

Martinstown

Feasibility Study - EV charging



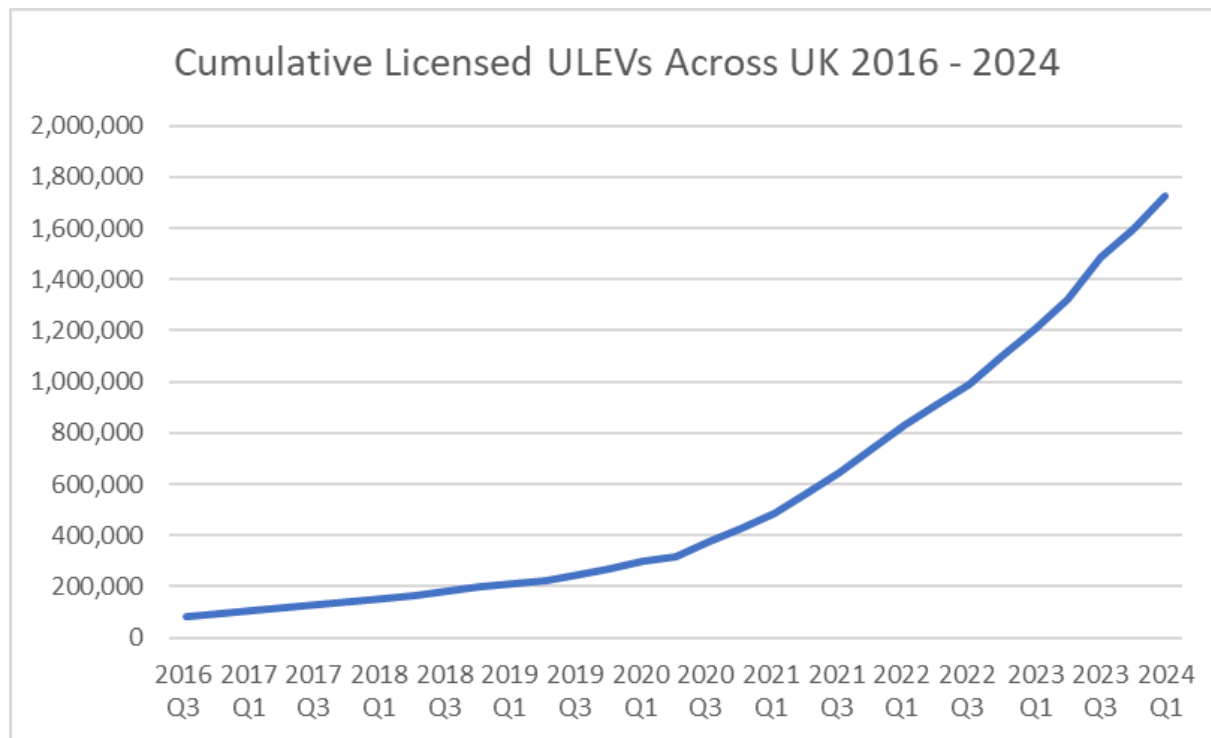
13th August 2024

Executive Summary

- Joju has undertaken a feasibility study to explore providing public EV charging for residents and visitors in Martinstown
- The project outlined in this proposal will be fully funded by Dorset Council's Charging Ahead programme which uses funding from the Office for Zero Emission Vehicles Local Electric Vehicle Infrastructure (LEVI) Programme and private sector funding from the Chargepoint Operator Mer
- The proposal also provides details of likely revenue share that will be generated and returned to the third-party owners of the sites, once the chargers are operating



The rise of the EV



- Ultra low emission vehicles (ULEVs) registered for the first time across the UK, includes battery electric, plug-in hybrid electric and fuel cell electric vehicles.
- Data source Data Table VEH0132 <https://www.gov.uk/government/statistical-data-sets/vehicle-licensing-statistics-data-tables>



The rise of the EV

YEAR TO DATE

	YTD 2024	YTD 2023	% change	Mkt share -24	Mkt share -23
Diesel	74,928	86,469	-13.3%	6.5%	7.9%
Petrol	630,966	621,346	1.5%	54.7%	56.8%
BEV	194,431	175,978	10.5%	16.8%	16.1%
PHEV	94,671	73,857	28.2%	8.2%	6.8%
HEV	159,284	135,991	17.1%	13.8%	12.4%
TOTAL	1,154,280	1,093,641	5.5%		

BEV - Battery Electric Vehicle; **PHEV** - Plug-in Hybrid Electric Vehicle; **HEV** - Hybrid Electric Vehicle, Diesel and Petrol figures include Mild Hybrid Electric Vehicle (**MHEV**)

- Data source (July 2024): <https://www.smmmt.co.uk/vehicle-data/car-registrations/>



Proposed Site

Site Name	Address	Post Code	Grid Reference
1 Burnside Layby	Martinstown	DT2 9JY	50.699281 , -2.5024559



Project Summary - Installation

- All installation costs will be met by the Charging Ahead Programme. All revenue costs including electricity supply, annual maintenance, repairs and back office systems will be met by the chargepoint operator Mer
- The table below show the project costs
- Installation costs include equipment, civil works, impact protection and signage

Site Name	Proposed EV charger	No. Sockets	Electricity Supply	DNO cost (subject to change) excl. VAT	Capital and Installation Cost (including DNO) excl. VAT
Burnside Layby Martinstown	1 x Alfen 7.4kW 2FC Dual socket	2 @7.4kW each	New 69kVa supply	£12,649.39	£29,121.59
TOTAL	1 Units	2 Sockets	-	£12,649.39	£29,121.59



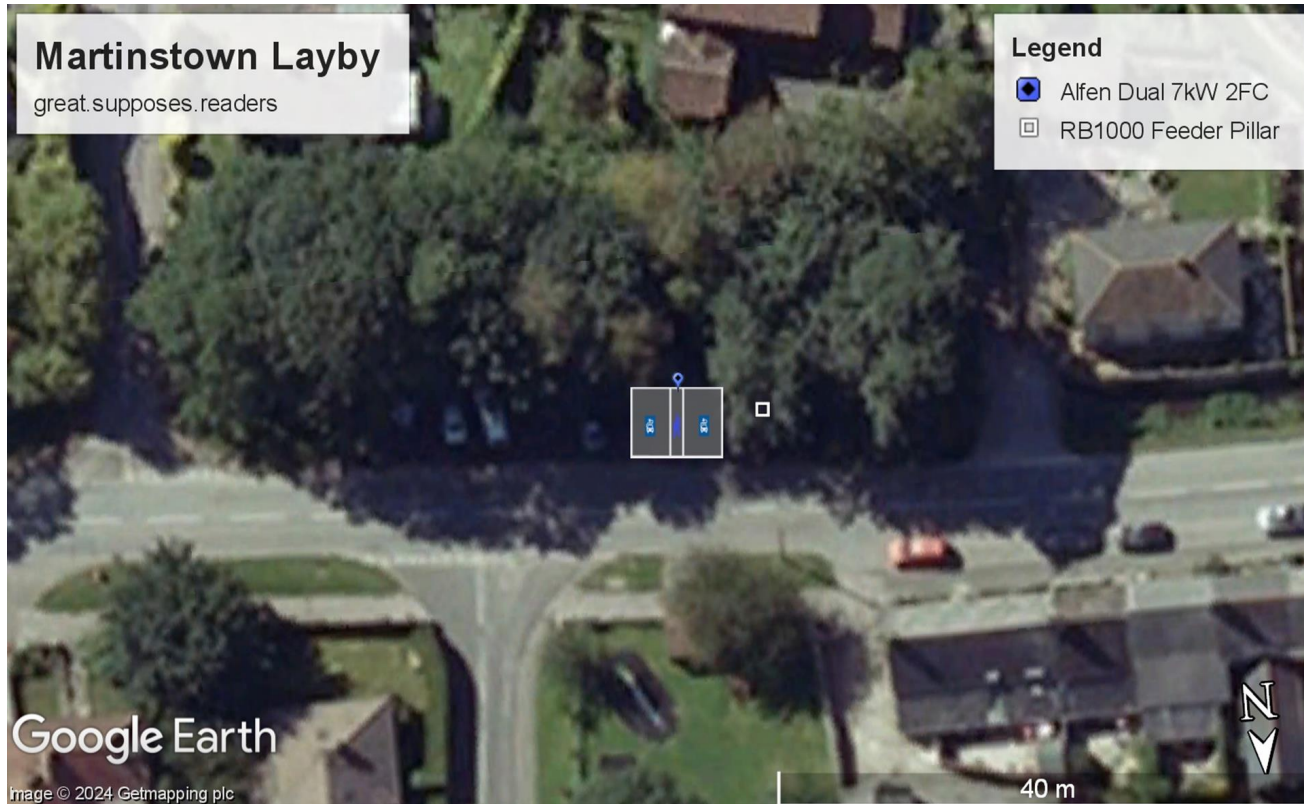
Project Summary – Estimated air quality improvements

The table below summarises the **estimated** air quality improvements by replacing ICE (internal combustion engine) mileage with mileage by an EV. Calculation based on **estimated** kWh consumption over the year and using OZEV conversion factors:

	Estimated Annual Energy Use (kWh)	NOx g saved per annum vs 50% gasoline and 50% diesel cars	PM10 g saved per annum vs 50% gasoline and 50% diesel cars	CO ₂ kg saved per annum vs 50% gasoline and 50% diesel cars
Burnside Layby Martinstown	3608.00	5939.07	102.32	3133.85
TOTAL	3608.00	5939.07	102.32	3133.85



Burnside Layby, Martinstown – Install Design



- New Supply Connection supporting:
 - One 7kW type 2 A/C dual socket Alfen EVE
- Further chargers can be added over time on the 69kVA connection
- Good location, and chargers are likely to prove popular



Estimated Revenue Share

Site Name	Proposed EV charger	Estimated kWh's (Yr 1)	Estimated Usage Rebate (£) to Third Party
Burnside Layby Martinstown	1 x Alfen 7.4kW 2FC Dual socket	3608.00	£108.24

- Chargepoint revenue share will predictably increase year on year in line with the growth in EV ownership and demand



Scope for Future Development

- The charger detailed above will begin to cater for those EV drivers requiring slower charging over a longer period of time
- This will assist those who don't have their own off-street parking and can't charge at home
- Future expansion could be achieved subject to site feasibility as there is spare capacity on the 69kVA supply
- Experience in other locations demonstrate that expansion will be required in the near future as the number of EV drivers increase



Charging Ahead Funding

- Total capital cost for 1 Fast charger = £29,121.59

Number of Units	Chargepoint	Power	Hardware Costs	Installation Cost	Electrical Connection Cost	Civils	Site Surveys	Signs & Bay Marking	Total Cost
1	Alfen EVE Dual	7.4kW	£2,383.81	£1,267.78	£19,832.80	£3,757.25	£500.00	£1,379.95	£29,121.59

- Charging Ahead Grant* = £29,121.59
- *Dorset Council have provisionally agreed to award the Charging Ahead Grant subject to receiving the relevant paperwork.



AC Fast charging (7kW)



Alfen

Alfen EVE Double Pro-lines can supply 7kW of power

- Tested with every electric car on the road and certified by DEKRA.
- Fitted with Type 2 sockets (which is the most commonly used socket, and most EV owners will have a cable with a Type 2 connector charger-side).
- Meets OZEV requirements and is therefore eligible for subsidies.
- Made from stainless steel with IK10 and IP54 rating (in accordance with European Standard EN 62262) meaning that it is vandal-resistant (withstanding up to 20 joules of impact energy).
- Unambiguous icons and integrated card reader. Starting and stopping charging sessions is easy.



Using the charge points

- How to use the chargers <https://www.youtube.com/watch?v=gwDTMkE7Ug4>
- 24/7 helpline is available for users



Management software - the back-office

Management of the EVCPs will be via the Mer back-office system:

- Control who can charge at your EVCPs by user type (employees/fleet/public) and what tariff each user type pays.
- Capability to view and download information regarding:
 - The number of charging events per EVCP
 - kWh per charging event
 - RFID User ID (number only) per charging event
 - Start and finish times of charging events
- 24/7 support for EVCP users facing issues with the EVCPs.
- Currently users can apply for a radio frequency identification (RFID) fob or card, and/or can download a smartphone app.
- Working with manufacturers to comply with proposed Government regulation on contactless payment.
- **Mer Charging UK Ltd charges a 10% revenue share on all gross revenue from EV charging to cover transaction costs and software development.**



The installation process

Once you place an order with us, we set the installation wheels in motion:

1. KICK OFF MEETING

We have a meeting with you and provide you with an indicative programme of works. Installations typically take 8-12 weeks from signature of orders – but this is highly dependent on the DNO's scheduling of its works.

2. ACCEPTING QUOTES

We accept the quote from the DNO for a new connection and pay this upfront cost.

3. ORDER HARDWARE

We place a hardware order with the manufacturer(s).

4. PROGRAMME OF WORKS

We refine our programme of works in line with the DNO's scheduling.

Payment Terms

Joju is an SME and therefore we need to manage our cashflow carefully. For example, where new DNO connections are required, we are obliged to pay DNO costs in advance of the DNO scheduling its works. This means we require payment of these DNO costs on signature of our contract with you. Likewise, once you place an order with us, we need to place an order for the hardware.

Invoicing milestones:

1. Signature of order: DNO costs + Joju management fee
2. Completion of groundworks: groundworks and chargepoint costs
3. Completion of electrical installation: electrical installation works
4. Testing and commissioning: 10% of the total project cost

Our payment term is 30 days from the date of invoicing.



Service and maintenance package

Joju provides a full maintenance package covering routine and reactive maintenance.

Routine maintenance:

- Annual maintenance service of hardware and components, clean up and inspection. Software and firmware updates. Earthing resistance test. Full service report.

Reactive maintenance:

- Any issues with EVCPs that pose a risk to safety will be dealt with within two hours;
- We will aim to fix non-operational EVCPs within 24 hours; and those suffering significant cosmetic damage will be repaired within one week.

We are obliged to ensure that:

- Remote resetting of software systems occurs to reinstate EVCPs back into operation (if the fault is software related) within 24 hours.
- Rectification of physical or component failures within two working days of the initial fault report, or within five days if spares are required.
- All parts and labour costs for any breakdown failure resulting from equipment design or initial installation defects are automatically covered. Joju will maintain the EVCPs over the order term.



About us

Joju Charging design, install and operate EV charge points for public sector clients, addressing the climate emergency and helping to improve air quality.

- Founded in 2006, Joju began as a solar PV installation company and entered into EV charging in 2016.
- Contractor of the Year at the 2020, 2021, 2023 and 2024 EVIE Awards.
- Contractor of the Year at the 2022 Greenfleet Awards.
- Installer of the Year at the 2023 E-Mobility Awards



We are approved installers on the following major national procurement frameworks:



Existing and previous clients include:

Barnsley Council
Basingstoke & Deane Council
Bracknell Forest Council
Bournemouth & Christchurch & Poole Council
Chichester District Council
Dorset Council
LB Hammersmith & Fulham
LB Hounslow
LB Kingston
LB Islington
LB Merton
New Forest
Hampshire
Reading Borough Council
Southampton City Council
Test Valley Council
Wiltshire Council
Waverley Council and others



We welcome your feedback and happy to answer questions

Email us info@joju.co.uk

Or find us at jojusolar.co.uk/joju-charging/

