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Minister Andrew Powell
Minister for Environment, Tourism, Science and Innovation
Department of Environment, Tourism, Science and Innovation
% Mr Will Murphy, Policy Advisor to the Minister for Environment and Tourism

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<u>Submission by Solar Citizens on Destination 2045: Queensland's</u> Tourism Future

Introduction

Solar Citizens is a not-for-profit, registered charitable organisation that promotes clean renewable household energy systems including rooftop solar, household batteries and electric vehicles. Solar Citizens welcomes this opportunity to provide feedback on **Destination 2045: Queensland's Tourism Future**. We understand tourism is a critical pillar for economic development in Queensland and the State enjoys a competitive advantage in nature based tourism across its extensive coastline, rainforests and outback areas (p.16). We also note the vast majority of visitors to Queensland are domestic travellers (p.15). As stated in the Discussion Paper:

The substantial \$28.5 billion contributed by domestic visitors highlights the resilience and importance of domestic tourism, underscoring the need for sustained investment in and promotion of the sector to further stimulate statewide economic vitality. (p. 14)

Many of the 25.6 million annual domestic visitors to Queensland will be arriving with a vehicle. Others will be hiring a vehicle during their stay. The variety and practicality of electric vehicles is

improving rapidly and an increasing number of Australians are seeking to travel more sustainably and more cost effectively with an electric vehicle. Our submission addresses the **Access and Connectivity Key Focus Area** and relates to the visitor experience for EV drivers in Queensland. Our advice is offered to help you establish "simple and seamless" journeys for this growing segment of the tourism trade (p.28).

<u>Solar Citizens' advice to the Queensland Government</u> generally in relation to EV charging infrastructure is as follows:

- Invest an additional \$10 million in the Electric co-funding scheme and budget for ongoing investment to ensure EV charger availability every 150 km throughout the State.
- Create co-funding opportunities with commercial and industrial operators to develop solar canopies integrating rooftop solar, EV charging and shaded parking facilities in urban areas.
- Ensure all major development adopts and implements Economic Development Queensland's Practice Note on EV charging.
- Adopt nationally consistent, enabling rules for vehicle-to-grid charging as soon as
 possible and include bidirectional EV charging equipment in the proposed Energy Bill
 Savings Scheme.

In a meeting on 20 February, Mr Murphy, Policy Advisor to the Department of Environment and Tourism, asked us to supply more detailed information in relation to these recommendations. The remainder of this submission provides the level of detail requested. Our comments focus on the need for more level 3 and level 2 chargers across Queensland, especially along tourist routes and at tourist destinations in regional Queensland.

Level 3 chargers - the EV Infrastructure Super highway

Level 3 chargers are fast DC chargers (50kw or more per hour) required for long distance journeys (more than 200 km). The Queensland Electric Super Highway aims to support these journeys but, at the current time, the service is not sufficiently reliable or comprehensive. Solar Citizens recommendations to improve the current level of service are as follows.

Travel on the Pacific Coast Way - Cooktown to Gold Coast (1627 km)

The Pacific Coast Way is and will remain Queensland's busiest and most important North-South transport route. It is gratifying to see the growing number of charging stations available along this route. However, most of the available charging stations host only 2 chargers, one of which is the CHAdeMO, type 2 charger which serves a very limited range of EVs. Most of the CCS2 chargers are relatively slow chargers - 50 kw per hour. Many are frequently out of service for extended periods of time. This level of service falls far short of the standard now widely available in other states and other countries. A high priority should be to increase the number of

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CCS2 chargers available at all fast charging stations and to build a regionally based support and service team.

Travel on other North-South tourist routes across regional Queensland

The Great Queensland Drives Touring Map, published by Queensland Tourism, shows there are 3 major North-South routes across Queensland:

- The Pacific Coast Way (1,627 km from Cooktown to Gold Coast)
- The Great Inland Way (2,010 km from Cooktown to Hebel on the NSW border)
- The Matilda Way (1,814 km from Karumba to Barringun on the NSW border)

To make these routes feasible for EV travellers, reliable charging stations hosting multiple level 3 chargers are required every 150 km / maximum 200 km. Queensland's long distance touring routes each require between 10 -13 charging stations evenly spaced at approximately 150-200 km distance across their entire length. At the current time, only the Pacific Way offers this most basic level of service. This means EV travellers are currently denied many regional tourism opportunities. Queensland is missing out on an important and growing opportunity to market itself as an eco-friendly, sustainably based tourism destination for environmentally conscious travellers.

A search of the Plugshare EV charging map shows where there are currently no level 3 charging stations along the Matilda Way:

- 1. From Karumba to Cloncurry (452 km)
- 2. From Blackall to Charleville (302 km)
- 3. From Cunnamulla to Bourke (NSW) (257 km)

The greatest number of blackspots however is along the <u>Great Inland Way</u> - the second most easterly route after the Pacific Coast Way. Of particular importance **is the delayed provision of charging facilities at Emerald and Roma**. These major inland towns serve both North-South and East-West traffic. Without service stations at these two centres, the Queensland Electric Super Highway is essentially dysfunctional. It is imperative these stations (which are still pending after more than two years) are brought into operation **as soon as possible**.

Assuming facilities in Emerald, Roma, Rolleston and Injune will be fully operational shortly, remaining blackspots on the Great Inland Way are:

- 1. From Cooktown to Cairns (326 km)
- 2. From Cairns to Charters Towers (627 km)
- 3. From Charters Towers to Emerald (480 km)
- 4. From St George to Walgett (NSW) (281 km)

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In addition to the three long distance North-South routes, there are three shorter routes that are very popular with tourists:

- the Australian Country Way (780 km from Rockhampton to Stanthorpe)
- the Leichardt Way (553 km from Gracemere to Goondiwindi)
- the Diamantina Development Road (685 km from Mt Isa to Birdsville)

Noting level 3 charging facilities have been commissioned for Gayndah and Monto on the Australian Country Way, the most significant blackspots along these three routes are:

- 1. From Dingo to Miles along the Leichardt Way (413 km)
- 2. From Miles to Goondiwindi along the Leichardt Way (435 km)
- 3. From Mount Isa to Birdsville along the Diamantina Development Road (685 km)

Based on this analysis the table below recommends locations for an additional 17 level 3 chargers on the major North - South routes across Queensland:

Matilda Way	Great Inland Way	Leichardt Way	Diamantina Development Road
Karumba Four Ways	Cooktown Cape Tribulation	Theodore Taroom	Dajarra Boulia* Bedourie
Tambo Barringun	Mount Garnet* Conjuboy / Greenvale Llanarth /Frankfield Clermont Dirranbandi	Moonie*	Joseph
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^{*} Mount Garnet, Moonie and Boulia serve both North-South and East-West traffic.

Travel on East - West routes across regional Queensalnd

The Great Queensland Drives Regional Touring map shows there are 5 major East-West tourist routes across regional Queensland:

- Savannah Way (875 km from Cairns to Burketown)
- Overlander Way (913 km from Townsville to Camoweal)
- Capricorn Way (685 km from Rockhampton to Longreach)
- Warrego Way (1580 km from Brisbane to Birdsville)
- Adventure Way (1,369 km from Brisbane to Innamincka (SA)

Another popular route is from Winton to Boulia (363 km)

As noted above, level 3 charging facilities at **Roma** (Warrego Way) and **Emerald** (Capricorn Way) are essential for almost any east - west travel across central Queensland. Planned stations at these locations must be brought into operation **as soon as possible**.

Level 3 charging facilities have also been commissioned for **Alpha** - a critical junction on the Capricorn Way; **Portland** and **Atherton**. Assuming these stations will all be operational shortly, the remaining EV charging blackspots on these routes (where there are currently no charging facilities) include:

- 1. Cairns to Burketown on the Savannah Way (875 km)
- 2. Mount Isa to Camoweal (border town to NT) on the Overlander Way (190 km)
- 3. Charleville to Birdsville on the Warrego Way (836 km)
- 4. Dalby to St George on the Adventure Way (303 km)
- 5. St George to Cunnamulla on the Adventure Way (293 km)
- 6. Cunnamulla to Innamincka (SA) on the Adventure Way (563 km)
- 7. Winton to Boulia (363 km)

The information from Plugshare suggests level 3 chargers are required at or near the 16 locations identified in the table below (excluding Moonie, Boulia and Mount Garnet as they have been counted above):

Adventure Way	Warrego Way	Overlander Way	Savannah Way	Winton - Boulia
Moonie* Bollon Thargomindah Noccundra Durham	Quilpie Windorah Tanbar Birdsville	Camooweal	Mount Garnet* Georgetown Croydon Normanton Burketown Hell's Gate Roadhouse	Middleton Boulia*

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^{*} These locations serve both North-South and East-West traffic.

The PlugShare App shows EV charging facilities are most scarce on popular touring routes in the south and west of Queensland - areas in closest proximity to interstate travellers.

Unreliable electricity supply may be an issue at some of the most remote and/ or isolated locations identified above. If Queensland wishes to exploit ecotourism opportunities this cannot be allowed to halt or delay the provision of EV infrastructure. Fortunately, tailor made solutions for servicing Outback Queensland are now being made in Queensland combining the opportunity for solar, battery storage and charging equipment - for instance, by eLumina on the Gold Coast.

Level 2 charging facilities

Level 2 charging facilities deliver 3-22 kw per hour and are suitable for destination charging where people will park their car for two or more hours. Level 2 chargers are generally cheaper and easier to install so they provide an ideal supplement to the Electric Super Highway. We recommend establishing a co-funding scheme to partner with public and private enterprises to install level 2 chargers at tourist destinations located more than 50 km from a level 3 charging station to ensure these sites are easily accessible to EV drivers.

EV charging infrastructure can be integrated with rooftop solar or solar canopies and batteries to ensure a reliable and constant supply of electricity not only to EV vehicles but to neighbouring buildings and regional settlements close by. Well integrated infrastructure will provide a service to local communities as well as tourists, helping to ensure their electricity supply is more resilient and reliable. In addition to co-funding level 2 chargers, the Queensland Government should fund at least 20 demonstration projects highlighting the multiple benefits of integrating EV charging infrastructure with solar generation and storage.

Summary of Recommendations

Solar Citizens recognises Queensland's Electric Super Highway needs further development and that support for destination charging in regional Queensland will increase the number of Eco-tourism destinations available to EV drivers. In summary, our recommendations are:

- 1. Improve the reliability and speed of charging stations along the Pacific Highway. Upgrade Phase 1 stations to provide a minimum of four level 3 chargers with at least one charger providing 150 kw/hour.
- 2. Immediately bring into operation the planned charging stations at Roma, Emerald, Atherton, Alpha, Injune and Rolleston.
- 3. Continue to co-fund level 3 charging stations at 150-200 km intervals along each of Queensland's Great Drives with an initial focus on improving the frequency of charging stations along the Leichardt Way (Dingo to Goondiwindi) and the Warrego Way (Charleville to Birdsville) noting also that stations at Moonie, Mount Garnet and Boulia will serve both North-South and East-West traffic.
- 4. Ensure all new and enhanced EV stations provide a minimum of four level 3 chargers.
- 5. Provide infrastructure combining solar panels, battery storage and charging facilities in remote locations to ensure chargers have sufficient and stable electricity supply.
- 6. Co-fund destination chargers at major tourist destinations especially in regional and Outback areas. To demonstrate the value of integrated facilities, fully fund 20 integrated facilities combining solar generation (rooftop or canopy style over car parks), shade, storage and charging facilities to provide proof of concept for future commercial development.

Solar Citizens looks forward to answering any of your questions and to working with you further to help deliver these recommendations.

Yours sincerely,

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