

NRMA's fast charging network: Learnings and opportunities

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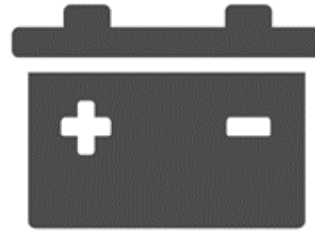
We are at the beginning of a motoring transformation



20 new electric models on the way from GM



2019 every new Volvo will have an electric motor



Battery technology rapidly improving. EVs becoming cheaper



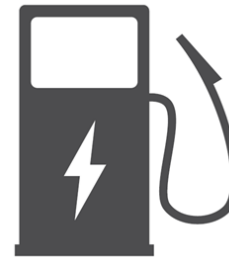
2-3 weeks fuel supply in Australia



2030 VW electrifying its entire fleet



\$75bn
Committed investment into EVs by VW, Daimler, BMW



\$1.60 vs \$0.30
per litre equivalent



7 countries planning to ban ICE vehicle sales

> **2m EVs** worldwide today



145m EVs by 2035

There is demand for EVs, but large barriers too

Barriers to EV purchasing

Vehicle cost and choice

Lack of infrastructure /
range anxiety

If fast charging infrastructure is available...

65%

more likely to consider purchasing an EV

94%

of owners more likely to take road trips in their EVs

61%

expect fast charging stations to be located in regional towns, close to amenities and services

We are building a network that will change perceptions of electric vehicle ownership

1. Ubiquitous coverage across NSW and ACT



40+ DC fast charging stations, covering 95% of member road trips

2. Universal access



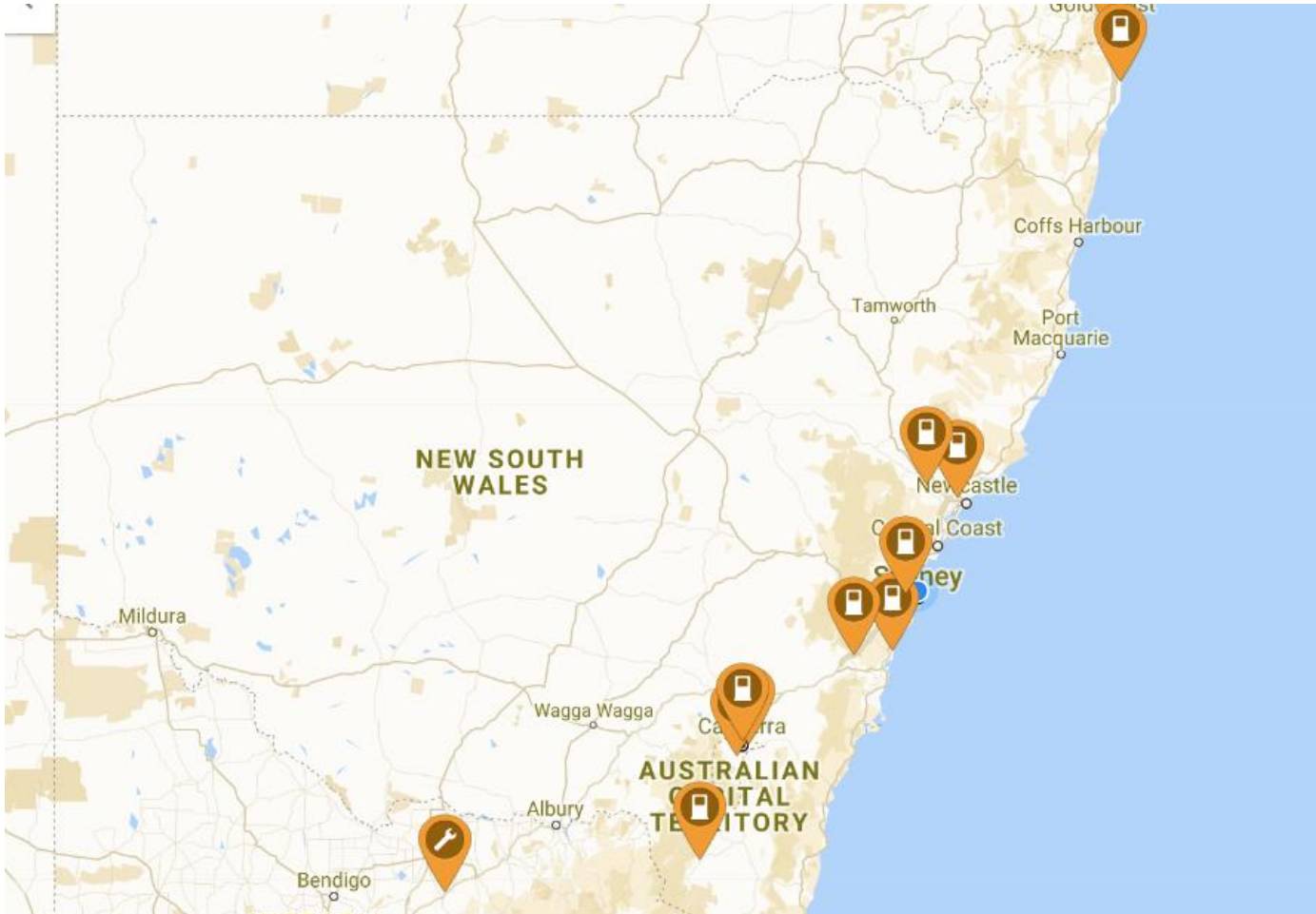
CCS2 and CHAdeMO plug types

3. Free for members



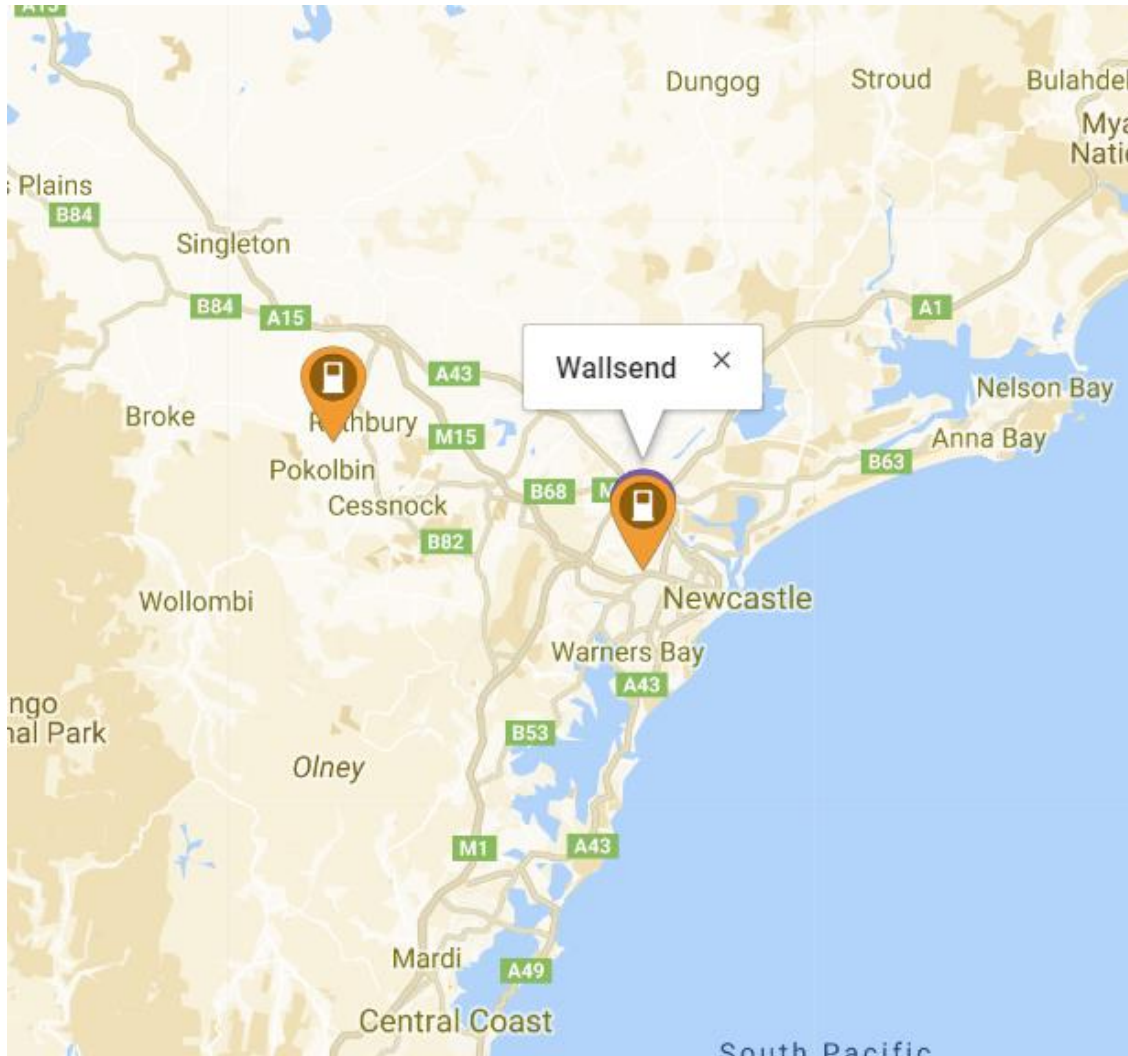
Available to non-members at a reasonable cost

There are currently 10 Universal Access DC fast chargers in NSW and ACT (non-Tesla)

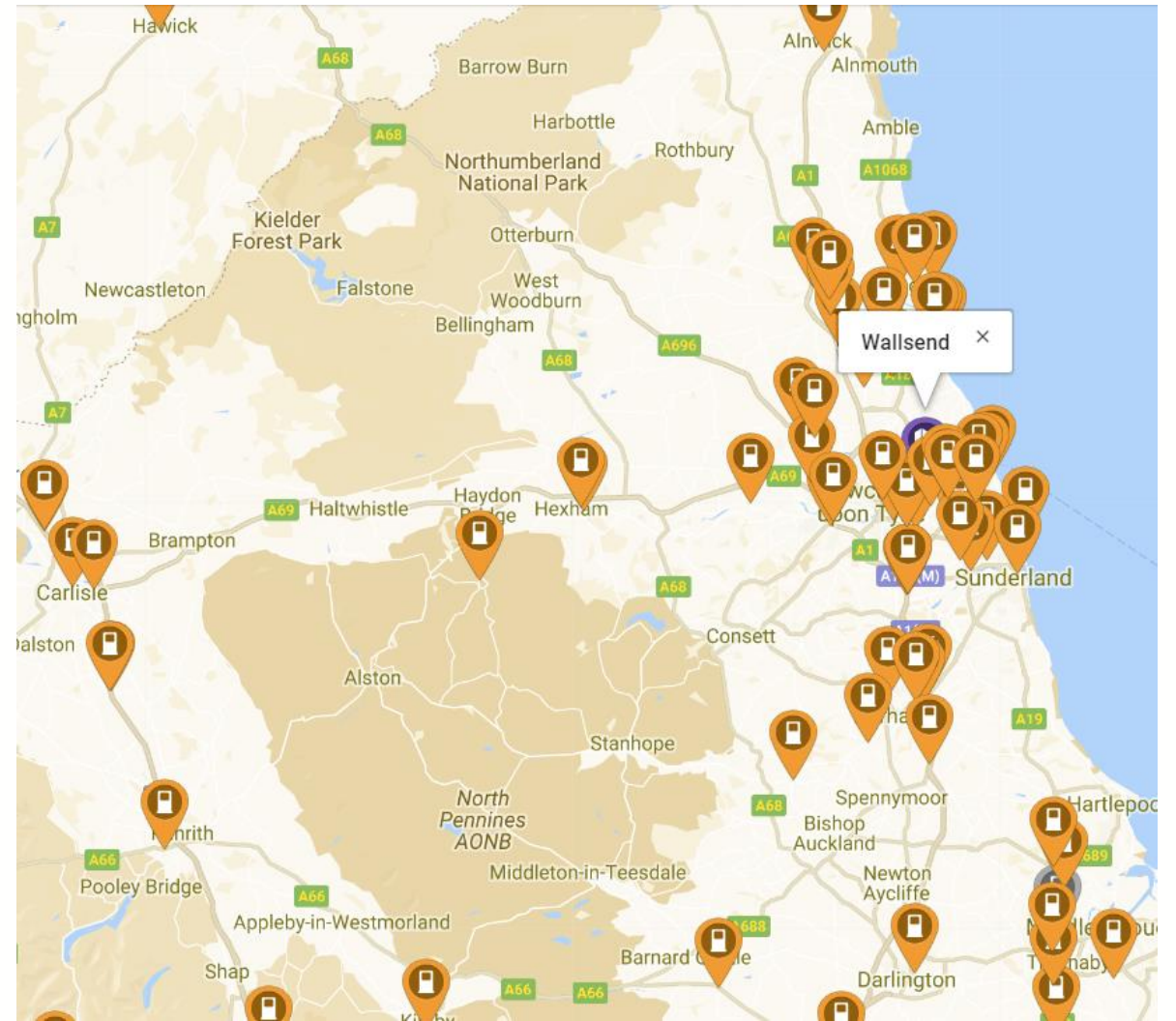


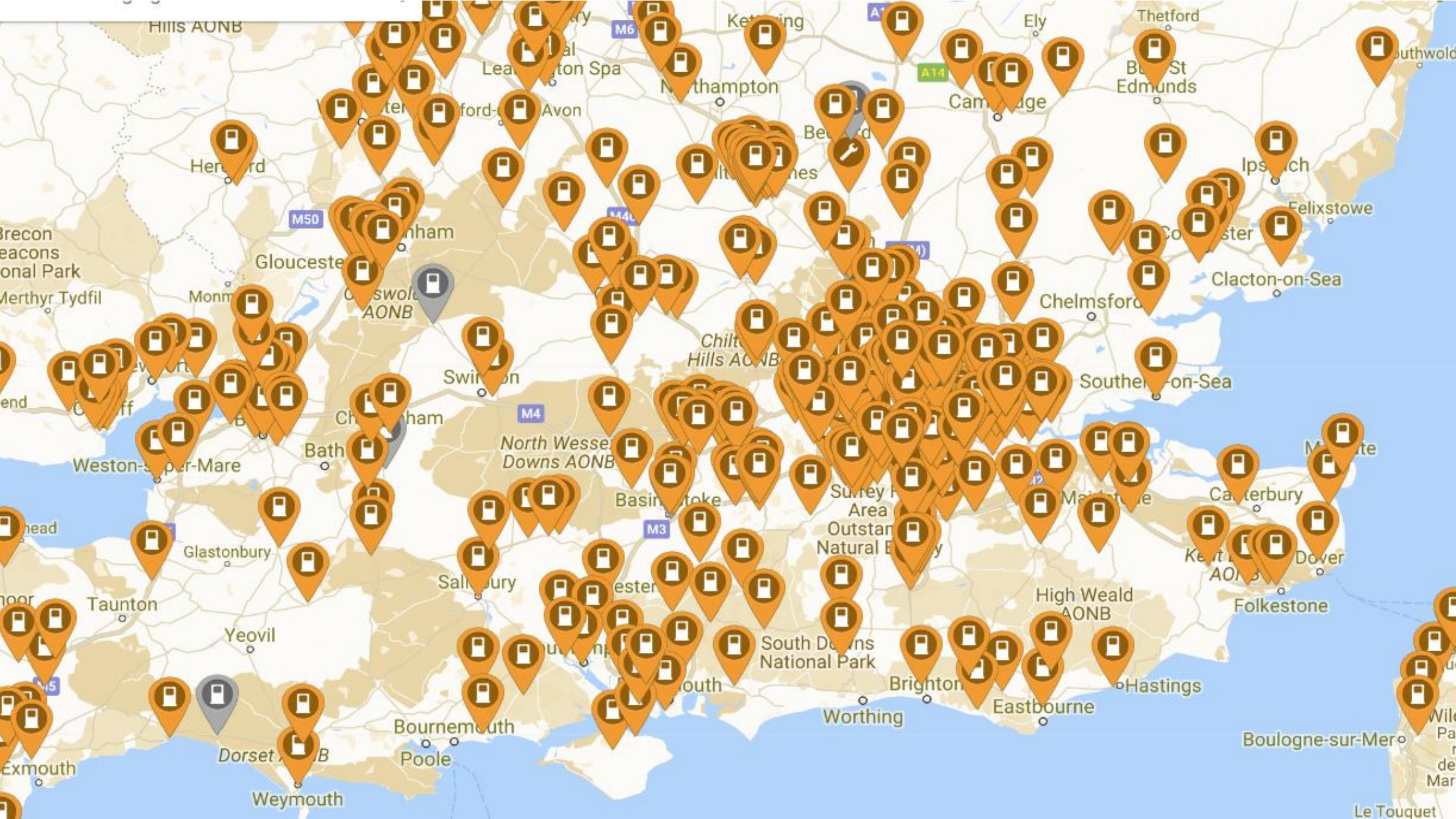
- NRMA
 - Olympic Park
 - Newcastle
 - Hunter Valley
 - Mittagong
 - Jindabyne
 - Berry (coming soon)
- Byron Bay
- University of Wollongong
- ACT x 3

Wallsend, Newcastle, NSW



Wallsend, Newcastle, UK





DC fast charging is part of the story



**Motorway
service centres**

5-10mins

5-10%



**Fast charging -
Communities**

30mins

5-10%



**Destination /
Commercial**

2-4hrs

10-20%



Apartments

2-4hrs

70-80%



**Home
charging**

Overnight

Councils have a roll to play in enabling journeys and destinations

Safe parking bays, close to amenities

Exclusive use for EVs, with enforcement

Promotion within the local community

Content to help drivers engage with local services

Integration into masterplan processes

Integration into tourism destination management plans and funding



Encouraging local EV take up

Planning controls apartments infrastructure

Controls and/or incentives for commercial developments

Local incentives eg. untimed parking for EVs, preferential parking, free EV charging for ratepayers, ...

Integrated transport eg. public transport, EV charging, e-bikes

Fleet upgrade to EV (community exposure)





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2P
ALL OTHER TIMES
P30
1P
6am - 7pm

2P
ALL OTHER TIMES
1P
P30
MINUTE
CHARGING STATION VEHICLES ONLY
6am - 7pm

Many important lessons and considerations

Land type

Approvals process

Power connection

Build program

Experience

Power usage

Support operations



**OPEN
ROAD**



**SNOWY RIVER
COUNTRY**

