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**Submission by Evie Networks  
To The  
Australian Energy Regulator  
On  
QLD DNSPs' 2025-2030 Pricing Proposals  
28 May, 2024**

**ON THE EV ROAD TOGETHER**

## **Introduction**

If the AER agrees to the 2025-2030 tariff proposals submitted by Energex and Ergon it will be condemning Queensland EV drivers to the highest charging costs in Australia.

High EV charging costs would reduce the incentive for owners of an ICE vehicle to switch to an EV – contrary to State and Federal Government carbon emission reduction strategies which place a strong focus on increasing the take up of EVs.

The high cost of operating a charging site resulting from very high network electricity tariffs would also have a dampening effect on new investment in publicly available EV charging sites. The continued rollout of publicly available charging sites is a critical factor in helping to overcome a major impediment to increased purchases of EVs, namely: ICE drivers' concerns about Range Anxiety with an EV. Therefore the effect of an AER decision supporting the tariff proposals from Energex and Ergon would exacerbate the adverse impact of these tariffs on reducing carbon emissions – and, thus – again – be contrary to Queensland and Federal Government emissions reduction strategies.

The Queensland Government's Zero Emission Vehicle Strategy and its Zero Emission Vehicle Strategy Action Plan (2022-2024) stress the important role of publicly available EV charging infrastructure and the important role of the private sector in the rollout of this critical infrastructure.

The higher prices resulting from an AER decision to approve the Energex and Ergon tariff proposals would be particularly felt in regional and rural areas, with the real prospect that this would significantly reduce the incentive for drivers of ICE vehicles to switch to an EV. This would then call into question whether private sector Charge Point Operators would continue to build out new publicly available charging sites in Queensland regional and rural areas.

The prospect of very low usage of charging sites because of low EV take up would make investment in new charging infrastructure uneconomic. And if Charge Point Operators did continue to build out new infrastructure in regional and rural areas, the proposed tariffs would more than likely result in lower capacity chargers being installed, as well as, the prospect of fewer chargers at each location. This would mean that EV drivers in Queensland regional and rural areas would have an inferior charging capability and lower availability versus major urban centres.

The effect of all this would be inequitable.

This would be totally inconsistent with the Federal Government's Transport & Infrastructure Net Zero Consultation Roadmap released on 21 May 2024 which stated (page 38):

The widespread adoption of EVs will need to be matched by increased **availability and reliability of charging infrastructure**, particularly in regional and remote areas, and levels of government are currently implementing measures to establish, expand and support charging infrastructure, complimented by commercial investment.

The National Electric Vehicle Strategy outlines a range of work being undertaken to address these challenges. However, there may be opportunities for additional support to

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accelerate grid upgrades and the roll out of charging infrastructure, as well as to assist low income earners to overcome the higher upfront costs of purchasing an EV. This may be especially necessary for rural and regional Australians who are more likely to experience **transport inequality** compared to their urban counterparts due to limited public transport, longer driving distances, higher fuel costs and lower average incomes.

Providing transitional support for rural, regional, and remote communities will ensure that the decarbonisation of light vehicles is inclusive and equitable. The deployment of charging infrastructure in regional and remote areas can support the adoption of EVs in these communities.

### **The High-Cost Impacts of Energex/Ergon Tariff Proposals**

Analysis prepared by Evie Networks demonstrates that the existing network electricity tariffs for both Energex and Ergon result in the highest electricity costs for EV drivers using non-Government publicly available charging sites. This is highlighted by the chart in Attachment 1.

A key factor in the very high-cost impact of the tariff proposals is the 100MWh/annum threshold at which Demand Charges are applied, which is highlighted on the accompanying graphs. Despite changes in the structure of the relevant tariffs being proposed by Energex and Ergon, the effect of the proposed changes will be to exacerbate the impact of Demand Charges and, thus, further raise prices.

Energex and Ergon network tariffs were already the highest in Australia when Demand Tariffs were imposed and both DNSPs now propose to "strengthen" peak demand signals. While the peak demand window will be shortened, the prospect would more than likely be a significantly higher Demand Charge as a result of this "strengthening" - with a consequential negative impact on network electricity costs for Evie and other Charge Point Operators. When reviewing the Energex and Ergon tariffs, the AER needs to consider that once peak has been reached, the Demand Charge applies for the entire month.

### **The 100MWh/annum Threshold**

Energex and Ergon have highlighted that there is a legislative provision that requires them to adopt this threshold - which is well below the threshold in other States. This argument has been challenged by the EV Council - and Evie supports the EV Council's position on this matter. Evie also notes that the State Government is a position to abolish this legislative provision before the completion of the AER processes on the Energex and Ergon tariff proposals. This would allow Energex and Ergon to submit alternative tariff proposals.

But in stating this, Evie does not support Energex and Ergon moving to a 160MWh/annum threshold adopted by other DNSPs and endorsed by the AER in its various determinations to date. Evie also notes here that it does not support the EV Council's advocacy for the adoption of a 160MWh/annum threshold as, essentially, an industry standard.

As demonstrated in Evie's submissions to the AER on the NSW DNSPs' proposed 2024-2029 network electricity tariffs, a 160MWh/annum threshold also has a significant adverse impact on electricity costs for publicly available EV charging sites, with consequential negative impacts on the commercial viability of charging sites and future investments in charging sites.

We also note that with the existing 100MWh/annum threshold, the prohibitive Demand Charges that apply mean the Queensland electricity costs are significantly higher than the average for the rest of Australia. Increasing the threshold to 160MWh/annum only serves to delay the problem; it does not resolve the issue.

### **Arbitrary Tariff Assignment**

The adverse impact of tariff structures with Demand Charges is exacerbated by the lack of certainty – and lack of transparency – as to the Tariff Assignment approach that Energex and Ergon will adopt. This has particular implications for the EV charging infrastructure industry and, as a consequence, EV drivers as the period for determination of the “appropriate” tariff assignment takes 12 months – with the result that there is a significant delay before charging sites can be moved to their correct tariffs. We would highlight that a recent site built by Evie Networks is incurring an electricity charge of \$2 per kWh as a result of arbitrary and discretionary tariff assignment.

Evie therefore strongly recommends that the AER should closely analyse the approach to Tariff Assignment and require Energex and Ergon to provide far greater structure and transparency in this critical area. We also see no reason why DNSPs will not accept data from similar sites as evidence that a new site will be below the Demand Charge threshold.

### **The Role of EVs in Reducing Carbon Emissions**

The Transport and Infrastructure Net Zero Consultation Roadmap highlighted that without further action:

- The Transport Sector would be the largest source of emissions in Australia by 2030.
- Light vehicles would be the largest source of emissions within the Transport Sector, contributing around 60% of Australia's transport emissions.

The roadmap concluded: “EVs are the key net zero pathway for light vehicles”.

This roadmap also highlights that action on climate change – and thus action to reduce carbon emissions – is a shared responsibility between industry, business, governments and communities in what the roadmap describes as a partnership.

There is now the question as to what role Governments believe the AER should play in this “partnership” approach.

The AER has a major role to play in ensuring the viability of the publicly available EV charging infrastructure critical to increased take up of EVs. Evie continues to submit that the AER should act to ensure that this new industry, with a totally new technology that results in it demonstrating a very different load profile compared with “traditional businesses”, is not crippled at this pivotal point in its development by having inappropriate tariffs forced on them by Energex and Ergon.

Evie has submitted to the AER on several occasions that:

- The introduction of a specific tariff for publicly available EV charging sites that recognises the special characteristics of this new industry with very different characteristics than “traditional businesses” is consistent with the Rules.
- The application of traditional network electricity tariffs with Demand/Capacity Charges to EV charging sites is not cost reflective given the industry’s very different characteristics.

Thus, a decision to endorse the tariff proposals from Energex and Ergon would actually be inconsistent with the Rules.

### **A Way Forward**

Based on the above considerations, Evie believes that at this stage of the development of the EV charging infrastructure industry, and in recognition of the very different technology this new industry is rolling out, that:

- Demand Charges should not be applied at this stage of the development of the EV charging industry.
- The AER should recognise the special nature of this new industry through a specifically designed tariff in line with the approach adopted by the WA regulator, the Economic Regulation Authority.

The detailed arguments in support of this position are set out in Attachments 2 and 3.

The Design Features for this proposed tariff are set out in Attachment 4.

Evie notes that the proposed specific tariff would not be inconsistent with the Rules as:

- The very different usage profile of publicly available EV charging sites would justify the introduction of a specific tariff for this new industry, and that this would be consistent with the National Electricity Rules (Clause 6.18.4).
- The network benefits provided, both directly and indirectly, through the operation of EV charging sites that flow to all consumers, not just EV drivers, would mean that the introduction of a technology-specific tariff for publicly available EV charging sites should be considered to be consistent with the NEM Rules (Clause 6.18.5 on Pricing Principles).

Evie also notes that this proposed specific tariff does not represent a subsidy as it would benefit all electricity consumers in the State through the major avoided network costs and network efficiencies resulting from increased EV take up which then helps absorb excess solar generation during the day.

Evie further notes that concerns publicly available charging sites would put additional pressure on the grid during peak periods is not supported by available data. This is set out in Attachment 3.

The materials supporting the above positions were also set out in detail in Evie's 2 submissions to the AER on the NSW DNSPs' proposed 2024-2029 network electricity tariffs and Evie would refer the AER specifically to the detailed arguments presented in those submissions. Evie therefore submits that the argument presented by the AER in its determination on Ausgrid's 2024-2029 tariff proposals that Demand and Capacity Tariffs were appropriate for publicly available EV charging sites for network cost recovery purposes are incorrect and that the AER should re-consider its position.

## **Conclusion**

Queensland EV drivers are already facing very high charging costs when using publicly available EV charging sites. AER endorsement of the 2025-2030 tariff proposals submitted by Energex and Ergon would exacerbate this - and therefore condemn Queensland EV drivers to the highest charging costs in Australia. The negative effects would be felt greatest in regional and rural areas and, therefore, would be inequitable. This would be inconsistent with the Federal Government's recently released Transport & Infrastructure Net Zero Consultation Roadmap.

AER agreement to the 2025-2030 tariff proposals submitted by Energex and Ergon would undermine the Carbon Emissions Reduction strategies of the Federal and Queensland Governments. These strategies recognise the critical role of EVs in reducing emissions in the Transport Sector, and they highlight the important role of publicly available EV charging sites in addressing a major impediment to EV take up: Range Anxiety. AER endorsement of these tariff proposals would therefore increase the already high risk that the Federal Government would not achieve its 2030 Emissions Reduction Target.

The AER now has the opportunity to join the "partnership" set out in the Federal Government's Roadmap to achieving Net Zero Emissions in the Transport Sector by 2050 by rejecting the 2025-2030 tariff proposals submitted by Energex and Ergon that would be applied to publicly available EV charging sites for the next 5 years and, instead, adopting the tariff design features submitted by Evie. This would ensure increased competition in the provision of publicly available EV charging sites across Queensland, as well as greater incentive for the rollout of EV charging infrastructure across Queensland - and particularly in regional and rural areas. All of this would produce better outcomes for EV drivers, and the community generally.

But if the AER fails to do so, Evie submits that based on the Federal Government's Transport and Infrastructure Net Zero Consultation Roadmap, the Federal Energy and Transport Ministers would have no option but to work with their State colleagues to instruct the AER to support the introduction of network electricity tariffs that would facilitate the rollout of publicly available EV charging sites in line with the position adopted by the WA Regulator (the Economic Regulation Authority) in 2023.

28 May 2024

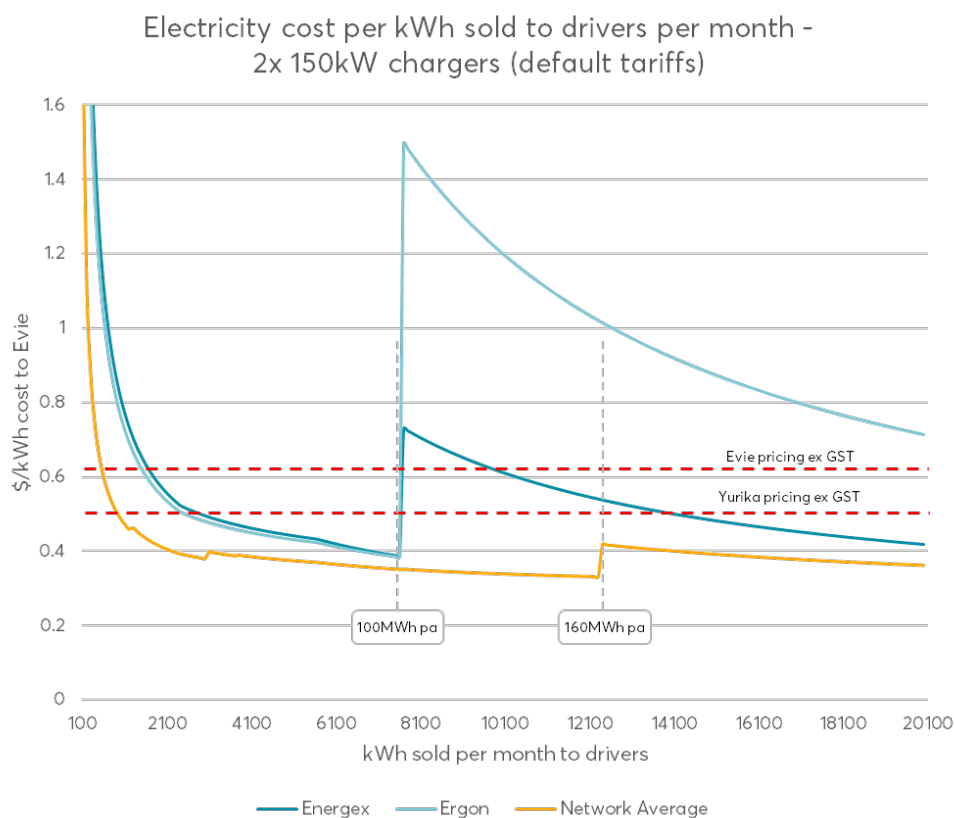
## **ATTACHMENT 1: COST IMPACTS OF ENERGEX AND ERGON TARIFFS**

### **Illustrative example of ultra-fast load profile while EV uptake is low**

The chart below shows the fully loaded cost of electricity for a 2x 150kW charger configuration on the Energex and Ergon networks. We assume initial tariff assignment of 3800 / EBTOUE followed by 7200 / EDTM for Energex / Ergon respectively.

We note that 150kW charging is considered a standard for public fast charging today. Evie's pricing for 150kW charging is shown, along with Yurika's pricing for its public fast charging.

It is clear that once the 100MWh/annum threshold is reached, Queensland becomes the most expensive place in Australia to operate public fast charging infrastructure. It is also clear that public Charge Point Operators cannot sustain a reasonable gross margin while crossing Demand Charge thresholds. In the case of Energex, utilisation must reach a very high level before a reasonable gross margin can be achieved, while for Ergon it is simply not possible to sustain a negative gross margin for the life of the asset. The result for Queensland is that Charge Point Operators, including Yurika, should question whether further investment in Queensland is economically viable.



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## **ATTACHMENT 2: TRADITIONAL BUSINESS TARIFFS NOT SUITED FOR EV CHARGING INFRASTRUCTURE INDUSTRY**

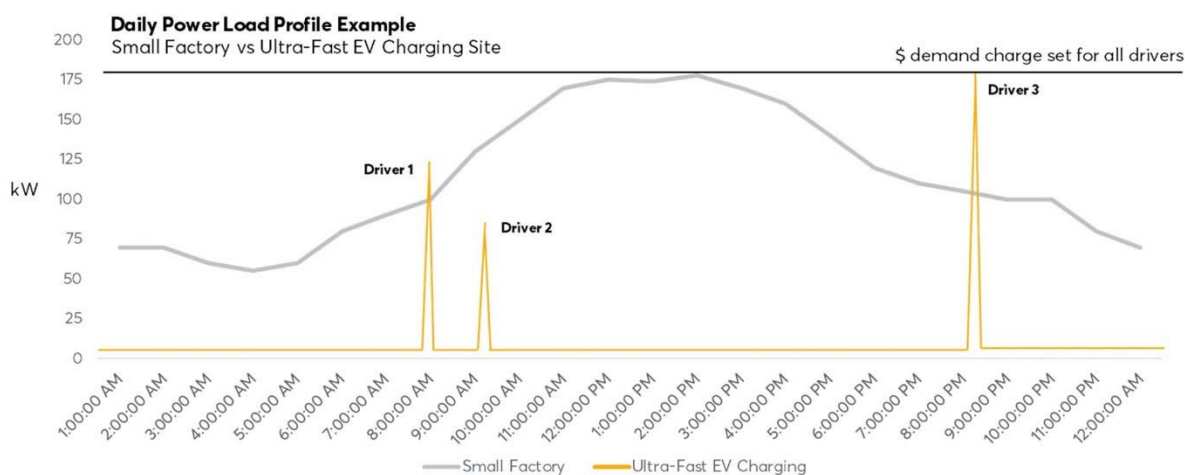
The EV public fast charging infrastructure industry is still relatively new in Australia, and because of the still relatively low level of EVs on the road, infrastructure providers must necessarily build out their sites ahead of demand. Additionally, this early provision of highly visible publicly available fast and ultra fast EV charging sites is critical to addressing concerns about Range Anxiety which, in turn, is a key factor in the decision to purchase an EV.

However, the structure or design of “traditional” business tariffs acts as a major barrier to the development of a commercially viable business operation because the Load (or Demand) Profile of public fast charging is very different from “traditional” small and medium businesses.

Because the tariffs that are currently applied to small and medium businesses are not suited to this new industry, they result in very high electricity costs for publicly available fast, and ultra fast, EV charging sites.

The graph below sets out the differences in the impact of a traditional business tariff containing a Demand or Capacity Charge on a small factory versus an EV charging station.

### **Illustrative example of ultra-fast load profile while EV uptake is low**



The Demand or Capacity Charge is generally based on the customer’s highest recorded demand in any hour or half-hour period on a rolling 12 month basis, irrespective of whether or not that peak occurred during a network peak demand event.

As EV charging load profiles do not resemble typical Commercial and Industrial (C&I) use cases, when Demand or Capacity tariffs are assigned, the result is very high electricity costs. This is because the Demand or Capacity charges are necessarily amortised over a small number of users.



Given the very different Load Profile of publicly available EV charging sites, Evie continues to submit that there is a strong case for the introduction of a specific tariff for this new, fledging industry.

As the technology is highly controllable (as set out below), it is further submitted that a technology specific tariff would also be justified.

It is noted here that in its decision on Western Powers' tariffs for 2022/23-2026/27, the WA Regulator specifically stated:

“.....low utilisation of the charging station during the initial uptake of electricity vehicles can make existing demand-based tariffs unaffordable due to the level of fixed charges” (Overview, page 4).

### **ATTACHMENT 3: PUBLICLY AVAILABLE EV CHARGING SITES WILL NOT “BREAK” THE GRID**

Concerns that the rollout of publicly available EV charging infrastructure will put increased strain on the grid at peak times is not supported by an assessment of the technology employed by industry and the coincident timing of use of publicly available EV charging sites and the solar peak period.

#### **Controllability**

The new technology involved with public EV charging infrastructure is inherently more controllable than legacy technologies:

1. Charging technology is easily controllable.
2. Load Management Systems for publicly available charging sites are readily available that can address Peak Demand issues.
  - They can be designed to optimise network utilisation and stability, while avoiding impact during peak network events.
3. Technology to control public EV charging already exists and is in operation today.

That is, public EV charging infrastructure is inherently more controllable than legacy technologies and, as a result, can be designed to optimise network utilisation and stability, while avoiding impact during peak network events. Technology to control public EV charging already exists and is in operation today. This capability should therefore be recognised, and would further support the introduction of a technology specific or customer specific tariff for publicly available EV charging sites.

It is noted that in its 2021 Victorian DNSPs determination the AER made the following statement in its Overview: Final Decision document (United Energy, Page 6 – but without any apparent elaboration on this issue):

“.....charging stations which instal load limiting devices can access alternative cost reflective tariffs”.

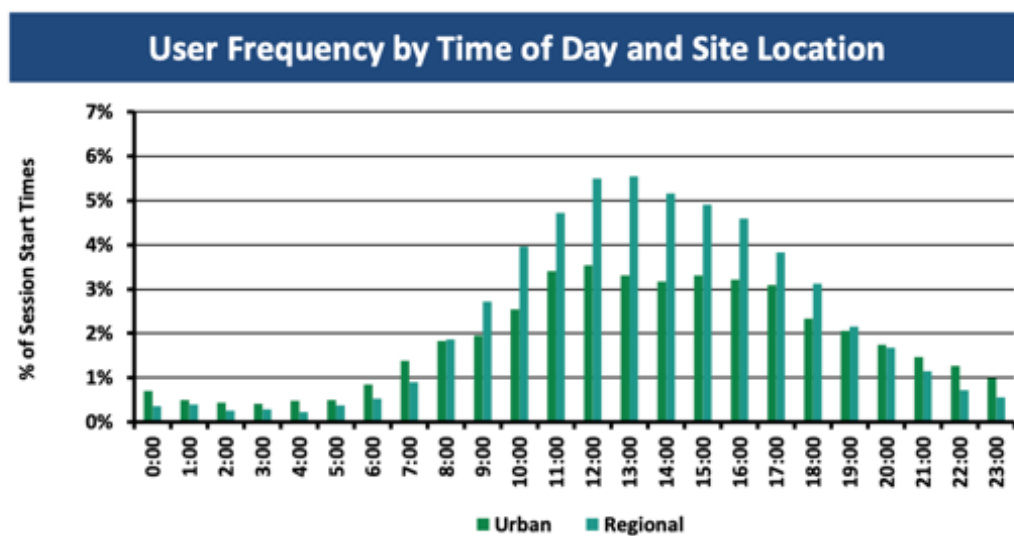
#### **Coincident Demand**

Concerns that EV public charging will, with an increasing number of EVs on the road, add to peak demand on networks and result in increased network expenditure to address this increase in peak load are misplaced, as EV charging can act as a “solar soak”. Specifically, usage of publicly available EV charging sites is generally concentrated during off-peak periods, and principally during the periods of excess solar generation. I.e, charging site utilisation is broadly coincident with the solar peak period and, thus, as noted above, can act as a “solar soak” with consequential avoided network cost benefits.

This was highlighted in materials prepared by Energeia for ARENA: “Ultra-fast Charging Data Analysis – Webinar Materials” (August 2021), with the materials making the following observations:

1. “Charging pattern constant by day type and correlates well with solar PV generation profile” (Page 4).
2. “Public EV charging patterns could provide a solution to min(imum) demand caused by solar PV” (Page 4).
3. “Data suggests that both urban and regional drivers use public charging most in the middle of the day, closely resembling a PV load shape” (Page 19).
4. “Early indication is that many public charging sites will not have a significant impact on peak demand if charging load is at its highest in the early afternoon” (Page 27).
5. “Public EV charging patterns could provide a solution to min(imum) demand caused by solar PV” (27).

The coincidence of public charging with solar generation (and, therefore, also at off-peak times) is highlighted in the following graph from these ARENA materials:



Source: ChargeFox, Evie, Energeia

Additionally, the Ergon/Energex “EV SmartCharge Queensland Insights Report” lends support to this position, with what it described as “away charging” (which included the use of public DC chargers (ie, fast and ultra fast chargers) being broadly consistent with peak solar generation during the day and falling away in the period coming through to the daily afternoon peak demand period. This was particularly evident in the materials on its findings for commercial-use passenger vehicle EVs (Page 21).

## **ATTACHMENT 4: DETAIL OF EVIE'S POSITION ON THE KEY CONSIDERATIONS FOR TARIFFS APPLYING TO PUBLICLY AVAILABLE EV CHARGING SITES**

Based on the factors set out in this submission, Evie sets out its inter-related recommendations for consideration by the AER on the appropriate tariff structure that should be applied for publicly available fast, and ultra-fast, EV charging sites. Evie particularly notes that under NER Clause 6.18.8, the AER can amend a TSS presented by a DNSP or amend a TSS itself. Evie submits that the AER should exercise this prerogative under this Rule. Evie would highlight that based on the arguments presented in this submission, this specific tariff for publicly available EV charging sites would not represent a subsidy for the industry.

### **Design Features**

- Recognition of the adverse impact of the application of Demand Charges to publicly available EV charging sites at this point in the industry's development. This would necessitate a decision that Demand Charges would not be applied to publicly available EV charging sites at this point in the industry's current growth cycle. This is particularly supported by the MJA findings.
- Recognition of EV charging sites have a very different Load Profile from "traditional" businesses, and with a very different technology from "traditional" businesses – including "curtailability" – and, thus, recognition that the introduction of this special, specific tariff for the EV charging sector would, based on this special Usage profile, meet the requirements under NER Clause 6.18.4(a)(1) (ie, Tariff Assignment).
- Recognition of the availability of surplus capacity in areas of the grid, reinforcing the position that usage of publicly available fast, and ultra fast, charging sites will not put undue pressure on the grid over coming years – and, thus, that this usage will not drive the need for DNSPs to undertake expenditure to expand capacity.
- Consequential recognition that these factors support the application of an Energy Only Tariff to publicly available EV charging sites.
- Recognition that "curtailability" of publicly available EV charging sites during Peak Demand Days and the Coincident nature of usage patterns of publicly available EV charging sites with the daily pattern of Solar Generation would support the position that this Energy Only Tariff be applied at Off Peak Rate.
- Recognition that the Network Avoided Costs and Network Efficiency Benefits to be derived from EV charging sites, both directly and indirectly, which will benefit all consumers, not just EV drivers – and, thus, that these tariff design features would not involve a subsidy (or cross subsidy).

It is submitted that the following additional considerations should be adopted in line with the WA Regulator's determination that recognised the concept of a specific tariff for the EV charging infrastructure industry:

- This tariff to apply for a defined period (only), say 5 years.
- During this defined time period, a mechanism be established along the lines adopted by the WA Regulator for the collection and analysis of appropriate data in order to develop, in conjunction with the EV charging infrastructure industry, and engaging with the AER and representatives of State and Federal Energy Ministers, tariffs that reflect the special characteristics of electricity demand at EV charging sites and that will promote the efficient use of networks.
- The tariff(s) established through this process be submitted to the AER for decision in its next 5 year regulatory review.