

Barford Environment Network (BEN)

Community evening

3rd March 2022

Agenda

- BEN introduction
- Dr Tim Lunel – Low Carbon Oxford, Hook Norton Low Carbon
- Sam Thomas – Electric Vehicle Projects Manager, Oxfordshire
County Council
- Edward Pickles – The Oxford Artisan Distillery (TOAD)
- Q&A

Please feel free to ask any questions you have as we go

BEN charter

- **Aims and Objectives:**
 - communicate, share and facilitate sustainable initiatives
 - transition towards net zero carbon for our Barford villages.
- **Membership:**
 - open to all residents and village-based businesses
 - non-political, not for profit, community led group
 - voluntary annual £10 donation towards costs of activities
 - members encouraged to follow their areas of interest or expertise.

BEN charter

- **Aspirations:**
- promote the **reduction, reuse and recycling** of resources within our villages
- **share information** and knowledge for the benefit of our community
- **work with partners and organisations** (e.g. Hook Norton Low Carbon, DEN, Low Carbon Hub, Community Action Group, and our local councils)
- **support our residents** on how to transfer towards sustainable living.

BEN activity

- **Barford Market:** sustainable household products and advice on sustainability
- **Improvement projects:** develop ideas and projects to benefit our community
- **Community support:** support the community with advice and tools to become more sustainable (market, Green Thought etc.)
- **Resources:** secure grant funding and other resources for the community where possible
- Come and join us!



Agenda

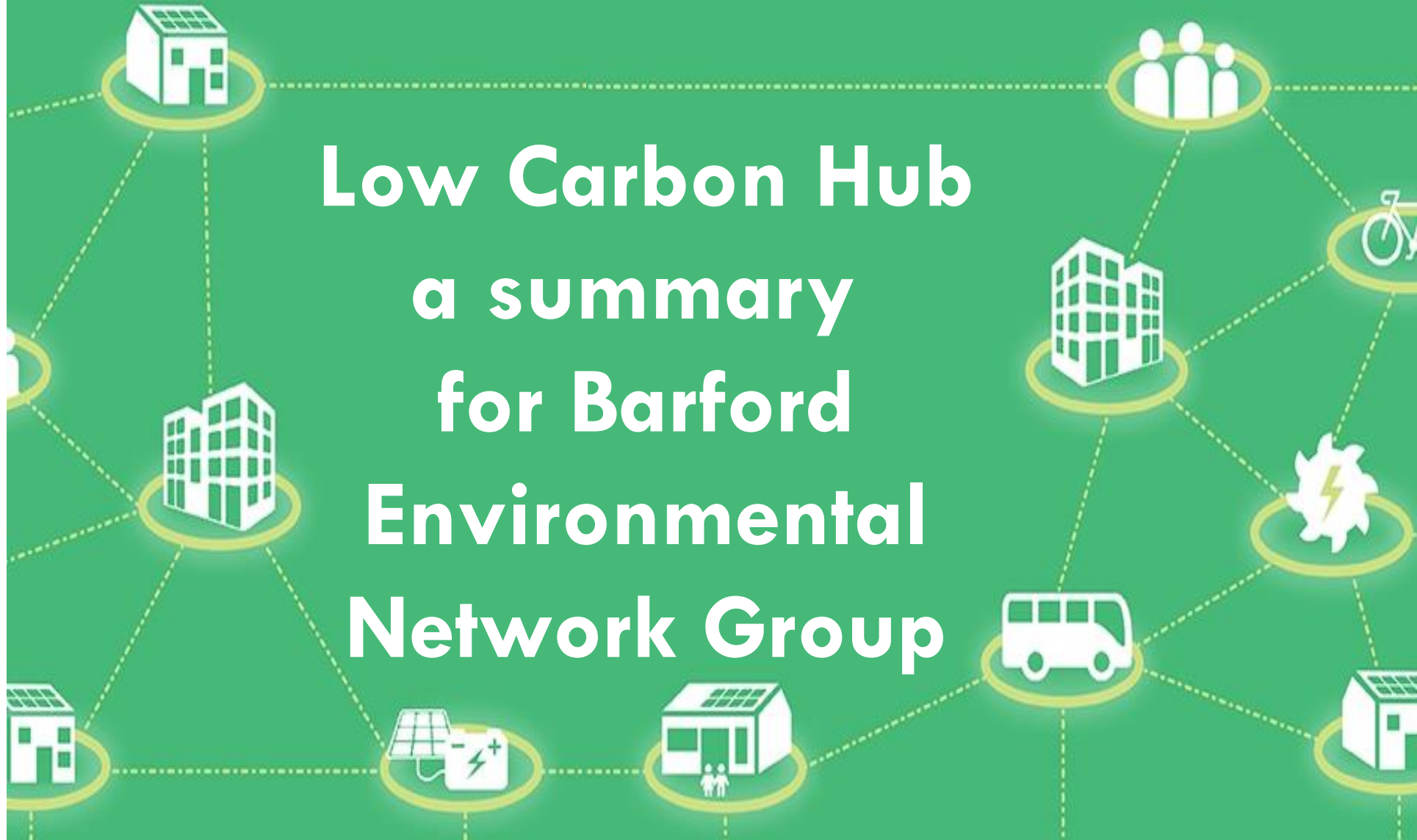
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CREATING ENERGY WE CAN ALL FEEL GOOD ABOUT

www.lowcarbonhub.org

Low Carbon Hub a summary for Barford Environmental Network Group



Our mission



The Low Carbon Hub is a social enterprise that's out to prove we can meet our energy needs in a way that's good for people and good for the planet.

What we do



To achieve this mission, we have three key strands:

- **Powering up:** developing community-owned renewable energy generation projects
- **Powering down:** working on reducing energy demand and use
- **Innovation:** catalysing system change and develop a smarter, more flexible, low carbon energy system for the future


cosy homes
oxfordshire
happy • healthy • homely



cosy homes
Plan Builder



Cosy Homes Oxfordshire

Plan Builder



cosy homes
Plan Builder



- **Free online tool** - giving Oxfordshire residents an idea of possible energy efficiency measures for their home, based on data about their address and housing type, and their budget
- Estimates carbon savings and project costs
- Completed plans receive a follow-up email from Cosy Homes Oxfordshire about the service

The screenshot displays the 'Plan Builder' interface. On the left, there are 'Category Filters' with checkboxes for 'All Categories', 'Basics', 'Roof', 'Walls & Floor', 'Windows & Doors', 'Heating', 'Renewables', and 'Others'. The 'Heating' category is selected. The main area shows 'Showing all possible measures' with a grid of eight items, each with an image, category, description, cost, and carbon saving. The items are: 1. Heating: Air source heat pump & underfloor heating (35°C) - £22,000, 3.35 tCO₂. 2. Heating: Ground source heat pump, current rads (55°C) and controls - £18,000, 3.24 tCO₂. 3. Heating: Ground source heat pump, current rads (45°C) and controls - £18,000, 3.24 tCO₂. 4. Heating: Air source heat pump, current rads (55°C) and controls - £15,000, 2.64 tCO₂. 5. Heating: Air source heat pump, current rads (45°C) and controls - £15,000, 2.64 tCO₂. 6. Others: Low energy lighting - £36, 0.01 tCO₂. 7. Roof: Thicker loft insulation - £862, 1.19 tCO₂. 8. Heating: Multi zone heating controls - £634, 0.75 tCO₂. On the right, a summary shows '2.66 (48%) estimated tonnes CO₂ saved annually' and a list of selected measures: Low energy lighting (£36), Thicker loft insulation (£862), Cavity wall insulation (£1,473), and Solar photovoltaic panels (£5,890). The 'Estimated Cost' is £8,261. At the bottom right, there are 'Review' and 'Back a step' buttons.

Measure	Category	Cost	Carbon Saving (tCO ₂)
Air source heat pump & underfloor heating (35°C)	Heating	£22,000	3.35
Ground source heat pump, current rads (55°C) and controls	Heating	£18,000	3.24
Ground source heat pump, current rads (45°C) and controls	Heating	£18,000	3.24
Air source heat pump, current rads (55°C) and controls	Heating	£15,000	2.64
Air source heat pump, current rads (45°C) and controls	Heating	£15,000	2.64
Low energy lighting	Others	£36	0.01
Thicker loft insulation	Roof	£862	1.19
Multi zone heating controls	Heating	£634	0.75

Estimated Cost: £8,261

A one-stop home retrofit service, making it simple to make energy efficiency improvements to homes in Oxfordshire:

- **Home assessment & Whole House Plan** – visit to assess your whole house to find out everything we need to know about your existing energy usage and the building itself recommendations on the most cost-effective and impactful measures to take forward, and in what order (starting at £250)
- **Client Service Agreement** – outlines any additional costs before work can begin on your retrofit project; brings together building performance requirements, technical reports, and architectural drawings (£500–1,500)
- **Project management** – gathering quotes from a pool of approved contractors; Retrofit Coordinator checks on work and reports to resident; quality assessment is carried out to check the work is completed to specification (5% from overall project above £10,000 – with an average project typically around £25,000)

Case study: Jan's house

- 1880s end-of-terrace house in east Oxford
- Aims: make the home warm in the winter and cool in the summer; reduce carbon emissions
- Measures:
 - Internal Wall Insulation (IWI) using wood fibre insulation
 - Replacing windows with triple glazed where needed, especially older sash windows
 - Replacing the old front door to reduce draughts
 - Air source heat pump
- 60% estimated savings on energy bills, 2 tonnes annual reduction in CO₂ emissions



“Reducing carbon emissions was our key driver for undertaking the retrofit.”

Jan Rosenow, Cosy Homes client



Who can best benefit from the service?

- Homeowners who want to reduce carbon emissions significantly
- Residents with older or more complex homes will benefit greatly from our 'Whole House Approach' and project management expertise
- Those who are ready to start installing multiple energy saving measures soon with an overall estimated cost above £20,000
- NB. Working together with Deddington Environment Network on heat pumps



Community energy

Community energy means creating renewable energy projects that are owned or controlled by communities.

To us, this must be a central part of the transition to a renewable energy system, boosting local economies.



A potential site will be...

- 250 m² minimum roof size
- 50 kW minimum installed capacity
- Not North-facing
- Good roof condition
- Owner-occupied or 10+ year lease
- Organisation is interested in hosting a Low Carbon Hub installation
- Building has significant day-time energy use



Potential ground mount

- Minimum 20 acres
- > 5 MW array
- Not grade 1 or 2 agricultural land
- Owner interested in hosting an installation for 30+ years

Smaller arrays (5 acres, 1MW) may be possible if the site can be linked via private wire to a nearby customer with high annual electricity bills (£150,000+p.a.)





Energy Solutions Oxfordshire

ENERGY
SOLUTIONS
OXFORDSHIRE

Energy Solutions Oxfordshire



A one-stop service, making it simple for every organisation in Oxfordshire to undertake energy efficiency improvements to make savings on their energy bills, reduce their carbon emissions, and improve the comfort of their buildings.

Can work with businesses and organisations of any size or type.

Desktop diagnosis (free) – giving you an idea of the possibilities for your buildings/offices/warehouses

Feasibility – on-site visit and auditing, feasibility report which includes costs and savings (starting at £1,500) – finding approved and trusted contractors – implementation report, a detailed breakdown of costs and returns (starting at £2,500; can be rolled into final project cost)

Implementation and project management– support provided to oversee implementation to reduce the impact on the business during works and installation



Who can best benefit from the service?

- Private schools and large academies
- Organisations that are actively looking to install several energy-saving measures soon, such as solar PV and air source heat pumps
- Businesses and organisations:
 - Who are moving office
 - Have a high energy use, such as manufacturing, pharmaceuticals and cleantech



Community building energy audits



- An energy audit is an assessment of a building, and the way you use energy on site
- Following the audit you receive practical, tailored recommendations to improve your building's energy performance
- Audits (worth £645) are offered free of charge to community buildings thanks Westmill Solar Co-operative
- Forms to nominate a building in Oxfordshire on our website
- Forms to nominate a building within 25 miles of Westmill Solar Park on www.westmillsolar.coop





Community group membership

Low Carbon Hub communities



Our low carbon community group members are at the heart of our work across Oxfordshire to transform the energy system.

Our Community Grant Fund offers financial support for community energy activities across the county.

There are small grants of £500 and larger grants of up to £5,000 available solely to community members of the Low Carbon Hub CIC to support projects that:

- contribute to our mission, and
- will lead to a reduction in carbon emissions.

Who can become a member of Low Carbon Hub CIC?

We welcome applications from any community group in Oxfordshire that carries out activities and projects that support the aims of Low Carbon Hub. It costs £1 to purchase a share in the Low Carbon Hub CIC and your group can benefit from a network of expertise and support.





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Thank you!



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Sustainable Warmth Fund

Home Energy Retrofit

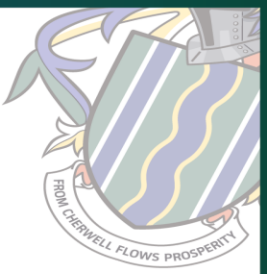


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Sustainable Warmth Fund – home energy retrofit

- Background
- Green Homes Grant Local Authority Delivery 3
- Home Upgrade Grant 1
- Retrofit Measures
- Sign up and next steps

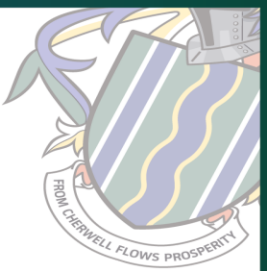


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Background

- Domestic Emissions 25% of Oxfordshire Total
- E, F and G rated properties in Oxfordshire estimated at 20% of properties
- Fuel Poverty estimated at 8.5%
- Correlation between fuel poverty and Health Conditions with 50,000 respiratory conditions in Oxfordshire
- Action on this agenda is in alignment to the Climate Emergency declarations and health and wellbeing strategies for the Council's



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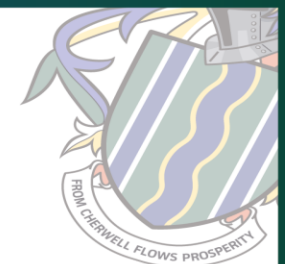
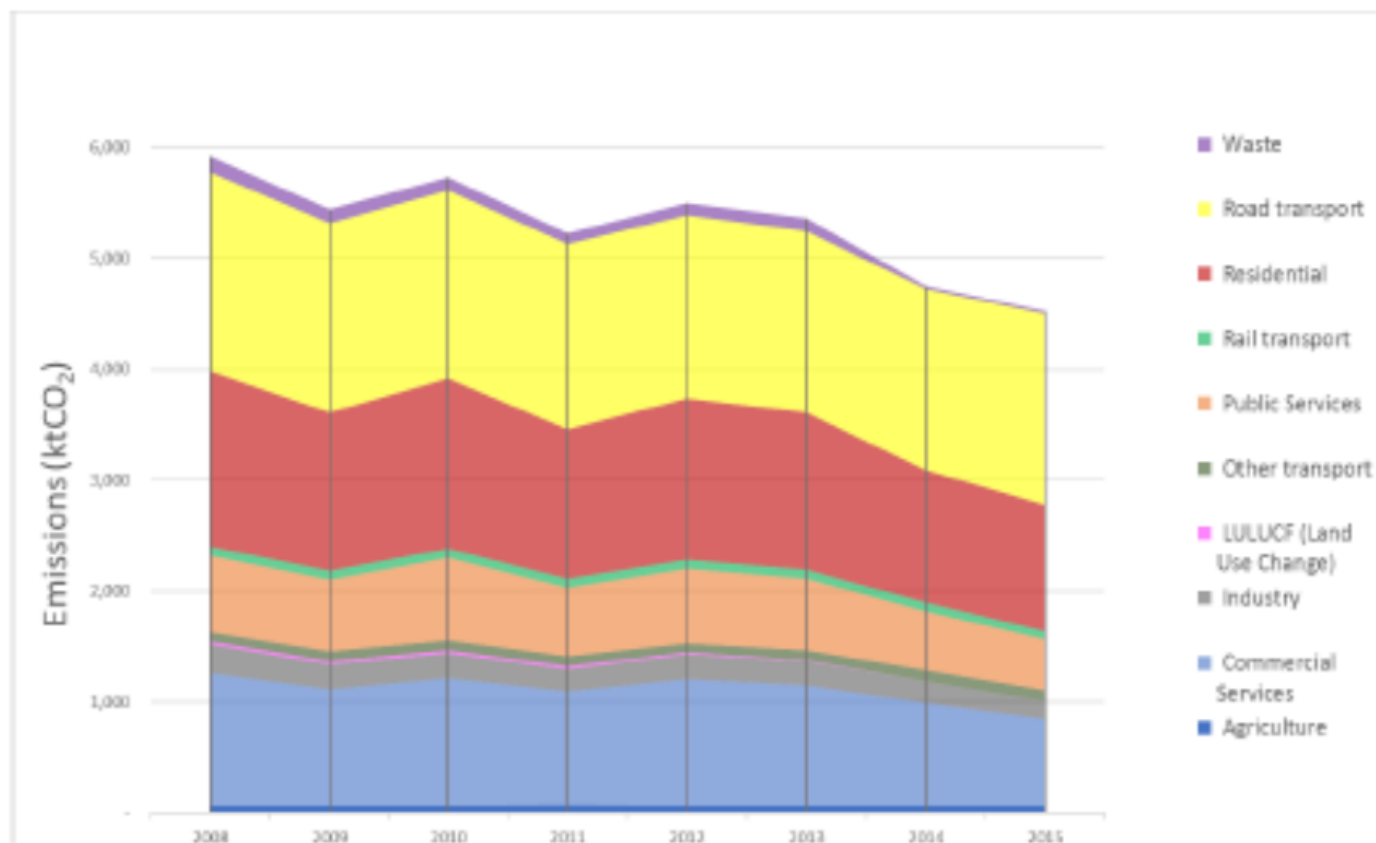


Figure 10: Oxfordshire emissions by sector, 2008 to 2015

Source: Aether, 2018 (based on BEIS subnational statistics)

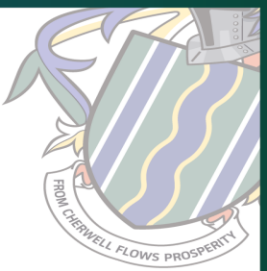


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Green Homes Grant LAD3

- Secured £1.1m for 120 domestic retrofit of properties which are:
 - 100% grant funding
 - On Gas heating
 - In fuel poverty (classed as household income <£30k per year
 - E, F or G rated EPC's, with some D rated properties
 - Owner occupier preferred but some rental opportunities
 - Not Social Housing
 - Spending cap of £10k per property on average
 - Scheme runs until March 2023

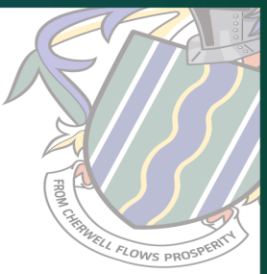


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Home Upgrade Grant 1

- Engaging on £2.2m grant for 190 domestic retrofit of properties which are:
 - 100% grant funding
 - Off gas heating
 - In fuel poverty (classed as household income <£30k per year
 - E, F or G rated EPC's, with some D rated properties
 - Owner occupier preferred but some rental opportunities
 - Not Social Housing
 - Spending cap of £15k per property fixed
 - Scheme runs until March 2023



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Types of Retrofit (indicative)

- Cavity Wall Insulation
- Loft and room in roof Insulation
- Underfloor Insulation
- External wall and room insulation
- Solar PV
- Air Source Heat Pumps
- Heating Controls
- Park Home Insulation
- Glazing



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Sign up and Next steps

- Contact helpline or website ->
- Eligibility questions and forms ->
- May need EPC assessment ->
- Retrofit Coordinator visit ->
- Agree works and apply for planning if needed, installation ->
- Post works audit/ EPC assessment ->

GHG LAD3

- National Energy Foundation helpline 0800 107 0044 or website -
[Better Housing Better Health – The Warmth and Wellbeing Service \(bhbh.org.uk\)](http://bhbh.org.uk)

HUG 1

- TBC



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Thank you for your time, any questions?

Sam Thomas, EV Projects Manager
sam.Thomas@oxfordshire.gov.uk



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Park & Charge
Oxfordshire

Electric Vehicle Charging Innovation in Oxfordshire

Sam Thomas, EV Projects Manager, Oxfordshire County Council

OCC Innovation HUB (the iHUB)

- Catalyst to create resilient and sustainable future for Oxfordshire
- Partnership approach to develop solutions for Oxfordshire and implementation beyond

Core Themes

Zero Carbon Transport

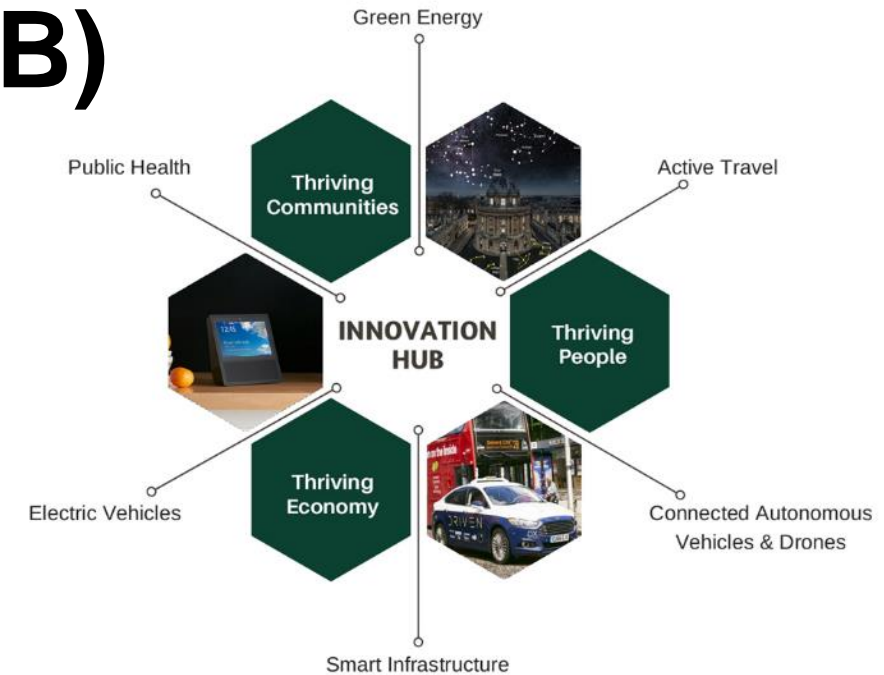
Public Health

Green Energy

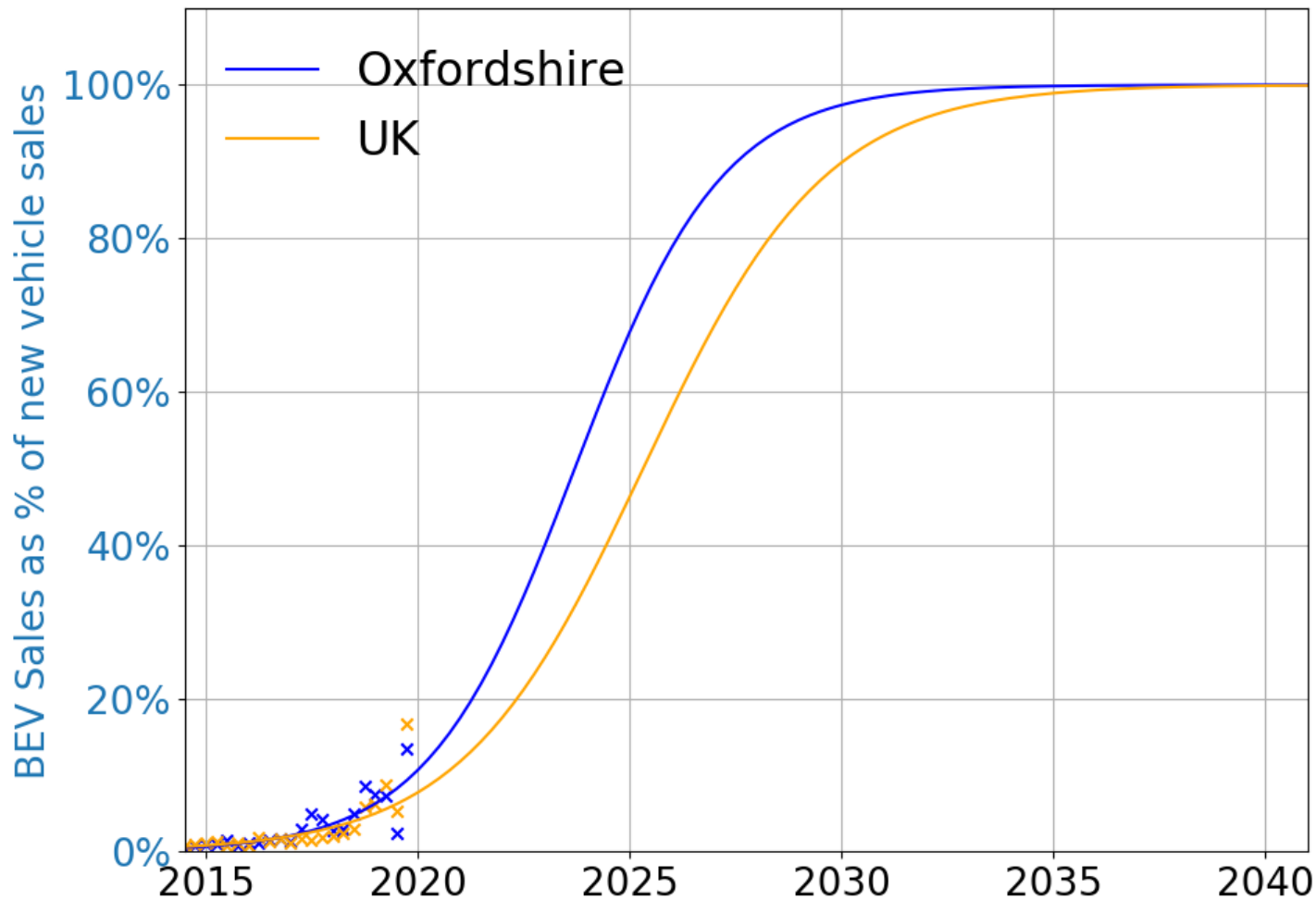
Active Travel

Autonomous Vehicles

Smart Infrastructure



There are lots of Electric Vehicle fans in Oxfordshire...



The image is licensed under Creative Commons ShareAlike International license 4.0. It is attributed to Sivapriya M. Bhagavathy, Constance Crozier and Malcolm McCulloch, University of Oxford and was developed for an internal report of the Park and Charge project.

...but a perceived lack of public EV chargers is a barrier

	The biggest barrier for me	A significant barrier for me	Somewhat of a barrier for me	Not really a barrier for me/not relevant
Perception of limited range (miles) of the vehicles	194	326	303	277
Perception of limited range of vehicles models available	69	218	326	472
Perception of high upfront cost	351	324	263	159
Perception of a lack of second-hand market for Electric Vehicles	112	259	272	441
Perception of a lack of (reliable) public charging options	356	399	214	132
Unwillingness to change existing lifestyle	23	42	132	893
Not having enough information on electric vehicles	22	79	213	779
Not feeling ready to switch to a new vehicle	56	119	179	736
Not having access to off-street parking/a driveway to allow home charging	205	103	72	707
Other	73	33	14	215

Taken from OCC EV survey October 2020
– 1,491 respondents from across Oxfordshire

Lack of off-street parking is another barrier

In Oxfordshire, **30-40% homes** do not have access to off-street parking

On-street EV chargers *can*:

- create local **disruption** during installation
- add to general **clutter** with excessive street furniture and **congestion**.
- lead to **conflict** with other car owners





Oxfordshire Electric Vehicle Infrastructure Strategy

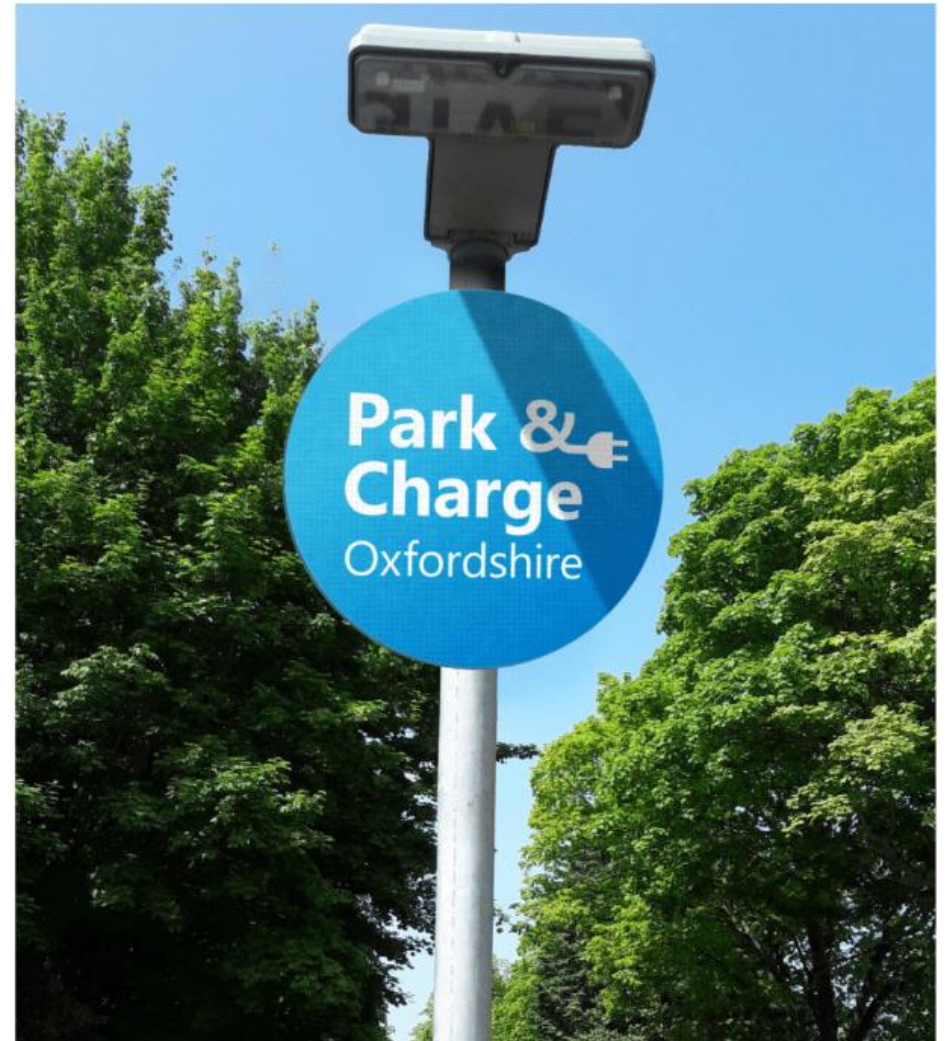
- Policy document agreed by District and County Councils
- 17 agreed policies or policy positions to aid infrastructure
- Includes targets, funding, LA Car parks, planning policy, workplace charging, standards, comms and promotions etc.

1.1. Policies at a glance:

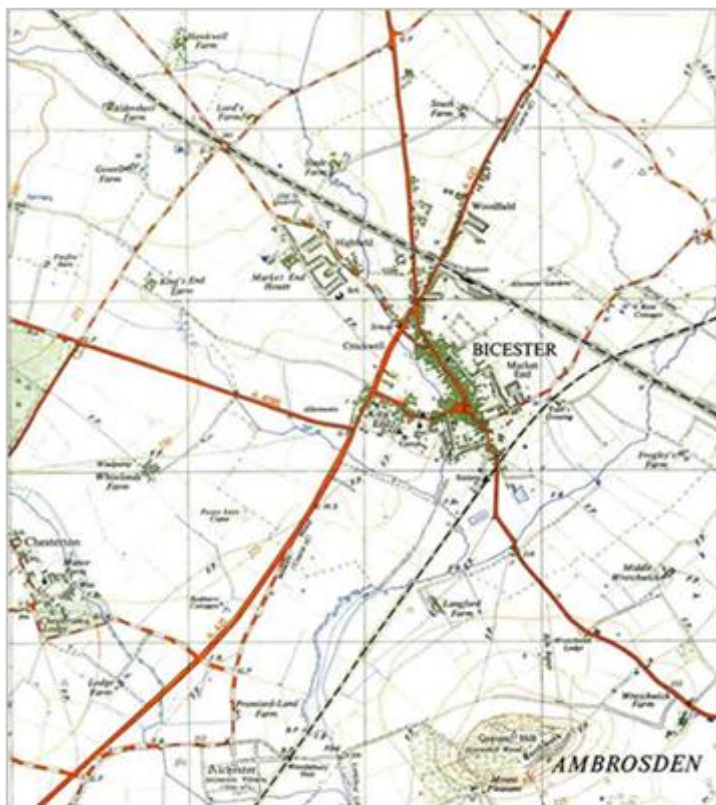
Policy Area	Policy
Targets for EV charging	Policy EVI 1: The Councils will collaborate to enable and encourage deployment of public EV chargepoints in Oxfordshire towards meeting predicted demand by 2025 in line with national targets and with reference to European directives
Funding public EV chargers	Policy EVI 2: The Councils will collaborate to seek funding for EV infrastructure and support the development of a self-sustaining EV charging network for Oxfordshire which relies less heavily on continuing public finance support in the future and minimises the impact on existing and future Council budgets
Public Charging in local authority car parks	Policy EVI 3: The Councils will aspire to reach or exceed a target of converting 7.5% of local authority managed public car park spaces, to fast or rapid EV charging by 2025.
	Policy EVI 4: The Councils will manage parking bays for EV charging in local authority car parks to encourage both destination and overnight EV charging and for all types of EV ownership, including private vehicles, shared or car club vehicles, and business vehicles where appropriate
Charging at Council sites	Policy EVI 5: The Councils will support staff and visitors to access electric vehicle charging at Council premises where appropriate
Charging off-road parking	Policy EVI 6: Recognising that lack of off-road parking may be a significant barrier to EV take-up, Oxfordshire County Council will promote a hierarchy of solutions to EV charging for residents, businesses and shared vehicles without

The Park and Charge solution

- Use of **EV charging hubs** in suitable car parks for residents without off-road parking
- Overnight charging solution for nearby residents – **park for free and charge overnight**
- Brand new EV chargers in **up to 20 District Council car parks** (each car park 10-16 chargepoints/spaces)
- **£5.4 million project** funded by Innovate UK, with additional funding via ORCS grant (both OZEV)

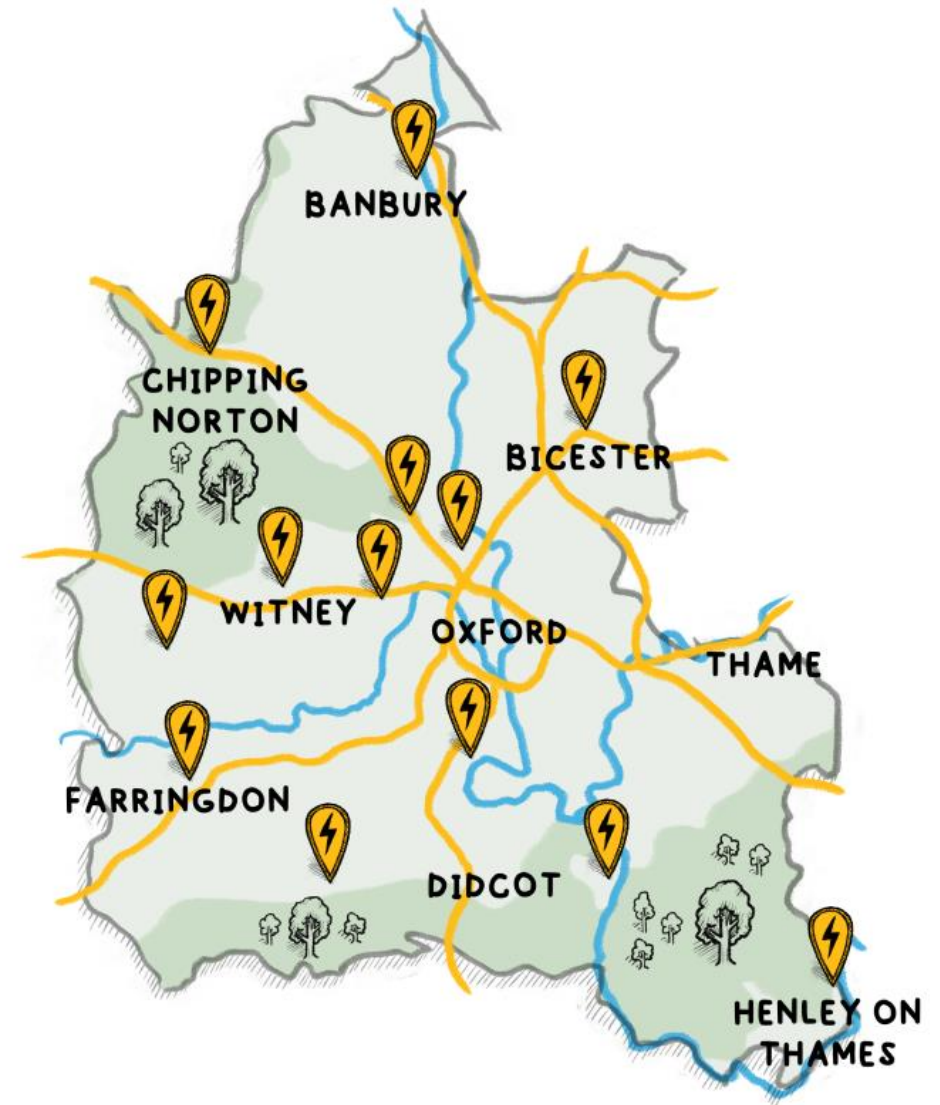


Correlation between on street needs and Council owned car parks



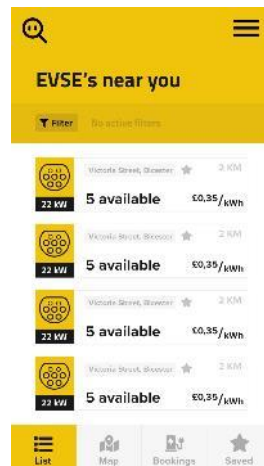
What's in it for Oxfordshire?

- Up to 250 individual EV charging points – at no cost to council re installation or maintenance
- Greater EV charging provision supplied for commuters and visitors to use during the daytime
- High visibility of public chargers leading to increased confidence
- More reasons to visit and stay for longer



The Park and Charge offering

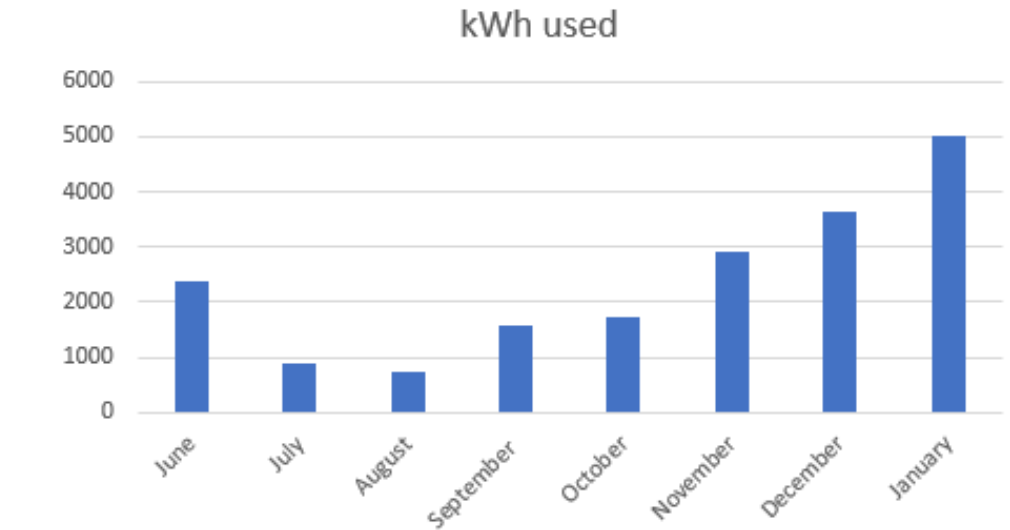
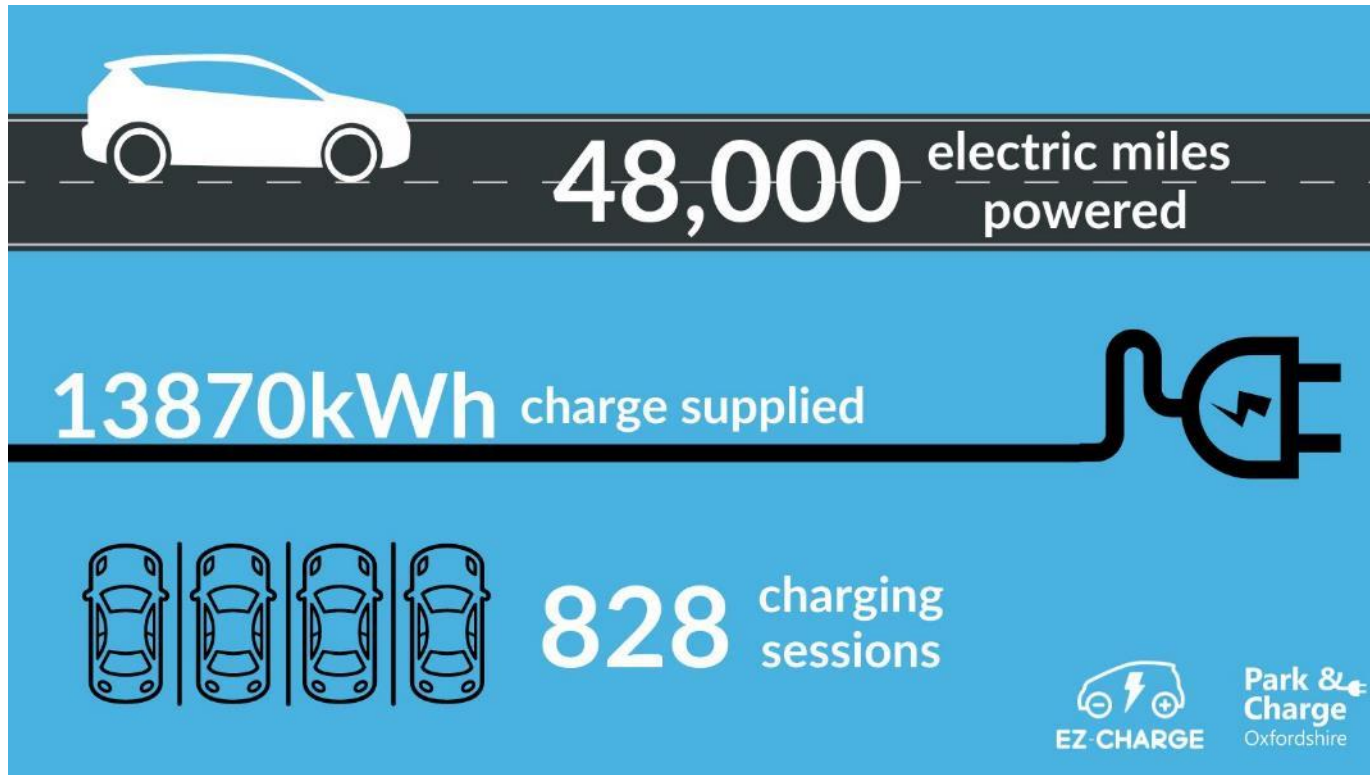
- Reliable, robust chargers with a very high uptime
- Three phase 'Fast' 7-22kW chargers
- Tap and Go with contactless payments
- EZ-Charge membership options which unlock cheaper charging tariffs
- Ability to book ahead – certainty of getting a charger when you need one



Bicester Cattle Market pilot car park launched in May 2021



Bicester Cattle Market pilot car park launched in May 2021



OxGul-e project

- Trailing cables not condoned by OCC Highways – trip hazard goes against Highways Act
- Even with a cable mat or cover, this is still not condoned



OxGul-e project

- Low-tech, affordable solution that allows cable from wall-mounted home charger to safely cross to kerbside through a cable channel recessed into the pavement
- Builds on success of Go Ultra Low Oxford project – now trialling in Oxford and Cherwell
- Innovate UK funded - project partner ODS
- Aiming for product and process to be available early 2023
- Local Authorities can register interest in the project at www.gul-e.co.uk



OxGul-e project



DoorStep project



elementenergy



Brent



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TROJAN
ENERGY LTD

DoorStep project



elementenergy



- 
- An aerial photograph of a town, likely Oxford, with a river flowing through it. The town is surrounded by green fields and trees. A large, semi-transparent green circle is overlaid on the town, with a yellow line tracing a path around it. The background is a soft, hazy landscape with rolling hills.
- Email – EVTeam@Oxfordshire.gov.uk
 - LinkedIn - @Park and Charge Oxfordshire
 - Twitter - @parkandchargeox
 - Facebook - @parkandchargeoxfordshire
 - Instagram - @parkandchargeoxfordshire

www.parkandchargeoxfordshire.co.uk

www.gul-e.co.uk

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-
- For info on becoming a BEN member contact John O'Brien e:
john@lcmb.co.uk or t: 07711 032137