4. OPERATING THE SYSTEM WITH INCREASED INTERMITTENT GENERATION

8. How material are the challenges to system operations following a major increase in intermittent generation?

System Management uses the scheduling process to identify possible power system security issues (eg, not enough generation offered in a particular trading interval). Inaccurate wind generation forecasts is likely to mean that generation dispatched in a trading interval is quite different to the generation that was scheduled and for which power system security analysis was carried out. This significantly increases the risk that power system security issues emerge during dispatch. This affects System Management's ability to manage the power system securely.

Synergy perceives from System Management that the current level of forecast accuracy is manageable within the current dispatch processes (although the effects of forecast inaccuracy can be observed). As increasing amounts of wind generation capacity is installed, there will come a point where the inaccuracy in the wind generation forecasts (or other intermittent generation) is so large that power system security can not be safely managed using the current processes and tools.

One option is to improve the accuracy of wind generation forecasts, perhaps through the introduction of centralised wind generation forecasts, as discussed previously, above.

Wind generation (and other forms of intermittent generation) are not offered into the WEM in the same manner that other types of generation are offered. As part of the wind generation offer, a forecast of the amount of wind generation in a trading period is provided to System Management. The accuracy of the provided forecast is dependant on the degree of accuracy with which the wind generator's can predict the amount of wind generation in advance.

Synergy also perceives a weakness in the current market design in that it limits the interactions between Market Participants by insisting that trading positions, being a demand forecast for a retailer and a resource plan for a generator, be determined in the morning of the day before the trading day. No flexibility to adjust these positions closer to real time is allowed. This is particularly significant for WA given that the majority of loads are weather dependent. Greater flexibility would allow retailers to adjust their requirements closer to the actual trading interval, based upon current weather forecasts. It is Synergy's position that generators should be authorised to change their resource plan to account for changes to retailers' demand forecasts and to allow generators to adjust their positions to reflect the implications of changed weather forecasts on generation capabilities. Amendments to the market structure to accommodate a gate closure closer to real time would allow retailers and generators to adjust their positions to reflect the implications of changed weather forecasts on generation capabilities.

As part of the scheduling process, System Management schedules offered generation to meet forecast load. The forecasts provided by wind generators may be used in the scheduling process if the wind generator submits a resource plan. Synergy views that the variability of wind is such that this forecast will always be imprecise. Inaccuracy in wind generation forecasts means that generation that is actually dispatched in a trading interval can be quite different to the generation that was scheduled earlier. This has three impacts:

- Impact on power system security;
- Impact on the balancing generator; and
- Displacement of base-load generation.

Pre-dispatch generation schedules produced in the scheduling process provide the Balancing Generator (currently Verve Energy) with information such that they can adjust their offers of generation in the STEM in response to enable them to provide balancing services. This allows Verve to optimise the efficiency of its generating units and to plan starting and stopping of its plant.

Inaccuracy in wind generation forecasts affects the accuracy of the generation schedules provided to Verve. Under these circumstances, Verve is presented with an actual dispatch in some trading intervals that is quite different to the scheduling around which they based their offers. This difference will result in increased plant operating costs and opportunity costs to Verve.

Synergy notes that Verve Energy currently fulfils the key role of balancing out the difference between demand forecasts, actual generation dispatch and actual SWIS load. Verve effectively controls the balancing mechanism by acting as the swing generator. Given the potential increase in balancing requirements as a result of the expanded MRET, it is Synergy's view that a more efficient approach would be to allow all generators to offer balancing via incremental offers and decremental bids from each generator. This was a feature of the original market design, but was deleted in the final version of the market rules because Western Power was not disaggregated at the time the market design was finalised.

9. Are the existing tools available to system operators sufficient, and if not, why?

As a reflection of the discussion above, Synergy does not believe that the tools currently available to System Management are sufficient for the critical role they are undertaken within the WA electricity supply industry.

10. How material is the risk of large scale intervention by system operators and why might such actions be ineffective or inefficient?

System Management is tasked with dispatching generation in a manner which achieves secure, optimal and economic power flow. The secure dispatch ensures that power system capability limits are not exceeded for an outage. The sudden increase in wind generation output, instantaneously with a reduction in output by the Balancing Generator can cause a change in power flow within the transmission grid. This change in power flow has the potential to cause some transmission circuits to exceed their stated rating until System Management is able to dispatch other generators to compensate for the change. Power system capability limits may need to be put in place to avoid assets exceeding their stated capability during a sudden change in wind generation output.

Synergy views that power system capabilities need to be assessed in the light of the potential for rapid increases in wind generation output. A variety of measures are in effect in other jurisdictions to manage the risk of exceeding power system capability limits when there are changes in wind generation. These include automatic schemes to monitor transmission capacity and wind generation output and modify the output of wind generation (ie runback and

inter-trip schemes). In the absence of any other controls applied to asset owners, constraints will need to be applied in power system operations. Constraints can be used to:

- Dispatch generation so that the circuits in question will not exceed stated capability for sudden increases in wind generation output or constraining wind generation at the times when there is a risk of these circuits exceeding stated capability; and/or
- Restrict the rate at which wind generating units change output (ramp up/down controls as discussed above).

11. How material are the risks associated with the behaviour of existing generators, and why?

Base-load and many mid-merit generators have underlying economics such that economic generation relies on being connected and generating at least at a minimum level throughout all trading intervals because the costs of starting and stopping the generation are high and efficiencies generally deteriorate at lower loads.

Wind generation is a form of "must run" generation in which generation only occurs when the wind is blowing. In the WEM this is reflected by the fact that wind generation is now dispatched within the WEM according to its output, not its forecast or is scheduled dispatch. Synergy views that this was a temporary arrangement implemented to allow the few existing wind farms to be effectively dispatched until more permanent (and equitable) rules were developed.

With increased penetration of wind farms, there exists the significant potential that at certain times (low load conditions) the amount of must run plant may exceed the system demand. This creates a risk for thermal generators that they may be dispatched off, resulting in high costs for shut down and restart when they are next required. This appears to be an economic inefficiency to the market and adversely impacting other Market participants.

One response may be for System Management to force wind generators to reduce load or shut down, such that the low state operating regime is maintained for existing base load thermal generators. This however will adversely impact on the returns for wind generators and their retail counterparties in that if the plant is not running they will not meet their REC obligations.

This issue is being worked through in detail by the Renewable Generation Working Group, which is chaired by the Office of Energy, a State-Government department which provides advice to the Minister for Energy. It has been acknowledged by this working group that the Market Rules, consistent with their objectives, clearly need to provide economic incentives to ensure that plant is dispatched on a least cost basis.

5. CONNECTING NEW GENERATORS TO ENERGY NETWORKS

12. How material are the risks of decision-making being "skewed" because of differences in connection regimes between gas and electricity, and why?

Not Material.

13. How large is the coordination problem for new connections? How material are the inefficiencies from continuing with an approach based on bilateral negotiation?

At present it is extremely difficult for Western Power to plan for additional investment in the network, due to the relative uncertainty of the scale and timing of many new renewable investments. This can lead to delays in identifying the need, and obtaining planning consents, for the construction of new or reinforced infrastructure.

Further, development of the network in this manner may lead to the economically suboptimal development, where a number of generation projects are ultimately clustered in the same area. It may also inhibit so-called "pioneering" generation investment, particularly in wind farms, because it may require the initial developer in a region to pay the full cost of extending/augmenting the network, while subsequent developers in the same region can connect to and utilise the extended network at a much lower cost. Development in this manner can also lead to a situation where the capacity of connection assets is insufficient and it is necessary to limit network access.

Regardless of this circumstance, if the State is to provide greater certainty for renewable developers, Western Power needs to have effective incentives to connect new generation and develop infrastructure at an early stage, ahead of firm commitments from generators. Development plans need to be transparent and to have been developed in dialogue with renewable (and other) generators, as well as the retailers who have the knowledge of the proposed load growth, so that projects are brought forward with full knowledge of network capabilities.

Setting out the likely programme of investment now, and beginning the initial design and preparatory work up to and including submitting planning applications, will allow an early start to be made on delivering new investments. This will require upfront investment from Western Power, for which they will need to achieve funding. How this is rolled into their regulated pricing regime needs to be fully considered. Synergy sees a need for Western Power's regulatory regime to be structured in such a way as to encourage Western Power to undertake more preparatory work on network extensions in

advance of a firm commitment from a single developer; and to ensure greater involvement of project developers in the development of network investment plans.

Given the long life of transmission assets, the strategic planning undertaken by Western Power needs to take a view out to 2030. There is likely to be a need to further extend the boundaries of the SWIS to connect the more optimal renewable generation sites, particular in the lower great southern and mid west regions.

Developing a clear vision of the electricity network architecture that will support the necessary expansion of renewable generation and further developing our understanding of the challenges for its delivery and operation will be a crucial first step. In this regard, Synergy has been working with the OOE and Western Power to encourage a review of proposed developments and funding with the aim of supporting more cost effective and faster connection of renewable generation. The scope of this review should encompass all technical, commercial and regulatory arrangements for electricity transmission networks.

14. Are the rules for allocating costs and risks for new connections a barrier to entry, and why?

Synergy is concerned that economic efficiency in the design and construction of the electricity transmission system may not occur until the WEM and the network both send localised price signals to asset owners, which incentivise them to construct at the point where the network and the electricity market most require the generation. Given that such a change will not come without significant costs to market participants, arising from system and commercial remedies, Synergy sees merit in an assessment into the appropriateness of establishing zonal pricing in the WEM.

6. AUGMENTING NETWORKS AND MANAGING CONGESTION

15. How material are the potential increases in the costs of managing congestion, and why?

Highly material.

Within WA's gas supply industry, and reflecting the predominantly contract carriage arrangements, shippers directly face the full cost of developing any required pipeline infrastructure.

Further, as outlined in section 1 above, with the DBNGP not upgraded unless capacity is fully contracted,[3] there remains a high probability of increased congestion on the gas network, such that intermittent gas plant may not be

[3] A prospective capacity upgrade has been the subject of discussion for some 5 years.

able to acquire non-firm transportation capacity to align its fuel contracting with the operating requirements anticipated for the plant within the WEM rules.

The degree of any required electricity network augmentation will vary for each project, and the cost of the augmentation will depend on the capability of the network to accommodate the generator while maintaining secure and reliable supply.

One concern that relates particularly to intermittent renewables, such as wind farms, is the current requirement for 100% coverage of generation capacity within the Contract Maximum Demand **(CMD)** as specified for network access, even when the plant is intermittent and will not require that network capacity all of the time. Current regulatory arrangements within the SWIS contain no clear rules for sharing network access where capacity is constrained. While this is a potential issue for all forms of generation, it arises more often for renewable generators, such as wind farms, situated at the extremes of the network. Synergy has raised this concern directly with both Western Power and the Independent Market Operator **(the IMO)**, and will continue to advocate for consideration of network access sharing arrangements as part of Western Power network tariff reviews and individual infrastructure augmentations.

16. How material are the risks associated with continuing with an "open access" regime in the NEM?

Not applicable.

17. How material are the risks of "contractual congestion" in gas networks and how might they be managed?

Highly material – refer responses to Q1 and Q13.

18. How material is the risk of inefficient investment in the shared network, and why?

Highly material – refer responses to Q1 and Q13.

19. How material is the risk of changing loss factors year-on-year?

As outlined above, this is a material risk, and due to the nature of many contractual arrangements, a risk that often falls on retailers.

An ability to lock in a loss factor at the time of investment is required to ensure adequate stability in the investment environment. Currently any project located in a network area with an attractive loss factor, is likely to have another project locate nearby soon afterwards. Investment by a second

plant is likely to drive down the loss factor significantly, eroding any benefits factored in by the first project in their viability assessment.

7. RETAILING

20. How material is the risk of an efficient retailer not being able to recover its costs, and why?

Regulated retail tariffs exist in WA. The ability of the retail sector to pass through cost increases related to serving these customers is therefore subject to a decision by Government, and is almost wholly outside the control of the firm.

The introduction of the schemes will create significant cost increases for retailers, which must be factored in to the tariffs. Failure to do so will put undue financial pressure on retailers and discourage competition due to the lack of headroom for new entrants.

Synergy sees this risk of inadequate cost pass through as highly material, and sees a real risk of the erosion of the level of retail competition in this State should such pass through not be given effect.

21. What factors will influence the availability and pricing of contracts in the short and medium term?

Currently the majority of contracts drafted contain carbon cost pass through clauses. This means that it is difficult for retailers to offer firm prices to customers without a means to manage carbon price risk.

It is also worth noting that there is limited liquidity of electricity supplies in this period. As raised previously, there are several key drivers for this, however, of most relevance here is the substantial uncertainty regarding the implementation and parameters of the schemes.

22. How material are the risks of unnecessarily disruptive market exit, and why?

Synergy identifies a range of possible scenarios which may drive exit from the industry, including:

- Higher energy prices as carbon is factored into generator costs – this will push up WEM prudential requirements and other working capital requirements for retailers and this could prove onerous to some smaller retail participants;
- Introduction of the schemes without adequate compensation could lead to the financial collapse of high emission generators – under some scenarios resulting in retailer's losing bilateral supply coverage and

further reducing the level of wholesale supply competition in the WEM; and
- Price increases could push up customer default rates, leaving retailers will escalating bad debts and resulting financial problems.

8. FINANCING NEW ENERGY INVESTMENTS

23. What factors will affect the level of private investment required in response to climate change policies?

Renewables are generally more expensive than other energy sources, and a number of renewable technologies (such as wave, tidal and solar power) are still emerging and not yet ready for commercial-scale deployment. This means the risks and costs involved in developing them are too high for companies to invest in them alone. Further, barriers such as delays and uncertainty in the system for connecting Synergy also notes from our own experiences in dealing with renewable generation proponents, a range of constraints that have hindered project development:

- Difficulties in securing planning permission – arising from the planning process, and objections from individuals or Government itself (for example, environmental protection regulation);
- Difficulties in connecting new renewables capacity to the electricity grid and the lack of grid capacity in general;
- Regulatory uncertainty regarding the interplay between the CPRS and MRET; and
- Limitations in the ability of the supply chain to meet demand for renewable deployment (queues for wind turbine purchases).

24. What adjustments to market frameworks, if any, would be desirable to ensure this investment is forthcoming at least cost?

Within Western Australia, the WEM is the vehicle for delivering reliable supplies of electricity to the SWIS. The WEM consists of three major market arrangements:

- Bilateral contracting between parties;
- Short Term Energy Market **(the STEM)**; and
- Balancing Market.

The schemes will create significant issues to be managed within each of these market arrangements. Synergy notes here three significant concerns.

STEM Gate Closure

Synergy perceives a weakness in the current market design in that it limits the interactions between Market Participants by insisting that trading

positions, being a demand forecast for a retailer and a resource plan for a generator, be determined in the morning of the day before the trading day. No flexibility to adjust these positions closer to real time is allowed. This is particularly significant for Western Australia given that the majority of loads are weather dependent. Greater flexibility would allow retailers to adjust their requirements closer to the actual trading interval, based upon current weather forecasts. It is Synergy's position that generators should be authorised to change their resource plan to account for changes to retailers' demand forecasts and to allow generators to adjust their positions to reflect the implications of changed weather forecasts on generation capabilities. Amendments to the market structure to accommodate a gate closure closer to real time would allow retailers and generators to adjust their positions to reflect the implications of changed weather forecasts on generation capabilities.

Balancing

Pre-dispatch generation schedules produced in the scheduling process provide the Balancing Generator (currently Verve Energy) with information such that they can adjust their offers of generation in the STEM in response to enable them to provide balancing services. This allows Verve to optimise the efficiency of its generating units and to plan starting and stopping of its plant. Inaccuracy in wind generation forecasts affects the accuracy of the generation schedules provided to Verve. Under these circumstances, Verve is presented with an actual dispatch in some trading intervals that is quite different to the scheduling around which they based their offers. This difference will result in increased plant operating costs and opportunity costs to Verve.

Synergy notes that Verve Energy currently fulfils the key role of balancing out the difference between demand forecasts, actual generation dispatch and actual SWIS load. Verve effectively controls the balancing mechanism by acting as the swing generator. Given the potential increase in balancing requirements as a result of the expanded MRET, it is Synergy's view that a more efficient approach would be to allow all generators to offer balancing via incremental offers and decremental bids from each generator. This was a feature of the original market design, but was deleted in the final version of the market rules because Western Power was not disaggregated at the time the market design was finalised.

Managing Low Load

With increased penetration of wind farms, there exists the significant potential that at certain times (low load conditions) the amount of must run plant may exceed the system demand. This creates a risk for thermal generators that they may be dispatched off, resulting in high costs for shut down and restart when they are next required. This appears to be an economic inefficiency to the market and adversely impacting other Market participants.

One response may be for System Management to force wind generators to reduce load or shut down, such that the low state operating regime is maintained for existing base load thermal generators. This however will adversely impact on the returns for wind generators and their retail counterparties in that if the plant is not running they will not meet their REC obligations.

This issue is being worked through in detail by the OOE's Renewable Generation Working Group. It has been acknowledged that the Market Rules, consistent with their objectives, clearly need to provide economic incentives to ensure that plant is dispatched on a least cost basis.