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FAQs for residential and business electric vehicle charging options for ≤ 100 A per phase connections under version 4 of the QECM effective from 21 February 2024

1. Why are there new Electric Vehicle Supply Equipment (EVSE) connection options being introduced with the new version of the QECM?

The uptake of electric vehicles (EVs) has increased significantly since when version 3 of the QECM was released in July 2020. With EV sizes and battery capacity increasing a larger proportion of vehicles are now seeking connection of Electric Vehicle Supply Equipment (EVSE) that is larger than the unmanaged switched load equipment limits for single-phase connections.

Ergon Energy Network and Energex has new actively managed connection solutions for EVSE for single-phase customers. These two new solutions are designed to be installed on the primary tariff, allowing a customer with solar PV to charge their EV directly from their solar system. These new solutions will allow large EVSE electrical equipment devices to be connected to single-phase connections whilst still allowing Ergon Energy Network and Energex to ensure the safety and reliability of the network. The new options are available under version 4 of the QECM, effective from 21 February 2024.

2. Can I charge my EV from a standard power point?

Yes. You can charge your EV from either 10 A or a 15 A general power outlet (GPO). This is allowed in Queensland from both primary and controlled tariffs so you can take advantage of charging from your excess solar PV or charging from economy tariff rates.

3. How can I connect a 32 A EVSE charger if I have a single-phase house or business?

In Queensland there are general equipment limits of 20 A for single-phase connections. Where equipment can be appropriately classed as having 'active device management' then the limit is increased to 35 A. There are three solutions for 'active device management' for a 32 A EVSE single-phase connection available for customers under version 4 of the QECM:

- Dynamic EVSE;
- Basic active management via network device; and
- Controlled tariff via network device.

4. What is Dynamic EVSE?

Dynamic EVSE is an option being introduced for ≤ 100 A per phase connections under version 4 of the QECM, effective from 21 February 2024. This is a new and modern product option with external providers developing solutions to enable offering for EVSE.

The dynamic solution works by having a two-way communication path between the EVSE and the Distribution Network Service Provider (DNSP) (Ergon Energy Network or Energex). The EVSE will be network constraints managed with dynamic operating envelopes (DOEs) provided by the DNSP. The minimum limit sent for import at any time will be 1.5 kW, and the EV can also be manually charged from a standard 10 A or 15 A power point if needed. The maximum limit sent for dynamic EVSE is 15 kW for single-phase which is approximately the maximum circuit breaker rating for a standard household.

This solution is designed for the EVSE to be installed on the primary tariff.

At Ergon Energy Network and Energex, dynamic options are already available and being successfully implemented for embedded generating systems like solar PV and batteries.

5. What is basic active management via a network device?

Basic active management via a network device is currently an option being introduced for ≤ 100 A per phase connections under version 4 of the QECM, effective from 21 February 2024. This option leverages proven reliable network technology to enable an EVSE solution until modern solutions being developed by industry become more readily available to customers.

Basic active management works by using a one-way communication from the DNSP to a DNSP owned device installed in the customer switchboard. As the DNSP owns the device there are generally low costs to the customer to arrange installation, with the wiring for the device only needing to be supplied.

The network is able to be safely and securely managed by sending a signal to the DNSP device at times of constraint. At these times the circuit supplying the EVSE will not have supply, and supply will be returned when either another signal is sent or in four hours, whichever is sooner. The EV can also be manually charged from a standard 10 A or 15 A power point if needed.

This solution is designed for the EVSE to be installed on the primary tariff.

6. What is controlled tariff via a network device?

Controlled tariff via a network device is an existing option for ≤ 100 A per phase connections under version 3 of the QECM and will continue to be an option under version 4 of the QECM, effective from 21 February 2024. This option leverages proven reliable network technology to enable an EVSE solution until modern solutions being developed by industry become more readily available to customers.



Controlled tariff via a network device works by using a one-way communication from the DNSP, to a DNSP owned device installed in the customer switchboard on a controlled tariff with the Retailer. In some cases, a Retailer may require the customer to have a new meter which may have associated costs. As the DNSP owns the device there are typically low costs to the customer to arrange installation, with the wiring for the device only needing to be supplied.

The network is able to be safely and securely managed by sending a signal to the DNSP device at times of constraint. At these times the circuit supplying the EVSE will not have supply and supply will be returned when either another signal is sent or in four hours, whichever is sooner. As this network tariff is also used for other loads such as hot water and pool pumps this may not be the best long-term targeted channel for EVSE management.

This solution is designed for the EVSE to be installed on the controlled tariff.

7. What can I expect from active management of my device?

The existing and new active device management options in version 4 of the QECM have different approaches for device management. EVSE is a large load and will need a dedicated circuit.

For each option, Ergon Energy Network and Energex intend to limit supply to an EVSE only when the network is under stress. We expect that active device management will only be required a few times a year and all options aim to maximise availability. There are fail-safes in network devices to safeguard against unintended operation.

The Dynamic EVSE solution provides information regularly minimising times the EVSE will have limitations. The EVSE can optimise its interaction with the network and the solution supports the customer's own management of their flexible loads and embedded generation equipment behind the meter.

8. Why can't Ergon Energy Network and Energex just allow larger EVSE devices without active device management on single-phase?

Our networks have been designed for average loads and at peak time they are designed with each house allocated 3 – 4 kW. An EVSE charger rated at 7 kW is a significant increase in household loading.

Modelling of the Ergon Energy Network and Energex network shows that by 2040 we could prevent around 75% of constraints at zone substations or bulk zone substations by having active management of EVSE.

9. Can I charge my EV with my solar if I have a dynamic or basic active management solution?

Yes. These solutions are designed for primary tariff and will allow you to charge your EV off your own solar PV system. These two new innovative active management solutions support customer's own management of their flexible loads and embedded generation equipment behind the meter.



10. Can I have both a dynamic embedded generating system connection and a Dynamic EVSE solution?

Yes. However, with our dynamic utility server we only send a single set of import and export DOEs for your connection point. If you are one of our customers who have already signed up for dynamic embedded generating systems and would also like a Dynamic EVSE solution, please contact us and we will look to customise your DOE design to optimise performance.

As dynamic connections develop, we will be looking at how these offerings can become more standardised.

11. Can I charge my EV with my solar if I have controlled tariff solution?

Most customer have their solar PV connected to the primary tariff, which does not offset any consumption or offset of load on your controlled tariff. This may not be a suitable design solution for all customers if you wish to charge your EV with your solar.

12. What if I have a three-phase for ≤ 100 A per phase connection at my house or business?

In Queensland there are general equipment limits of 40 A per phase for three-phase connections. Where equipment can be appropriately classed as having 'active device management' then the limit is increased to 50 A per phase.

13. What about EVSE connections for three-phase connections that are > 100 A per phase?

Connections that are > 100 A per phase are negotiated and follow a negotiated process. The equipment limits in the QECM do not apply to three-phase connection > 100 A per phase. With negotiated connections, all connected equipment is subject to approval as part of the connection agreement.

14. Why does Ergon Energy Network and Energex use nameplate rating for EVSE devices?

We consider nameplate rating as the most consistent approach for all parties to assess the current threshold with respect to the application of the equipment limits table.

How do I get more information?

We are running industry briefing sessions which began at the end of January 2024. There are both in person and online sessions. For details and how to register for a session:

- [Ergon Energy Network](#)
- [Energex](#)

Keep an eye on our electrical contractor updates for upcoming events. You can contact us at the below email address if you have any further questions: QECM2024@energyq.com.au.



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