Rapid Charging Exeter

Empowering Exeter's neighbourhoods

Clean, local energy for electric vehicles

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wenea

zpn energy

gamma energy

Cars

regen transforming energy

Devon County Council

UK Research and Innovation

The Problem

Air pollution

Carbon emissions must be reduced. Transport is the single largest source of these emissions.

Lack of charge points

Easy, local access to charge points is one of the biggest barriers to the transition to electric car use / ownership.

Public car parks aren't enough

Public car parks are part of the solution. But there will still be substantial gaps in the network that need to be filled.

Government legislation

The sale of new ICE cars and vans will be banned by 2030. The clock is ticking to get new infrastructure in place.

Sustainable alternatives needed

We need to adopt sustainable methods of powering our cities, transport and homes as soon as possible.

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The Solution

Electric vehicles

In the UK, a battery electric car is estimated to have greenhouse gas emissions which are up to 66% lower than an ICE car*.

Neighbourhood charging

On-street, neighbourhood charge point provision is vital to successfully achieving the transition to electric vehicles.

Renewable energy

Each charging unit is supplied with 100% renewable, locally generated solar energy.

Easy access

Chargers will be located in local neighbourhoods, meaning residents will never have far to go to use one.

Electric car share options

There will also be Co Cars at many sites, providing affordable access to electric cars for everyone.

*Source: https://www.local.gov.uk/case-electric-vehicles

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Making Exeter Electric

This project could help transform neighbourhood charging across the country.

"The UK is going further and faster than any other major economy to decarbonise transport, harnessing the power of clean, green technology to end the UK's contribution to climate change by 2050.

"Bringing forward the phase-out date could create 40,000 extra jobs by 2030… and will see emissions reductions equivalent to taking more than 4 million cars off the road.

"We are also leading the charge when it comes to the transition to zero emission vehicles and today's timely boost in funding builds on our world-leading £2.5 billion package to encourage drivers to make the switch."

Grant Shapps, Transport Secretary

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- One of only nine charging projects in the UK to receive funding from Innovate UK and the first of its kind in the South West
- The full project will have 75 sites with 150 charge units, each with 2 charging heads, providing the city with 300 charging connections

"This is a hugely exciting project and will place Exeter at the forefront of the electric vehicle revolution in the UK. This state-of-the-art technology will deliver rapid on-street charging solutions which will enable access for neighbourhoods across the city. A particularly exciting element of this scheme is the co-location of car club electric vehicles which extends the reach beyond EV owners, opening EV use to a whole new audience."

David Leipziger
Innovation Lead, Mobility & Cities - Innovate UK

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Proposed first 11 locations

£5m +
Total value of project

Enables 1/3 of the city with no off-street parking to access EV charge points

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Powered by solar energy generated in Devon

Gamma Energy's solar park in Cullompton produces 5GWh of electricity per year, enough to power 1,500 EVs for an entire year

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Co Cars: added value / equality of access

£5.50/hour
£40/day
Introductory offers for residents

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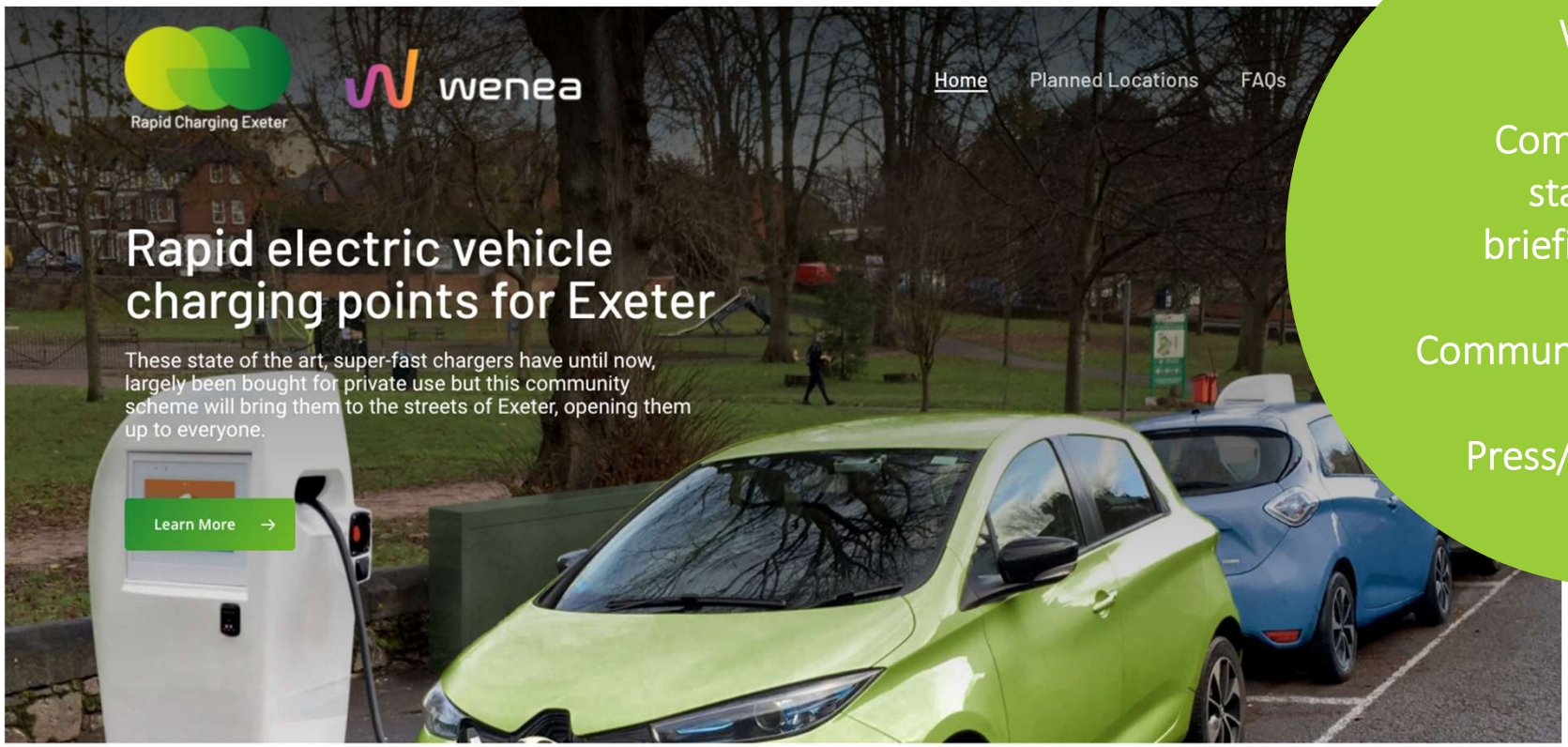
Phase 1 comms campaign



Website

Comprehensive stakeholder briefings/toolkits

Community engagement

Press/PR campaign

Devon County Council · Cars · zpn energy · gamma energy · regen · UK Research and Innovation

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But don’t just take our word for it…

"Rapid Charging Exeter is another example of Exeter leading the way in sustainability. This £5million project, funded by Innovate UK, will give the city’s residents and businesses the ability to make positive changes to their carbon footprint. We are pleased to support this initiative."

Clodagh Murphy, Chair Exeter Chamber

“Your postcode should play no part in how easy it is to use an electric car, and I’m determined electric vehicles become the new normal for drivers.”

Grant Shapps, Secretary of State for Transport

“As a city with the fastest growth in ULEV ownership in the UK, it is fantastic to see further collaboration to provide more charging points for Exeter. We know some aren't investing in electric vehicles because the city's charging infrastructure isn't sufficient - this should help make the shift to electric vehicles."

Andrew Hardwick, managing director, Exeter City Futures

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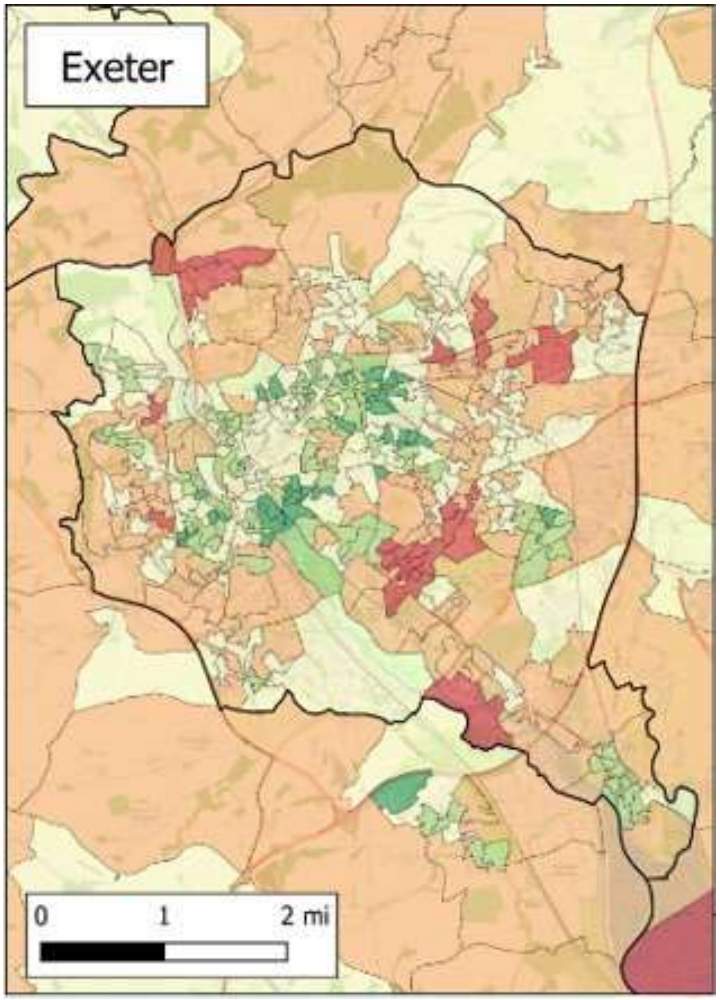
Site selection



Cenex heat map

Grid and pavement

Officer review

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Costs for charging

- The rapid chargers deliver Rapid (50 kW) or Fast (22 kW) and DC or AC capable
- The cost to non-residents is 30p/kWh for Rapid and 25p/kWh for Fast
- Residents around each hub receive a 10% discount
- 20 kWh provides approximately 50 miles and would cost around £6 through a Rapid charge

On -street management

- Anyone with an electric vehicle can use the charger, they do not need a residents parking permit
- Between 7am – 6pm, cars in a bay after becoming fully-charged will incur a penalty fee
- Between 6pm -7am, cars in a bay after becoming fully-charged will not incur a penalty fee
- In locations with a Co Car, one bay will be marked as 'Car Club Only' for Co Cars exclusive use

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ZPN Technology

Solution

- Patented ZPN energy store with advanced power electronics
- Trickle feed energy in from the grid – 50kWh of energy storage per unit
- Power boosted delivery to user – up to 50kW DC charge per unit
- Networked ‘Hubz’ units provide smart energy management and greater charge

Benefits

- High power output achieved with low power feed
- Proposed installation supported by DNO as suitable for current grid constraints
- Integrated retractable leads results in no trip hazards or damaged cables
- Minimum additional clutter to street environment
- Supports all charging protocols (AC, CHAdeMO and CCS)
- Implements OCPP 2.0 for modern back office integration
- Open source – no membership card required
- Facilitates contactless user card payment

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Phase 1a sites

Site Ref	Site	Address	Post Code	No. of Bays	Cenex Rating	Ward
1	Cowick Hill	Cowick Hill	EX2 9NQ	4	3	Alphington
2	Howell Road	52 Howell Road	EX4 4HA	4	2	Duryard & St James
3	Kinnerton Way	69 Kinnerton Way	EX4 2BL	4	2	Exwick
4	Whipton Lane	10 Whipton Lane	EX1 3BR	4	1	Duryard & St James
5	Barrack Road	Barrack Road	EX2 5EB	4	2	Heavitree
6	St Leonards Road	31 St Leonards Road	EX2 4LR	4	2	Newton & St Leonards
7	Belmont Road	Belmont Road	EX1 2HF	4	2	Newton & St Leonards
8	Langaton Lane	8 Langaton Lane	EX1 2HF	4	3	Pinhoe
9	Haven Road	58 Haven Road	EX2 8DA	4	1	St David's
10	Hanover Road	Hanover Road	EX1 2TL	4	1	Heavitree
11	Holman Way	Holman Way	EX3 AA	4	2	Topsham

Although sites 1 and 8 have a low Cenex rating on closer analysis Cowick Hill had little off-street parking and Langaton Lane enabled greater strategic coverage and co-location with a required car club site

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Phase 1b sites – proposed sites

Site Ref	Site	Address	Post Code	No. of Bays	Cenex Rating	Ward
1	Ebrington Road	52 Ebrington Road	EX2 8JG	4	2	Alphington
2	Heraldry Way	Heraldry Way	EX2 7RA	4	2	St Loyes
3	Ferndale Road	Ferndale Road	EX2 9BW	4	2	St Thomas
4	Gloucester Road	Gloucester Road	EX4 2 EB	4	2	Exwick
5	Digby Drive	Digby Drive	EX2 7QU	4	2	St Loyes
6	Buddle Lane	Buddle Lane	EX4 1JL	4	3	Exwick
7	West Avenue	West Avenue	EX4 4SD	4	1	Duryard & St James
8	Pynes Hill	Pynes Hill	EX2 5WR	4	4	Priory
9	Hamlin Lane	Hamlin Lane	EX1 3AD	4	3	Heavitree

Although sites 6 and 8 have a low Cenex rating on closer analysis Buddle Lane had little off-street parking and Pynes Hill enabled commuters & business users in rental accommodation to utilise the service

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Emphasise the positive!

Key benefits:

- We’re helping you convert to an electric vehicle now
- Nobody left behind / neighbourhood network
- Maximise convenience / minimise fuss
- Can’t afford an EV or EV curious? We’ve got a Co Car for that
- Cleaner air / less congested streets for you and your children

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Thank You

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