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Submission by
Evie Networks
To
Economic Regulation Authority
On Its Issues Paper:
Proposed revisions to the access arrangement for the Western Power Network 2022/23 – 2026/27

About Evie Networks

Evie Networks was founded in 2017 by the St Baker Energy Innovation Fund with the aim of building Australia's largest Electric Vehicle fast and ultra fast charging network across all Australian States and Territories as part of a strategy that recognised the need for, and societal benefits of, the electrification of the Australian Transport Sector and the associated need to address concerns about "Range Anxiety" with EVs. Evie therefore has a strong focus on building quality charging stations, located on sites that are convenient for customers and underpinned by the Evie team's relentless pursuit of reliability and customer satisfaction. Its initial rollout was on national highways and is now being expanded into major metropolitan areas and regional centres. It currently has 60 sites in operation and expects to have over 200 sites by July 2023.

Evie Networks is backed by the St Baker Energy Innovation Fund's commitment of $100 million, which is accompanied by significant grants from the Australian Renewable Energy Agency (ARENA) and the Federal Government's Future Fuels Fund. Evie Networks has also been successful in being selected to help rollout EV charging sites under a number of State Government and Local Government EV charging infrastructure programs. This makes Evie Networks the most well funded EV charging operator in Australia, providing confidence that it will continue to grow and support its network across all Australian States and Territories.

EXECUTIVE SUMMARY

There are strong Public Policy arguments as to why Governments should ensure a commercially viable EV charging infrastructure industry to address Range Anxiety as part of an integrated EV Policy. A commercially viable EV charging infrastructure industry rolling out, and maintaining, charging sites will help ensure that potential EV purchasers are confident they can "re-fuel" when required. Ensuring their viability is, therefore, a fundamental element in any Government strategy to get more EVs on the road.

Increased EVs on the road will also progressively result in significant community benefits: Reduced carbon emissions, improved air quality, less noise and national fuel security. Further, over time EVs will deliver network efficiency benefits, as well as significant avoided network costs, particularly in relation to the ability of networks to manage low minimum demand resulting from increased solar energy.

These community and network benefits will be to the advantage of all electricity consumers, not just EV owners. They also reinforce the Public Policy argument for ensuring that EV charging infrastructure companies can earn an appropriate return on their investments while delivering low prices to EV drivers. Low electricity costs are a key factor to achieving this. These benefits further highlight that public fast charging infrastructure is essential infrastructure that should be appropriately supported.

If EV charging operators are required to levy high prices to cover their electricity costs, drivers could deliberately avoid public fast charging, with the result that usage would be too low to justify investment in this infrastructure and/or maintaining it. This would mean that WA would miss out on the necessary private investment necessary to ensure there is an appropriate number of EV charging stations in the State going forward.

As a result, it is critical that tariffs applying to EV charging sites do not result in high electricity costs for EV charging infrastructure providers in the early years of the industry's development and the associated period of low EV usage of their sites.

Evie therefore strongly endorses the position of the ERA that Western Power should introduce a specific tariff to support dedicated EV fast charging stations. However Evie's assessment of Western Power's proposed tariffs is that they will not support the rollout of EV charging infrastructure as they will result in very high electricity costs; they would act as a major barrier to the rollout of publicly available EV charging infrastructure.

This is because Western Power has not designed a tariff that recognises the specific characteristics of publicly available EV charging stations. Instead it is seeking to apply traditional business tariffs with Demand Charges to what is a new, infant industry that has a daily power load profile very different from a traditional business. Additionally, the proposed tariffs do not recognise the ability of EV charging site operators to dynamically reduce load on the network during peak network events.

Evie Networks therefore believes the ERA should reject Western Power's proposed tariffs, and this submission sets out why the tariff(s) for fast and ultra-fast EV charging sites for the next 5 years should be set at a level that would produce an energy cost equivalent to that paid by an EV owner charging at home. Evie further believes Western Power should use this 5-year period to collect and analyse appropriate data from publicly available EV fast and ultra fast charging sites to develop a specifically designed cost-reflective tariff (or tariffs) that reflects the special characteristics of EV charging sites and the ability of site operators to dynamically reduce load on the network during peak network events for introduction in the next 5-year access arrangements period.

PUBLIC POLICY ARGUMENTS IN FAVOUR OF ELECTRICITY TARIFFS THAT SUPPORT EV CHARGING INFRASTRUCTURE IN EARLY YEARS OF EV TAKE-UP

There are strong Public Policy arguments as to why Governments should ensure a commercially viable EV charging infrastructure industry to address Range Anxiety as part of an integrated EV Policy. Concerns about Range Anxiety is a critical issue in the minds of potential EV purchasers. Ie, potential purchasers will refrain from doing so because of concerns they could run out of "fuel". Therefore, a fundamental element in any Government strategy to get more EVs on the road is ensuring there is a viable EV charging infrastructure industry rolling out, and maintaining, publicly available EV chargers so potential EV purchasers are confident they can "re-fuel" when required.

Additionally, increased take up of EVs will progressively result in broader community benefits: Reduced carbon emissions, improved air quality (with consequential favourable community health and Budget cost impacts), noise and national fuel security.

EVs will also deliver network efficiency benefits, as well as significant avoided network costs (eg, networks avoiding costs to address the issues with managing minimum demand created by excess solar energy during the day (eg, voltage control). Going forward, EVs will play a major role in relation to DER, with energy stored in the EV battery being used to reduce demand during the evening peak (V2H) and/or adding energy back into the grid during the evening peak (V2G).

These community benefits and network benefits will benefit all electricity consumers, not just EV owners.

These community benefits and network benefits further strengthen the argument that there is a strong Public Policy benefits in ensuring that EV charging infrastructure companies can earn an appropriate return on their existing and future investments, with low electricity costs being critical to achieving this.

As a result, if the Government wishes to see the development and growth of a commercially viable EV charging infrastructure industry in the State as part of its strategy to promote the take up of EVs, it is critical that the ERA and Western Power address the factor that is resulting in high electricity costs for EV charging infrastructure providers in other States:

- High energy costs resulting from the application of inappropriate existing electricity tariffs to a totally new, or "infant", industry. During the early years of EV take up, the very number of EVs on the road and low usage of publicly available EV charging sites means that electricity tariffs that contain a Demand Charge will result in very high energy costs because of the very small number of charging events these Demand Charges can be amortised across. Today there are around 3,500 EVs in WA, representing 0.25% of the passenger vehicle fleet. By the end of the AAR5 period (2027), we estimate there could be around 115,000 EVs in the State, which would constitute approximately 8% of passenger vehicles in WA – but not all of these EVs would be charged at publicly available charging sites. Given the very early stage of the EV market, it is critical that electricity costs do not act as a barrier to the development of a commercially viable EV charging infrastructure industry.

Western Australia can therefore now take a national leadership position by setting the tariff for publicly available fast and ultra-fast EV charging sites for the 5-year period 2022/23 – 2026/27 at a level that would produce an energy cost equivalent to that paid by an EV owner charging at home.

This "electricity costs parity position" is critical to ensuring the viability of EV charging sites in the early years of EV take-up by clearly demonstrating to all potential EV purchasers the benefits of an EV versus an ICE vehicle in terms of "fuel" costs.

This pricing level would also minimise the risk EV drivers would deliberately choose to charge at home rather than at a charging site during the day because of the lower costs of home charging. Without this price parity, the higher cost of charging at a publicly charging site versus charging at home could have the adverse effect of increasing pressure on the grid during the evening peak, with EV drivers deliberately choosing to charge when they return home from work and, therefore, not taking advantage of using a charging site they had easy access to during the day. A Demand Charge based tariff would therefore produce an outcome inconsistent with the Government's Energy Transition Strategy.

Additionally, this electricity cost parity position would ensure that EV owners who do not have access to on-site charging (eg, people living in apartments or without off-street parking) are not disadvantaged relative to an EV owner that can charge at home. The 2016 Census showed that there were 1,214,372 occupied apartments at that time, and that there was around 1 occupied apartment for every 5 occupied separate houses in Australia. It will therefore be important to ensure that this large section of the community is not left behind in terms of the cost of operating an EV and that they therefore do not face a potential barrier to purchasing an EV.

It is also proposed that WA could take a national leadership position through the ERA determining that the forthcoming 5-year tariff regulatory period be used to collect appropriate data from EV charging sites (including the ability to dynamically reduce load on the network during peak network events) and analysing this data to assess the impact of charging on the grid. This work would allow the development, in conjunction with the EV charging infrastructure industry, of a specifically designed cost-reflective tariff (or tariffs) that recognises the special characteristics of electricity demand at EV charging sites and promotes the efficient use of the grid. This specifically designed tariff (or tariffs) could then form part of Western Power's 2027/28 – 2031-32 access arrangement for review by the ERA.

WHY TRADITIONAL BUSINESS TARIFFS DELIVER VERY HIGH COSTS FOR PUBLICLY AVAILABLE EV CHARGING SITES

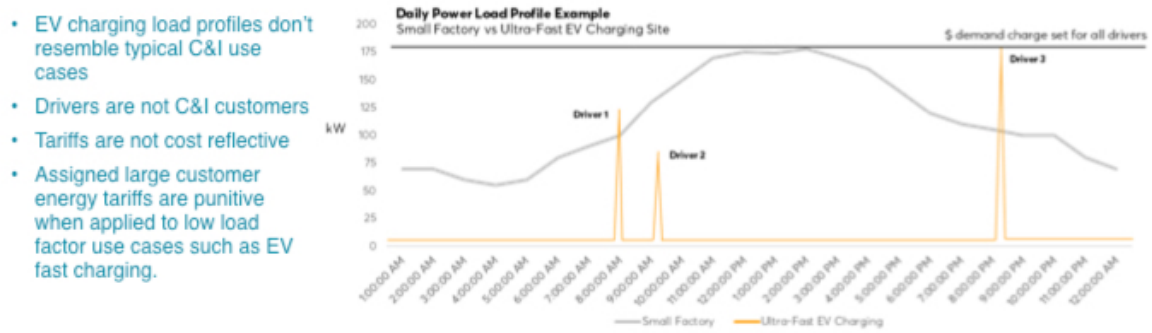
The graph below sets out the differences in the impact of a traditional business tariff containing a Demand Charge on a small factory versus an EV charging station. Demand Charges are based on the customer's highest recorded demand in any hour or half-hour period on a rolling 12 months basis such as in Western Power's proposed tariffs for publicly available EV charging sites.

However the daily power load profile of EV charging sites is very different from a traditional small or medium business as the usage is not reasonably consistent over the day. Instead the daily power load profile of EV charging sites is intermittent and for short durations.

Traditional Demand Charges for small-to-medium commercial customers were never designed for the very different daily power load profile of EV charging sites.

Additionally, operators of publicly available EV charging sites have little, or no, control over when an EV owner uses its chargers. As a result, they can experience widely varying utilisation rates across their network of chargers in widely varying locations and site types.

That is, an EV charging infrastructure company's network of chargers behaves nothing like a commercial or industrial facility. However, as a result of the application of Demand Charges, it is billed as if each charging station location is a separate commercial facility.



It is submitted that the application of a 12 month rolling Demand Charge is a very blunt approach to the problem of peak demand for the following reasons:

- This does not consider the inherent diversity across the distribution network.
- Public charging infrastructure is highly curtailable and can be managed dynamically during the few periods of peak network demand each year. There is therefore no need to apply a 12 month rolling Demand Charge when for the vast majority of days in the year there is latent capacity that could be utilised.

It is noted that Evie already adopts dynamic load management at a number of locations. This is proven technology and can be deployed at any sites today.

The use of dynamic load management should therefore be specifically considered when developing tariffs for publicly available EV charging sites.

PUBLICLY AVAILABLE EV CHARGING SITES ARE NOT A THREAT TO ELECTRICITY GRIDS

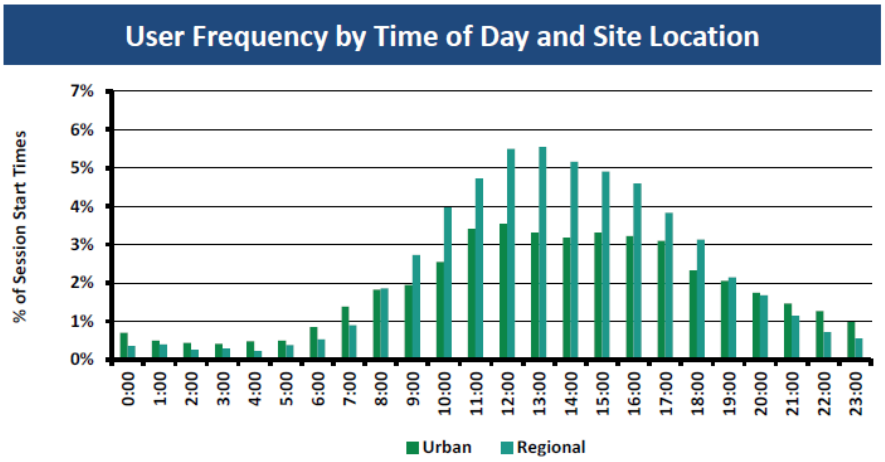
Fears are often expressed that publicly available fast and ultra fast charging stations have the potential to impose significant future network costs due to their very high demand. However:

- The current, and projected, low level of EVs on the road, as well as the relatively small number of EV drivers using publicly available charging sites should mean that usage of publicly available charging sites on the grid should not have a material impact on the grid generally for a number of years.

- Adverse impacts on the grid could potentially occur at the local level. However in such instances EV charging infrastructure companies would be required to pay for augmentation of the grid, with the cost of this augmentation then passing through to the Distributer (ie, it would then form part of the RAB).

- One of the greatest risks to Networks, both now and going forward, is managing minimum demand due to the high level of solar energy being generated during the middle of the day. This has been particularly highlighted in various reports by AEMO on the WA and SA grids, with both States having very high levels of solar generation, as well as the AER (eg, 2020 decision on SAPN electricity tariffs where it noted that Minimum Demand, not Peak Demand, was becoming the primary network cost driver). However usage of publicly available EV charging sites is concentrated during off-peak periods, and principally during the periods of excess solar generation. Ie, charging site utilisation is broadly co-incident with the solar peak (or "duck's belly") period and, thus, can act as a partial "solar soak" with consequential avoided network cost benefits.

- This is highlighted in the graph below from a public ARENA workshop that explored the impact of EV charging on the electricity grid. The data demonstrates how most charging occurs at off-peak times.



Source: ChargeFox, Evie, Energeia

- Further, new technologies, including public EV charging infrastructure, are inherently more controllable than legacy technologies. They 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.

WHAT THE ERA HAS PROPOSED FOR TARIFFS FOR PUBLICLY AVAILABLE EV CHARGING SITES

Evie Networks notes that the Access Code was amended in 2020 to implement the State Government's Energy Transformation Strategy and to make improvements to the process for review of the access arrangement. The review of proposed access arrangements now involves a two-stage decision making process which the ERA has set out in its 9 August 2021 "Framework and approach for Western Power's fifth access arrangement review" document in the following terms (Page 1):

> "The new process is a two-stage decision-making process. In the first stage, the ERA must decide some elements of the access arrangement before Western Power submits its access arrangement proposal. The ERA must set out its decision on these matters in a document called the "framework and approach".
>
> "The second stage of the access arrangement review is Western Power submitting its access arrangement proposal to the ERA for approval. Western Power's access arrangement proposal……..must be consistent with the elements that the ERA has already determined in the framework and approach. The ERA will then consider the elements of the access arrangement that were not determined in the framework and approach."

The ERA also noted in this document (at Page 3) that:

> "The framework and approach is not binding. However, the Access Code requires:
>
> > 4.A11 Any proposed access arrangement or proposed revisions submitted by a service provider to the Authority must be consistent with the framework and approach that applies to it. The service provider may propose departures from the framework and approach if there has been a material change in circumstances in which case it must provide reasons for the departure.
> >
> > 4.A12 The Authority must not approve a proposed access arrangement or proposed revisions that departs from the framework and approach unless there has been a material change in circumstances, in which case it must provide reasons for the departure. "

Further the ERA made 2 important statements concerning the development of specific tariffs for publicly available EV charging sites with respect to materials to be prepared by Western Power for the proposed new access arrangement and associated tariffs:

> Page 16: "the ERA considers that……. new reference services are needed for transmission connected batteries, distribution connected batteries and electric vehicle charging stations."
>
> Page 20: "……plans for network-connected batteries and electric vehicle charging stations are becoming more common. New reference services are required to support them".

It is noted that in Tariff Structure Statement Overview (Appendix F.1), Western Power acknowledges that "the ERA required us to provide a specific tariff to support dedicated EV fast-charging stations" (page 16).

WHAT WESTERN POWER IS PROPOSING

In its Tariff Structure Statement Overview (Appendix F.1), Western Power sets out its position on the introduction of a specific new set of tariffs for publicly available (ie, dedicated) EV charging sites in the following terms (Page 16):

> "New tariffs for dedicated electric vehicle charging stations
>
> "In line with the ERA's final decision on the framework and approach, we are also including a new, technology specific tariff for dedicated EV charging stations.
>
> "A key challenge with dedicated electric vehicle fast-charging stations arises from the tension between:
>
> - their potential to impose significant future network costs, due to their very high demand; and
> - their low utilisation during the initial uptake of electric vehicles, which can inhibit their ability to pay for the costs they impose on the network.
>
> "To reconcile these tensions, the ERA requires us to provide a specific tariff to support dedicated EV fast-charging stations.
>
> "The structure of our new reference tariffs for dedicated EV charging stations is consistent with our existing metered demand tariffs (RT5 and RT6)……."

1. Western Power also states in its Tariff Structure Statement Technical summary (Appendix F.2) and its 2022/23 Price List (Appendix F.3) that the 2 new specific tariffs for publicly available EV charging sites – RT40 and RT41 – are identical to the existing business tariffs RT5 and RT6. RT5 is a high voltage metered demand tariff and RT6 is a low voltage metered demand tariff. RT40 is a low voltage metered demand tariff and RT41 is a high voltage metered demand tariff. Western Power does not set out the prices being proposed for the new tariffs.

   Significantly, a key feature of each of these tariffs is that they all contain a Demand Charge component.

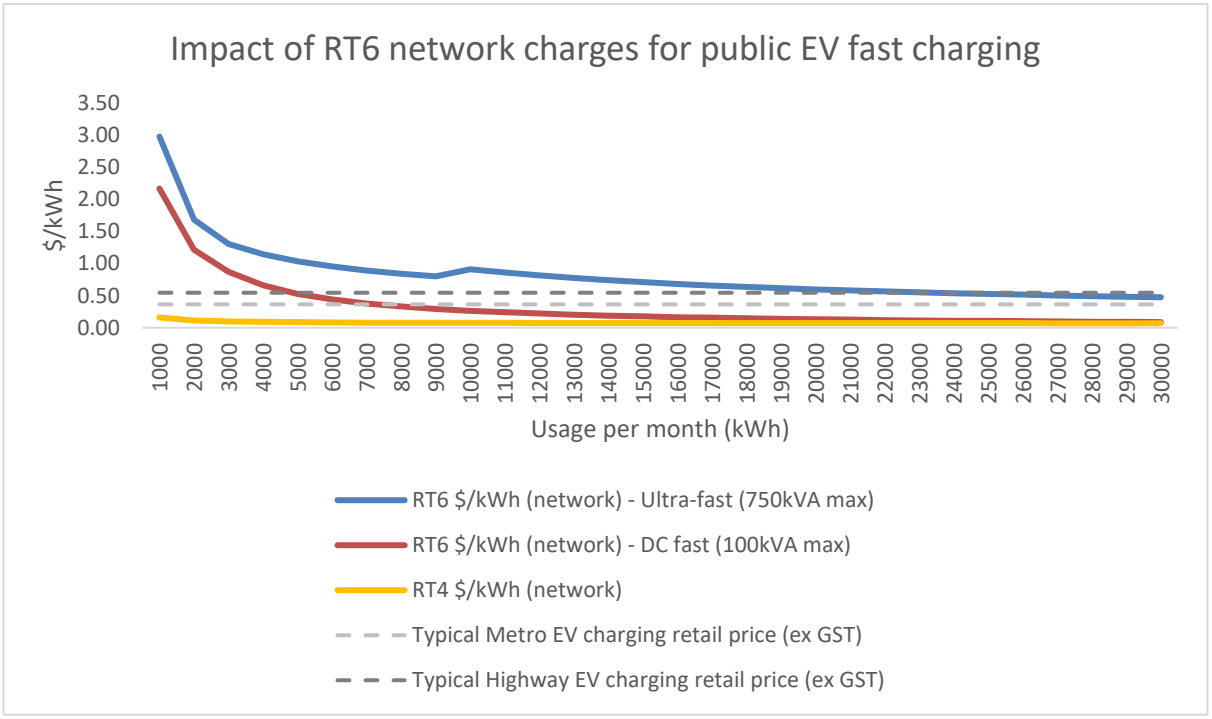
   It is respectively submitted that the approach involved by Western Power in terms of responding to the requirement by the ERA for it to provide a specific tariff to support dedicated EV fast-charging stations would appear to involve taking 2 existing business tariffs and applying them to publicly available EV charging sites without any detailed analysis as to:

   - The implications of applying traditional business tariff structures containing a Demand Charge component to a new, infant industry with low usage rates.
   - Whether these tariffs would, in fact, support the development of this new, infant industry where usage is currently low because of the low number of EVs on the road - a situation that is expected to continue for a number of years under current EV ownership forecasts and, also, recognising that only a proportion of EV owners will actually use publicly available EV charging sites.

THE ADVERSE IMPACT OF WESTERN POWER'S PROPOSED SPECIFIC TARIFFS FOR EV CHARGING SITES

In order to demonstrate the impact of the proposed tariff structures on publicly available EV charging sites, but recognising that a price list for the RT40 and RT41 tariffs has not been presented by Western Power, we have chosen the RT6 tariff and pricing in preparing the graph below; the graph is therefore for illustrative purposes. It is noted that we have only chosen the RT6 tariff for this purpose as it is not envisaged that Evie would require any high voltage connections. It is also noted that the graph includes an assessment of the impact of the RT4 tariff for the reasons set out below.

This graph shows the estimated average costs per kWh for EV ultra-fast charging for a range of utilisation rates. It is noted that the costs are network charges only and do not include the full cost of electricity for a charging network operator (eg. retail/wholesale charges, environment, GreenPower, metering, losses/inefficiency).



In other markets that Evie operates in, the average cost of public fast charging is in the range of $0.30-$0.60 cents (including GST).

The above graph highlights that the proposed RT40 and RT41 tariffs could deliver electricity price outcomes that would be prohibitive for the EV charging infrastructure industry.

It would take many, many years for the industry to be commercially viable under these proposed tariffs if public charging is to be priced at an affordable level for EV drivers and is to be priced at such a level that it does not incentivise EV drivers charging at home, potentially when they return home from work in the evening and, thus, adding to peak demand.

Table 7.3 from Western Power's "2021/22 Price List Information" document is also presented below. This table shows that the RT6 tariff structure is, on average, applied to customers that have 483MWh pa of utilisation (1,948,000,000KWh (1,948,000MWh) divided by 4,029 customers = 483MWh). This is well beyond the utilisation of EV charging infrastructure, which currently runs at between 10MWh and 40MWh pa.

7.2 Forecast Tariff Revenue

The following table details the forecast distribution reference service revenue, by tariff, which will be collected from distribution connection points.

Table 7.3: Distribution Reference Service Revenue Recovered from Distribution Connection Points for 2021/22 ($M Nominal)

Reference Tariff	kWh	Number Customers	Forecast Distribution Revenue Recovered
RT1 - Anytime Energy (Residential)	3,754,681,502	785,699	484.2
RT2 - Anytime Energy (Business)	423,217,750	65,318	74.5
RT3 - Time of Use Energy (Residential)	35,549,378	5,601	3.8
RT4 - Time of Use Energy (Business)	246,036,946	3,599	18.5
RT5 - High Voltage Metered Demand	835,000,000	303	22.0
RT6 - Low Voltage Metered Demand	1,948,000,000	4,029	109.7
RT7 - High Voltage Contract Maximum Demand	3,012,000,000	295	63.8
RT8 - Low Voltage Contract Maximum Demand	176,000,000	58	12.3
RT9 – Streetlighting	146,000,000	304,058	44.6

It is noted that EV charging infrastructure is more aligned with the RT4 tariff, which demonstrates average utilisation of 68MWh pa. Tariff RT4 has a long run network cost of $0.07 per kWh, vs RT6 which has a long run cost of $0.48 for ultra-fast charging.

It is also noted that when deploying ultra-fast charging infrastructure, the charging network operator may need to invest in upgrading the distribution network at the local area where the EV chargers are to be installed. The above cost calculations do not take into account this additional expenditure undertaken by the operator (and not the Distributor even though ownership of the assets is transferred to the Distributor at no cost, with it then owning high-capacity local distribution assets that ensure greater network capacity and resilience).

CONCLUSION AND RECOMMENDATIONS

There are strong Public Policy arguments as to why Governments should ensure a commercially viable EV charging infrastructure industry to address Range Anxiety as part of an integrated EV Policy. Actions to increase the number of EVs on the road will also progressively result in significant societal benefits: Reduced carbon emissions, improved air quality (with consequential favourable community health and Budget cost impacts), noise and national fuel security. Going forward EVs will also deliver network efficiency benefits, as well as significant avoided network costs, particularly in relation to the ability of networks to manage minimum demand resulting from increased solar energy being generated during the middle of the day. These broader societal benefits and specific network benefits will be to the advantage of all electricity consumers, not just EV owners. These broader societal and network benefits therefore further strengthen the argument that there is a strong Public Policy argument for ensuring that EV charging infrastructure companies can earn an appropriate return on their existing and future investments, with low electricity costs being critical to achieving this.

Ensuring there is a viable EV charging infrastructure industry rolling out, and maintaining, publicly available EV charging sites so that potential EV purchasers are confident they can "re-fuel" when required is, therefore, necessarily a fundamental element in any Government strategy to get more EVs on the road.

As a result, if the Western Australian Government wishes to see the development and growth of a commercially viable EV charging infrastructure industry in the State as part of a strategy to promote the take up of EVs, it is critical that tariffs applying to EV charging sites do not result in high electricity costs for EV charging infrastructure providers in the early years of the industry's development and the associated period of low EV usage of their sites.

Evie submits that if an RT40 and RT41 tariff structure was applied to publicly available EV charging sites, it would be extremely difficult for operators to invest in fast and ultra-fast charging stations in WA. The resultant electricity costs would make it extremely difficult to operate on a commercially viable basis and, thus, would act as a major barrier to the rollout of publicly available EV charging infrastructure. It is therefore very difficult to see how the proposed tariff structures for publicly available EV charging sites put forward by Western Power meet the ERA's requirement that it bring forward specific tariffs that would support dedicated EV charging stations.

Evie Networks therefore believes the ERA should reject Western Power's proposed tariffs and, instead:

- Require Western Power to set the tariff for publicly available fast and ultra-fast EV charging sites for the 5-year period 2022/23 – 2026/27 at a level that would produce an energy cost equivalent to that paid by an EV owner charging at home.

- Require Western Power to use this 5-year period to collect and analyse appropriate data from dedicated EV charging sites (including assessing the ability to dynamically reduce load on the network during peak network events) to develop, in conjunction with the EV charging infrastructure industry and engaging with both the ERA and Energy Policy WA, a specifically designed cost-reflective tariff (or tariffs) that reflects the special characteristics of electricity demand at EV charging sites and promotes the efficient use of the grid, with this tariff (or tariffs) to form part of Western Power's 2027/28 – 2031-32 access arrangement proposal.

ATTACHMENT: RESPONSES TO QUESTIONS FOR STAKEHOLDERS IN THE ERA'S ISSUES PAPER SPECIFICALLY RELEVANT TO EVIE NETWORKS

Is the network strategy Western Power has proposed to reconfigure and modernise the network, and the associated investment for AA5, reasonable, properly timed and based on sound cost estimates?

Evie Networks acknowledges that distribution networks need to invest in response to the transition to increasing levels of renewable energy (particularly solar) and to modernise to accommodate new technologies. However, the focus should not just be on the potential costs of significant potential changes that could potentially occur as a result of an increasing number of EVs on the road. It is important to also recognise that EVs could provide significant benefits to networks and electricity consumers. For example:

a. Electric Vehicles are one of the main sources of utilisation growth for networks, underpinning future investments by providing greater asset utilisation.
b. Public charging of EVs provides complementary utilisation for distribution networks, with demand occurring mostly in off peak times and also aligning closely with the solar duck curve. Public charging of EVs during solar peak periods would assist in managing Minimum Demand and, therefore, assist in networks avoiding additional costs such as voltage control equipment to address the issues created with Low Minimum demand
c. New technologies, including public EV charging infrastructure, are inherently more controllable than legacy technologies. They 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.

Are uncertainties about the future of the electricity system giving rise to a risk that Western Power's network strategy and transformation initiatives could result in expenditure/assets that are not required or not fit for purpose?

a. Today we estimate there are 3,500 EVs in WA, representing 0.25% of the passenger vehicle fleet. By the end of the AAR5 period (2027) we estimate that WA may have 115,000 EVs, provided barriers (such as prohibitive tariffs) are not put in place. This would constitute approximately 8% of passenger vehicles in WA. Given the very early stage of the EV market, it is premature to apply barriers to will stifle take up before the market has had a chance to grow.
b. EVs are represented in a number of areas as a threat to networks, particularly in terms of the risk of a high number of EV drivers charging at home during the evening peak period. Additionally Western Power specifically states that dedicated EV charging stations have the potential to impose significant future network costs. However, EVs generally, as well as publicly available EV charging sites, will drive network efficiency benefits and deliver significant network avoided cost benefits; properly designed electricity tariffs will play a critical role here.
c. The dynamic management of infrastructure such as EV charging stations can play a significant in responding to peak network events and, thus, the potential to manage such events without additional network expenditure/assets.

The ERA is interested in stakeholder views on:

- **Western Power's proposed approach to the cost uncertainties indicated in its proposal.**
- **How Western Power has responded to and is managing uncertainty about the market transformation.**

The period that AA5 covers overlaps with development of new technologies and improvement of existing technologies. We note that the "expected step up in the electrification of the State economy" should be seen as a major opportunity, rather than simply a risk as it appears today. In addition to the broad societal benefits, electrification of the state economy would ensure greater utilisation of fixed network assets and also deliver significant network avoided costs. This should result in lower electricity costs.

It is therefore important to avoid "picking winners" and making inflexible investment decisions that could result in higher electricity prices. We are of the view that Western Power will need to adapt its decision making through the AA5 period to accommodate market changes. For example, uptake of EVs is so low at this time and estimates of future uptake are far from guaranteed. Furthermore, experience from overseas markets with far greater EV uptake is that demand from electric vehicles can be managed and, indeed, provides benefits for electricity networks through greater utilisation and network avoided costs. Locking in decisions today that make investment in EV public charging infrastructure unviable (due to pessimistic cost estimates) would have long term negative consequences for the State generally and electricity consumers in particular. Not only would Western Australia enjoy a lower level of societal benefits from EVs replacing ICE vehicles, but Western Power would miss out on significant growth in network utilisation and some network avoided cost benefits – with electricity consumers consequentially having to pay higher prices..

The ERA is particularly interested in stakeholder views on:

- **Whether Western Power's proposed changes to the connection provisions of the access arrangement adequately address requirements for the new market design.**
- **Any issues stakeholders have encountered when seeking connections that could be addressed by further amendments to the standard access contract, applications and queuing policy or contributions policy.**

Evie would wish to explore the following issues during the ERA's consideration of the materials provided by Western Power:

- To what type of connection would the EV tariffs apply? Eg. would they be applied for non-contestable services that have less than 50MWh pa of consumption?

- Would the EV tariffs apply where there is a shared service mains but separate meters?

- Would the EV tariffs apply if EV charging infrastructure is located behind the meter, sharing a connection?

Was stakeholder consultation on the proposed tariff structures adequate and were stakeholder views taken account of to ensure the proposed tariff structures accommodate the reasonable requirements of users and end-use customers?

Evie has found the policy team at Western Power to be accommodating and responsive. However, we were disappointed to find that Western Power has presented specific tariffs for EV charging stations that contain Demand Charges as it is well recognised, particularly from overseas reviews of electricity tariffs for publicly available EV charging sites, that Demand Charges will result in very high electricity costs in the early years of the rollout of EV charging infrastructure. We were also disappointed that Western Power has not considered the benefits from dynamic management of EV charging stations in terms of responding to peak network events when developing these tariffs.

The ERA is seeking:

- **Stakeholder views on the proposed new tariffs and new tariff structures, including whether they will facilitate the connection of storage and electric vehicle charging stations and encourage demand patterns that will minimise the need for network augmentation.**
- **Stakeholder views on, and any information to assist in the review of, the tariff structure, future cost estimates, cost allocation and rebalancing of tariffs.**

As set out in Evie's submission, we strongly believe that the tariffs presented by Western Power will not support the rollout of publicly available EV charging stations. The use of a Demand Charge component in particular will result in electricity costs that will significantly undermine the commercial viability of investment in publicly available fast and ultra fast EV charging stations. Additionally, the application of a 12 month rolling Capacity (Demand) Charge fails to recognise that public fast charging is inherently controllable. For example, it can make use of latent network capacity, while dynamically reducing load on the network during peak network events (typically only 5 days per year). There is no point restricting public EV charging with prices that apply for 12 months when the technology is inherently flexible.