



Appendix C: Charge Point Site Analysis

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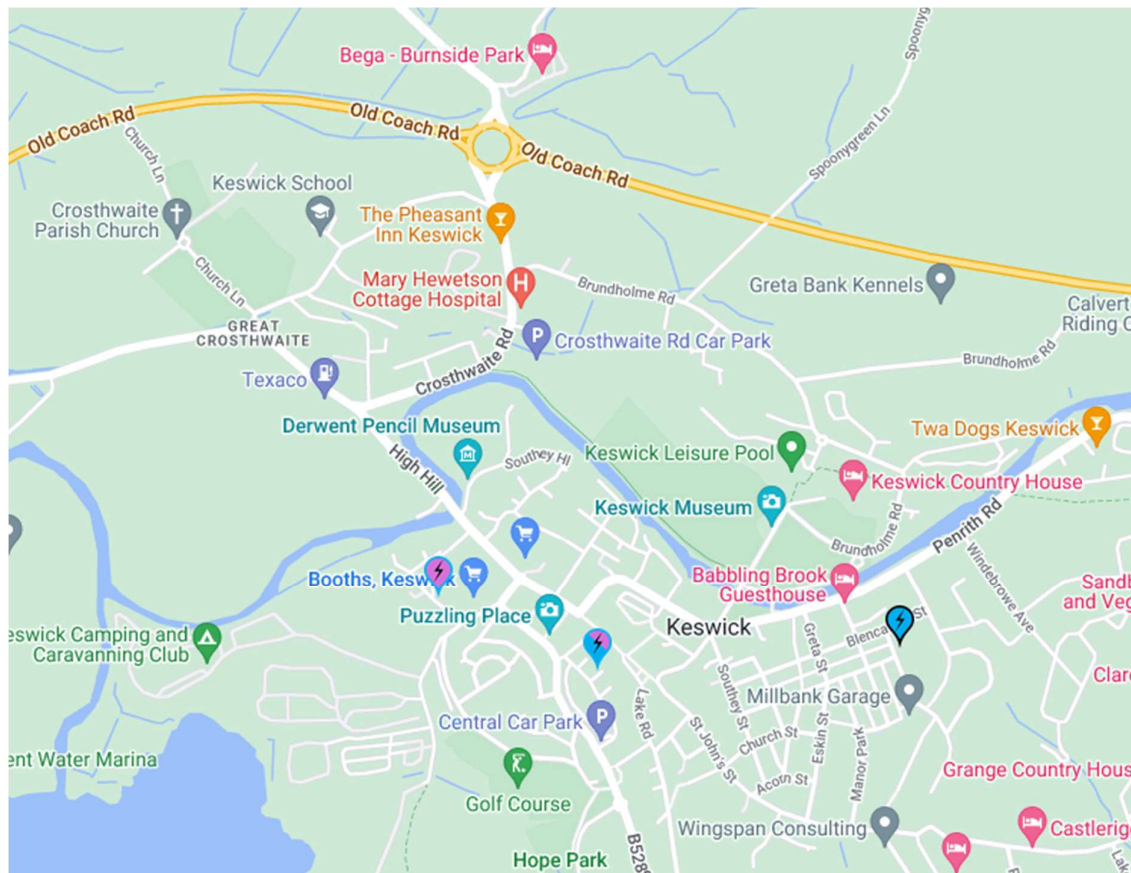
1 Introduction

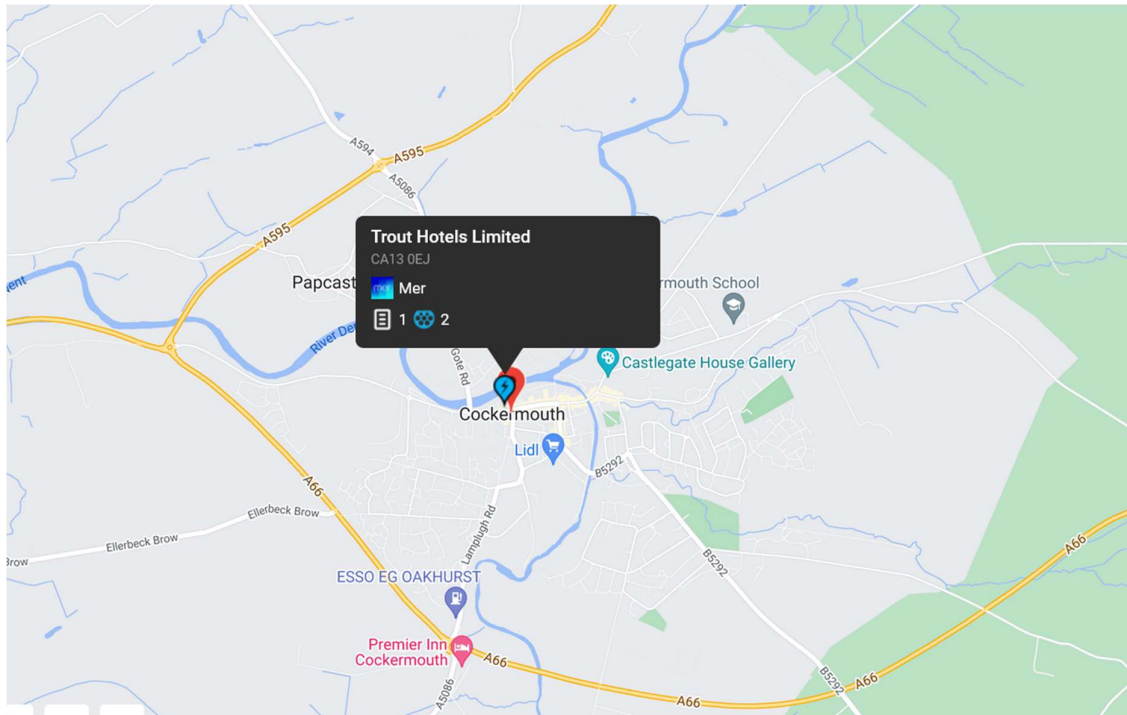
This report sets out the potential charge point sites which have come from the solar survey and Charge My Street (CMS) survey of car parks in Keswick, Cockermouth and nearby villages. Charge points recently installed or planned to be installed by CMS are also included.

The report then looks at sites which have been suggested previously and investigated, but not progressed due to costs and permissions.

2 Existing charge points

There are two rapid chargers and one fast charger in Keswick (Data from Zap-Map, July 2022). There is one fast charger in Cockermouth at Trout Hotels.





3 Cumbria County Council planned sites

The County Council are planning potential charge points at the following car parks in Keswick: Lakeside; Central; Bell Close and Otley Road. This is subject to their funding bids from the government being successful.

The project officer stated: *"There's no private locations included so if Sustainable Keswick are looking at businesses there shouldn't be any duplication."*

4 Potential community solar PV sites

Each site suggested by Sharenergy was reviewed with potential issues flagged. The potential charge point user groups are then identified and the extent to which they could use solar PV or the charge point in general.

Where the charge point is located in primarily a staff car park, the business case is dependent on staff members not having access to home charging (which is generally the lowest cost and preferred option). A school with solar PV would still be able to sell electricity to a staff member and use smart charging to maximise the use of the solar power (e.g. only charging when the sun is out and there is sufficient excess from the PV). However, this would need to be priced at low rate to make it competitive with evening night-time home charging (e.g. 10p/kWh). It is assumed that houses with

private driveways would install their own charge point - so “target housing” refers to housing without access to a driveway where a home charge point is not a possibility.

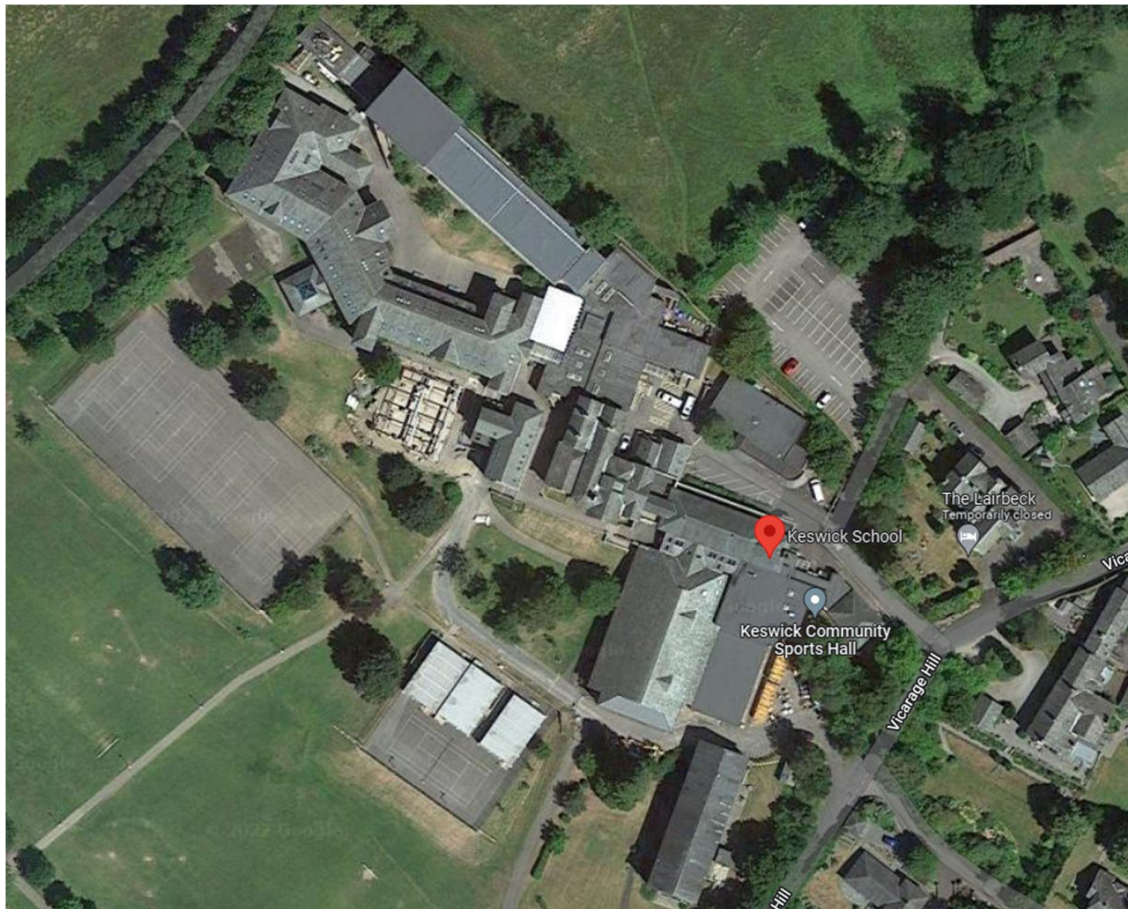
At each location, a single 7kWh charge point could be installed to test out the level of interest. This would vary from £2.5-4K, depending on the cabling and location of the charge point in relation to the main electricity meter.

4.1 Keswick

4.1.1 Keswick School - not very attractive

With quite a small car park, they may be reluctant to allocate one or two bays for EV charging. However, the site is very close to the A66 and would tackle the problem of little charging availability in the North of Keswick. This potentially makes it suitable for rapid charging, if combined with solar on the school.

However a lack of amenities (public toilets, cafe on site) would reduce the attractiveness. The site has little target housing nearby and is a 20-minute walk away from the town centre, this could decrease usage. We could not ascertain if there are any restrictions.



Potential use cases combining solar:

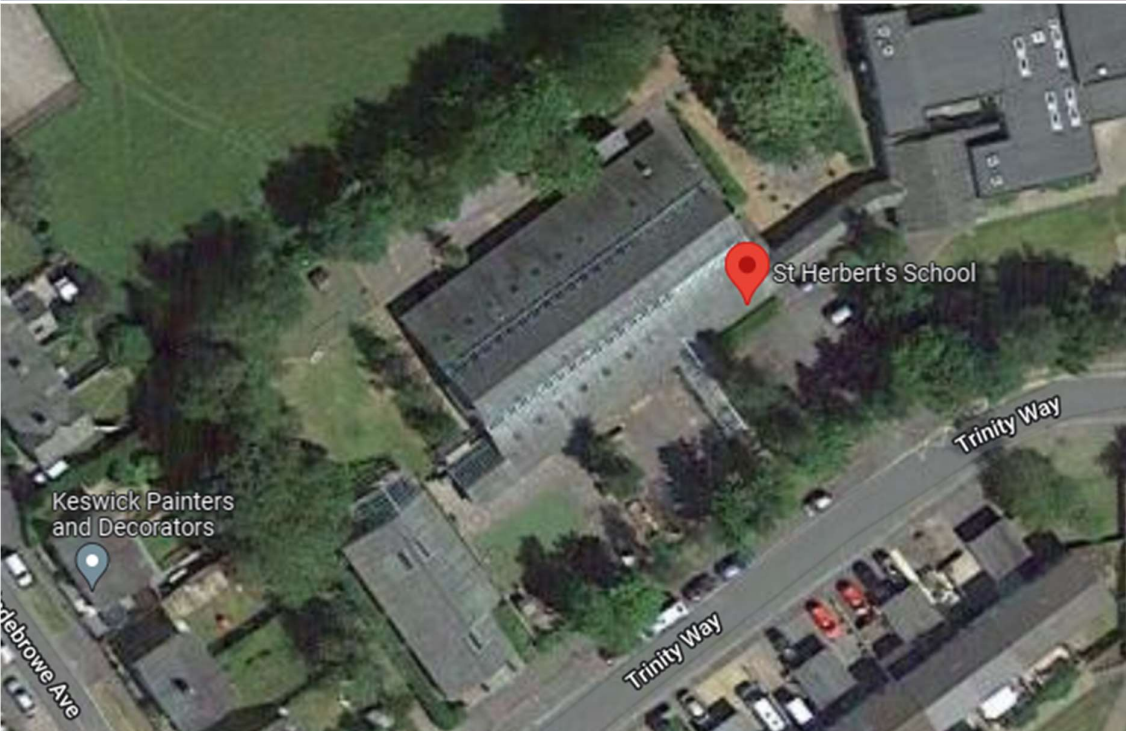
- Daytime staff & school visitor charging

Not using solar

- Location means there are not likely to be many visitors

4.1.2 St Herbert's Primary School - good

The school seems to have a small car park considering the size of the school, so spaces could be a premium. There are a lot of houses in the area without off-street parking and the site is only a 10-minute walk away from Keswick centre. There does seem to be a gate in the car park that could be shut at night.



Potential use cases combining solar:

- Daytime staff & school visitor charging

Not using solar

- Night resident & general visitor charging

4.1.3 The Borrowdale Hotel - good

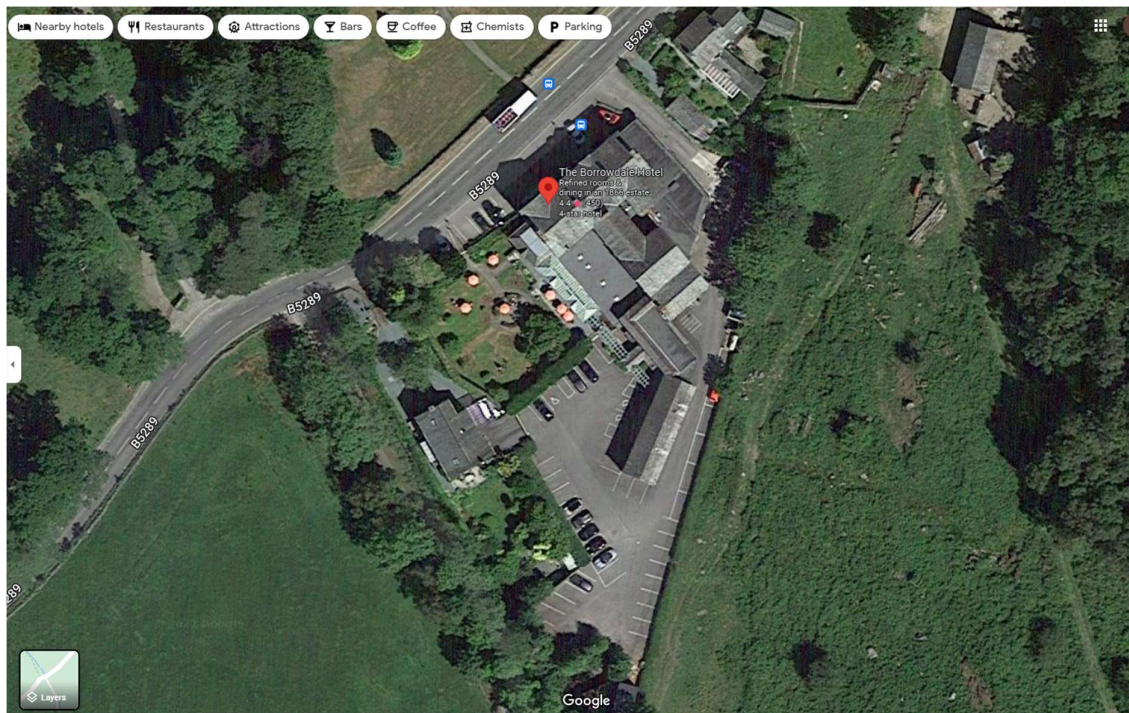
A well-used hotel with lots of available parking near main buildings. This site could be a potential private hospitality site (Charge While You Sleep) or a public site due to its location and large car park.

Potential use cases combining solar:

- Daytime fleet charging
- Daytime staff & visitor charging

Not using solar

- Night visitor charging



4.2 Cockermouth

4.2.1 Jennings Brewery - good

There is a large car park to the side of the brewery. Some spaces look allocated for residents of the flats next to the brewery. Although there is not much target housing in the area, the site would be ideal for those visiting the town centre.

From previous experience, dealing with large brewery chains like Marstons can be challenging, especially when persuading them to convert parking spaces to charging bays. However, if the brewery were thinking of swapping their smaller fleet of vehicles for electric vans, that could persuade them. The car park does not seem to have any parking restrictions or gates that are locked at night.

Subsequent feedback from the client suggested that uncertainty over the future of the site would make this unlikely to progress.



Spaces on both sides of the car park as well as the potential for wall mounting.





Flats across from the car park above that would benefit from the charge points.

Potential use cases combining solar:

- Daytime fleet charging
- Daytime staff, residents & visitors charging

Not using solar:

- Night fleet charging
- Night resident & visitor charging

4.2.2 Cockermouth Sports Centre - good

Medium-size car park with accessible bays. There are a number of bays next to the leisure centre allowing wall mounting installation. There is also a lot of target housing nearby, this would allow residents without off-street parking to charge their electric vehicles. If the leisure centre were worried about spaces being taken up by residents in key hours, the charge points could be RFID activated throughout peak leisure hour times and the app operated in the evening.

The CMS project manager visited the site and found that parking passes needed to be obtained from reception. This would restrict access to the charge points to users of the facility. There was little enthusiasm for an EV charge point from the receptionist and parking management was obviously a challenge. The car parks do not seem to have any parking restrictions or gates that are locked at night.

However, if there was positive engagement on a solar installation, then EV charge points should be included in the discussion with centre management. Electricity from the PV could be sold at a higher price to users of EV charge points than would be obtained exporting to the grid.



Potential use cases combining solar:

- Daytime staff, customers, residents & visitors charging

Not using solar

- Night staff, customer, resident & visitor charging

4.2.3 Cockermouth School - good

CMS has installed charge points in two schools in Cumbria so contractually it is possible depending on the view of the Academy.

The car park is split into three; a raised car park at the top would be the simplest option, allowing easy access to the solar array. The other two sections of the car park nearer the road would require a lot of digging, increasing the cost. However, there is a large substation in the car park that could be used for a new 3 phase connection, and this would require minimal groundwork. None of the car parks seem to have parking restrictions or locked gates at night.

CMS are in discussions with the school to explore installing a charge point there.



Potential use cases combining solar:

- Daytime staff & school visitors charging

Not using solar

- Night resident & general visitor charging

4.2.4 Lloyds Cockermouth - good for solar / already have EV



CMS contacted Lloyds Cockermouth to see if they would be interested in solar. They have EV charge points and a high load during the day for charging courtesy cars, demonstrators, etc. Lloyds has already committed to installing a charge point at their dealership but did not respond when the potential of installing solar at the site. Charge My Street has an excellent working relationship with the Lloyds Grange-Over-Sands dealership, we have worked with them on multiple occasions. However, there was little appetite for solar on site.

5 Charge My Street sites – installed and contracted to be installed

These are sites which have been installed/contracted to be installed.

5.1 Keswick

5.1.1 Keswick Ministries, Keswick Convention Centre - installed

CMS has installed four charge point sockets at Keswick Convention Centre, Skiddaw Street, Keswick, Cumbria CA12 4BY in mid 2022. Usage is relatively low due to their

parking restrictions managed by Parkonomy. Parking for three days is shown on the signs when the app allows a three-hour session. This highlights the fact that parking management in Keswick is a real challenge and an important consideration when locating charge points.



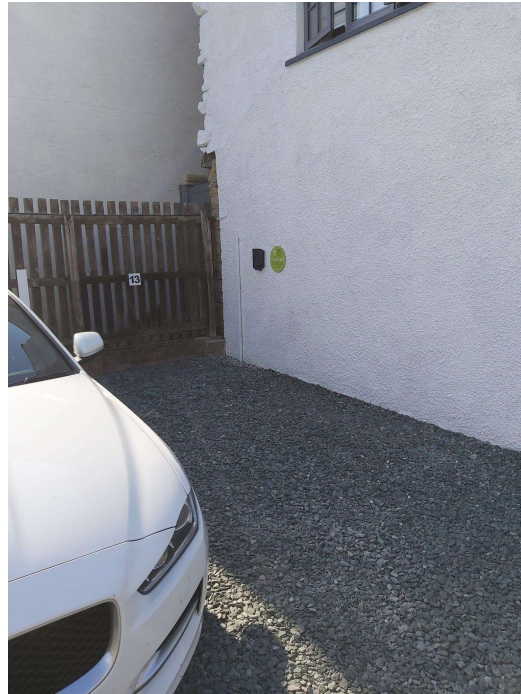
5.1.2 Keswick Friends Meeting House - installation planned

This site was looked at originally but was discounted due to its proximity to the Instavolts at Booths. However, CMS has procured a contractor to install a 7kW unit, which could link to renewables.

5.2 Cockermouth

5.2.1 Wordsworth Mews - installed

As part of our latest project, Charge My Street has begun to install single 7kW charge points at overnight hospitality venues across the North West. The first installation was completed in July 2022 in Cockermouth at the recently renovated Wordsworth Mews. The site is for guests only and will allow them to attract EV owners to their hospitality venue and it has had good use.



5.2.2 Memorial Gardens Car Park, Wakefield Road - installation underway

This site is being installed by CMS on Allerdale Council land and has required a new ENWL connection.

The cost of the charge point and additional works is £10K (plus the £7,600 connection fee)

- Excavate + duct to POC in pavement. Duct has to go under low brick wall. ~2m
- Feeder Pillar with base required- note FP is adjacent to and parallel to brick wall, not as shown on ENWL drawing
- Excavate to CP plinth, in line with 2nd tree, currently the middle of Bay 3. Photo shown is a mock up. ~8.5m
- Plinth with post with 2 x sockets
- 2 x 22kW 3ph sockets
- Allow for subsequent expansion / addition of more sockets
- EV bay markings and lines for hatching will be supplied as heat transfers but will need applying

This is the site and mock-up:



5.3 Other surrounding areas

5.3.1 Horse & Farrier, Threlkeld – installation underway

Two 22kWh chargers are being installed on the pub car park and a new connection has been ordered from Electricity NW (install cost £10K plus £2,500 connection fee).

5.3.2 Eaglesfield Village Hall - installation planned

The site has a single-phase supply, and long run (at least 25m) to the parking bay(s). Clare Welford, contact at the site, has offered to arrange a local groundworker for a 7kW charge point (install cost £3K). Most housing locally has driveways, but the hall sees good usage and CMS has procured a contractor to carry out the installation.

6 Other potential sites for EV chargers

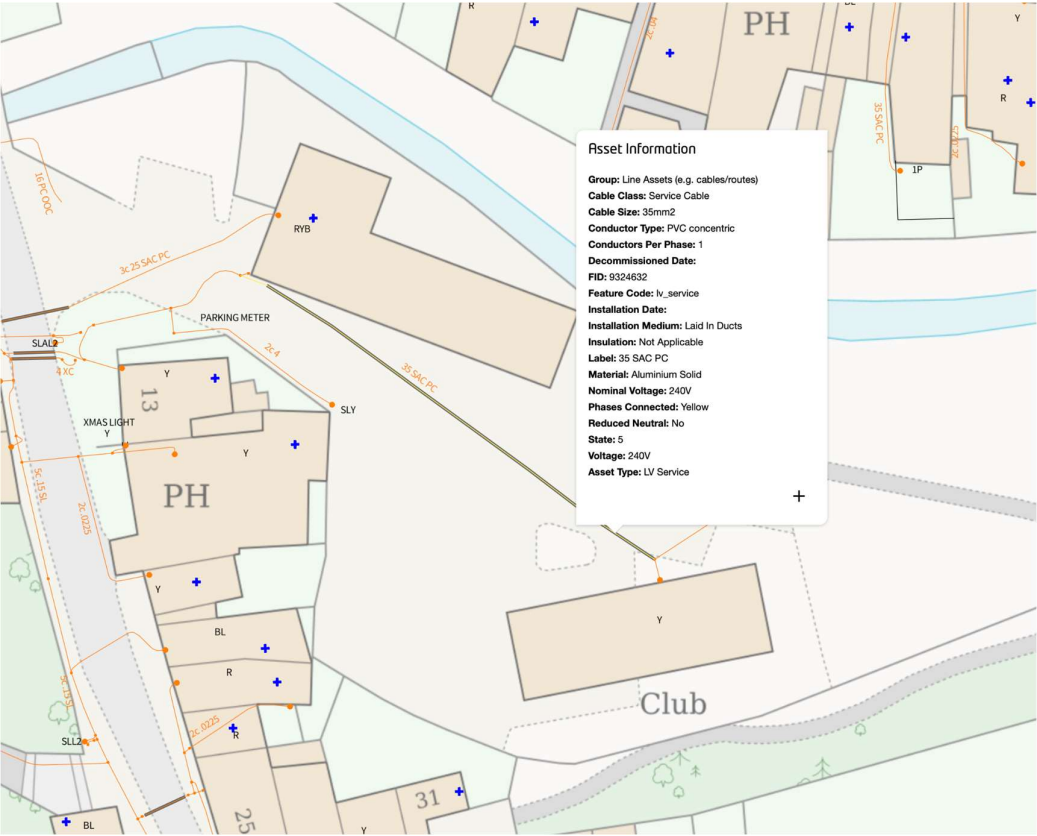
6.1 Cockermouth

The centre of Cockermouth is a very specific challenge in finding sites for EV charging, let alone sites also with the potential for renewables. A quick walk around shows that there is almost no private off-street parking, and any that is there is very precious to the businesses that own it. It would be impossible to come up with even a limited strategy for the town centre without having Allerdale BC (or its subsequent entity) as a full partner - in a similar way to CMS site in Wakefield Road Car Park to the north of the river.

In terms of EV charging provision for residents, the key is that council car park parking limitations do not apply to resident badge holders - visitors pay and there are different time limits depending on the car park. Therefore a series of 7kW heads located in the various car parks around the centre would be the way forward, especially considering the predictably difficult nature of new grid connections.

6.1.1 All Saints Car Park - good

A good location, although the council were unwilling to consider this recently. Difficult to find a Point of Connection, only single phase available and may be limited.



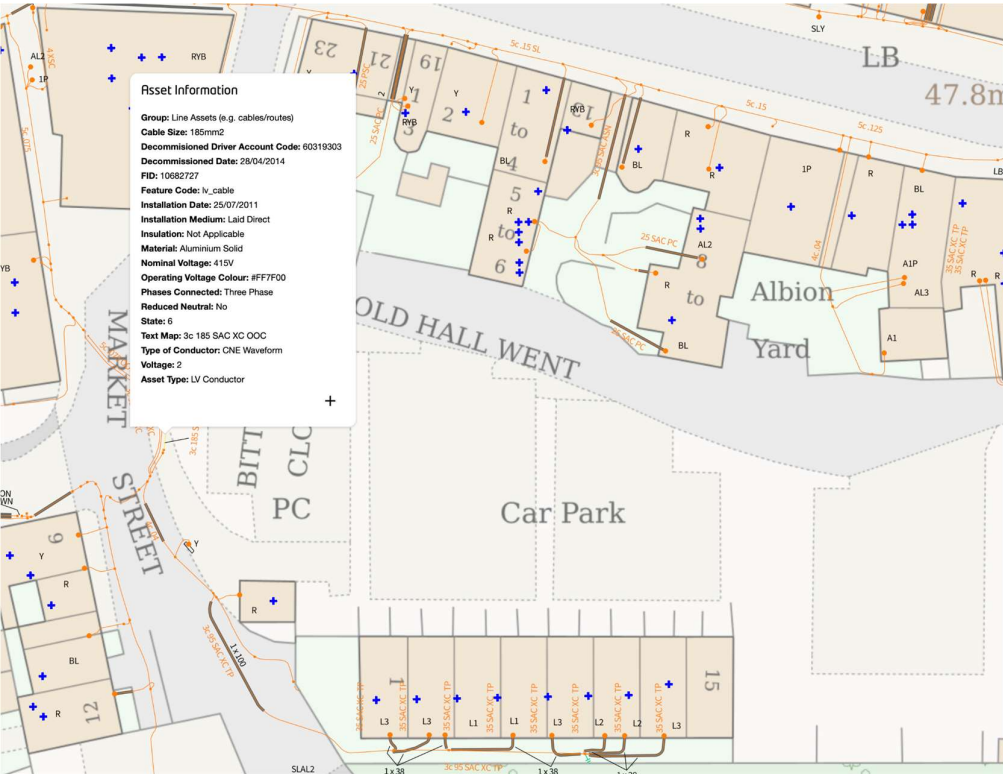






6.1.2 Bitterbeck Car Park - good

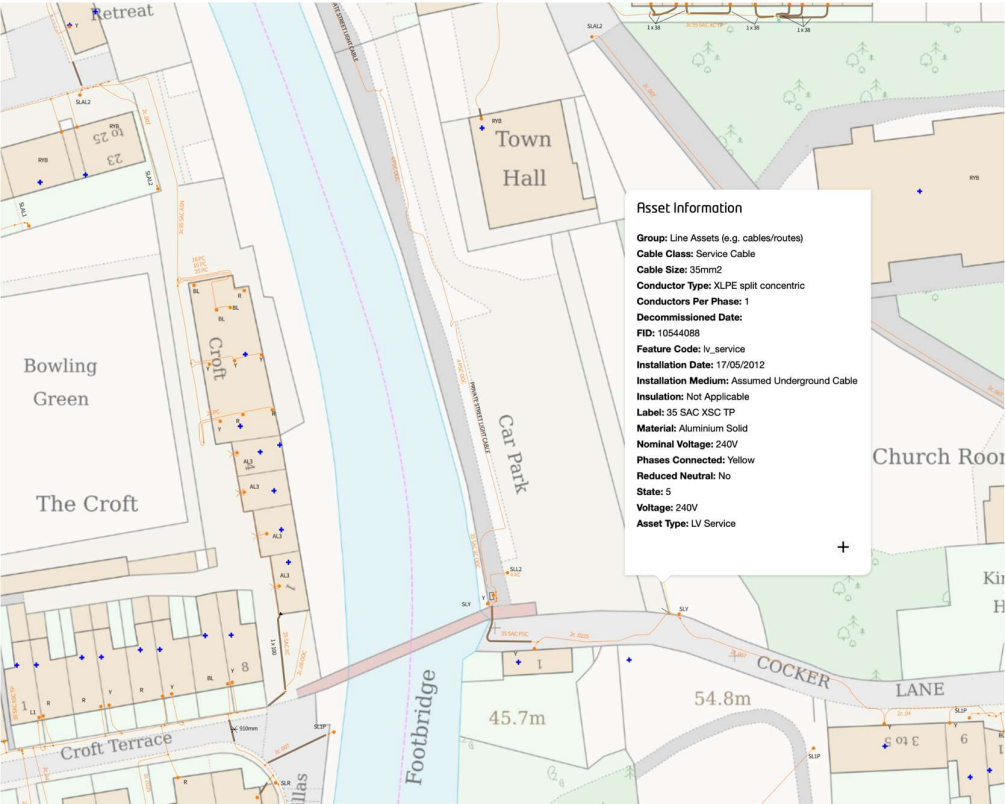
This appears a better bet and there are suitable cables on the west side in Market St. Again these would be supplying numerous businesses so network study / reinforcement required.





6.1.3 Riverside Car Park - good

Also an attractive option, but limited power in the SE corner.





6.2 Other surrounding areas

These sites have come forward following publicity about the project:

6.2.1 Braithwaite Village Hall - good

CMS visited in June 2022. There are some inherent problems with the site, not least with the building tripping if all the hobs are on. The sockets could go on building but will need a couple of wheelie bins moving. More investigations with electrical contractors and ENWL are underway.

6.2.2 Greysouthen Village Hall - good

There are no off-road parking spots but the area immediately by the village hall door has recently been discussed as a possible space for reserved parking only for a car club vehicle. It is used by the fish and chip van once a fortnight but beyond that would be a logical place for a charging post. Also, the side of the village hall would be a logical place for charging. Both these locations present planning issues due to their proximity to the highway. It has been suggested that Greysouthen deal with the local planning and then the site can be installed.

7 Previously Investigated Sites

This section looks at sites which have been suggested previously but been discounted / hibernated after investigation for technical or commercial reasons.

7.1 Keswick

Keswick town centre poses similar problems, but in this case the car parks are predominantly privately owned. The three just to the south of the river look the best bet for EV chargers, and with the large buildings nearby, the possibility of integration with solar PV. Again there is no standout candidate.

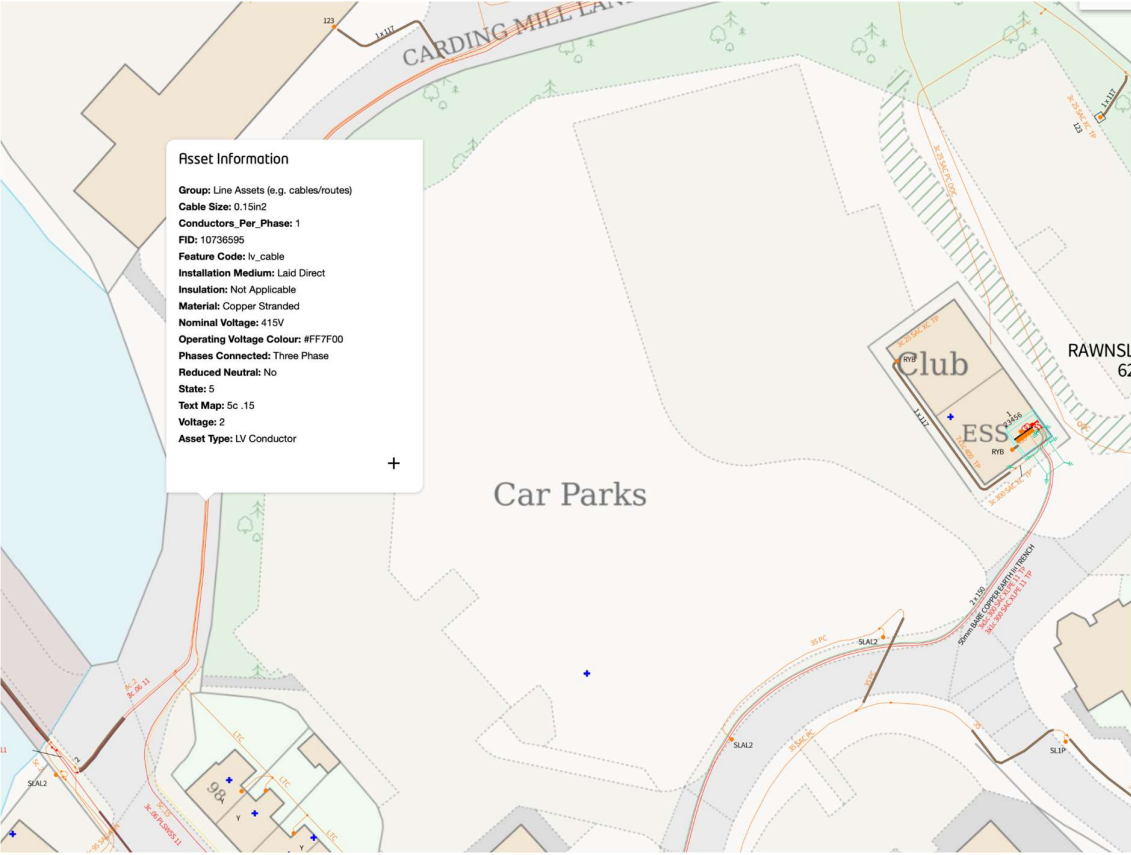
7.1.1 Pencil Museum Car Park - on hold

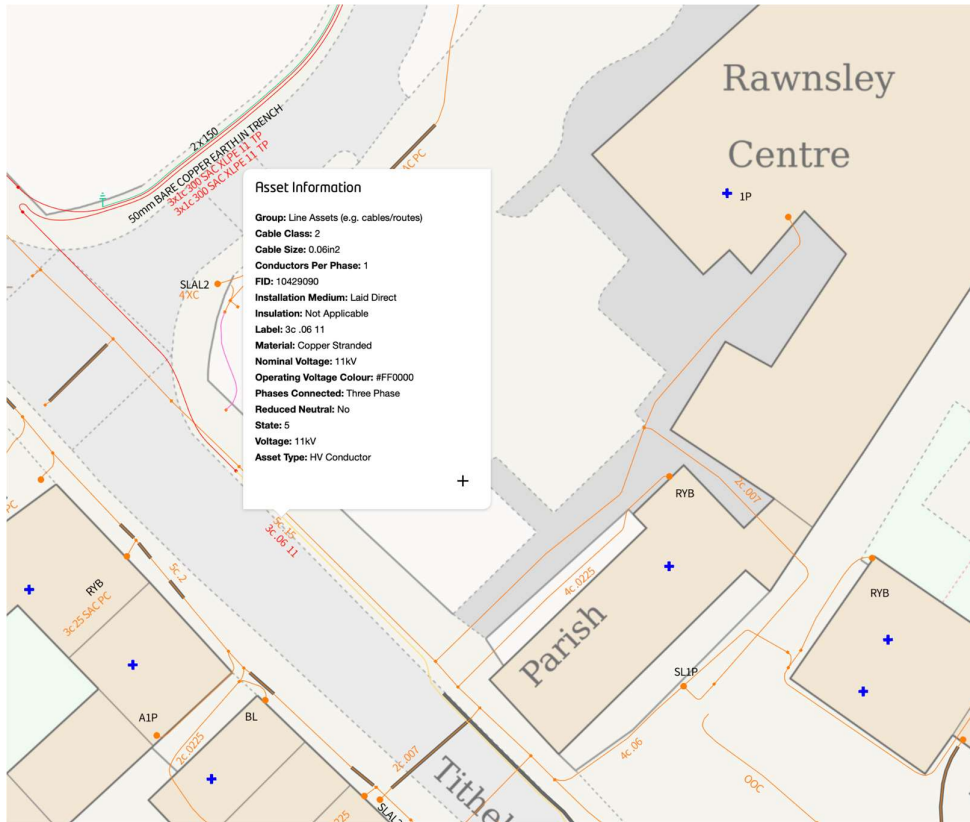
Ideal, primarily due to its size and also the Premier Inn development, but a lack of obvious Point of Connection is challenging. There is a three phase cable running to the east but this will ultimately have a heavy load on it, and would present quite a dig to the main parking area.





The two car parks to the south of this and Rawsley Centre also look possible.

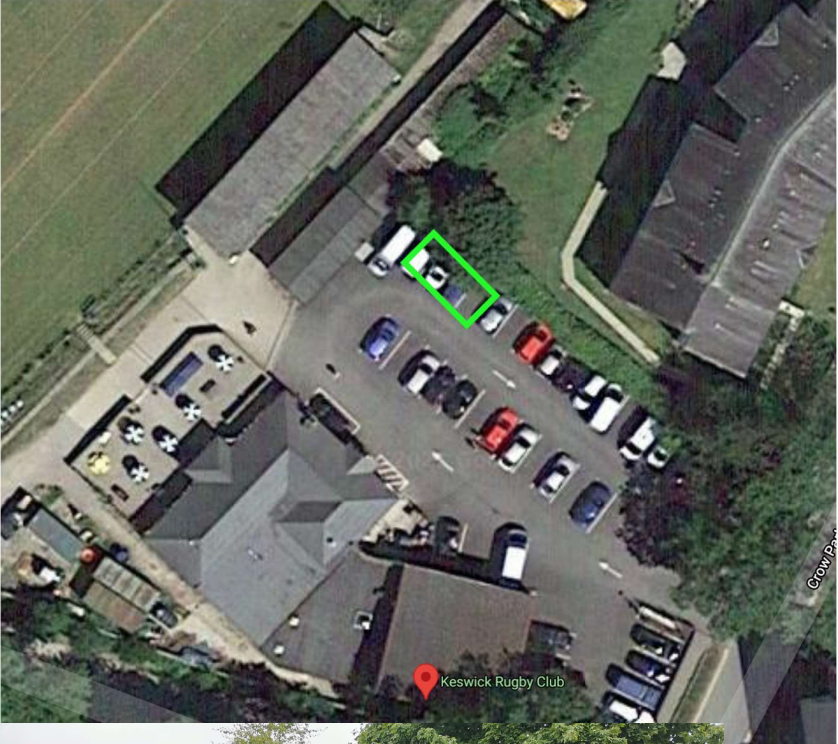


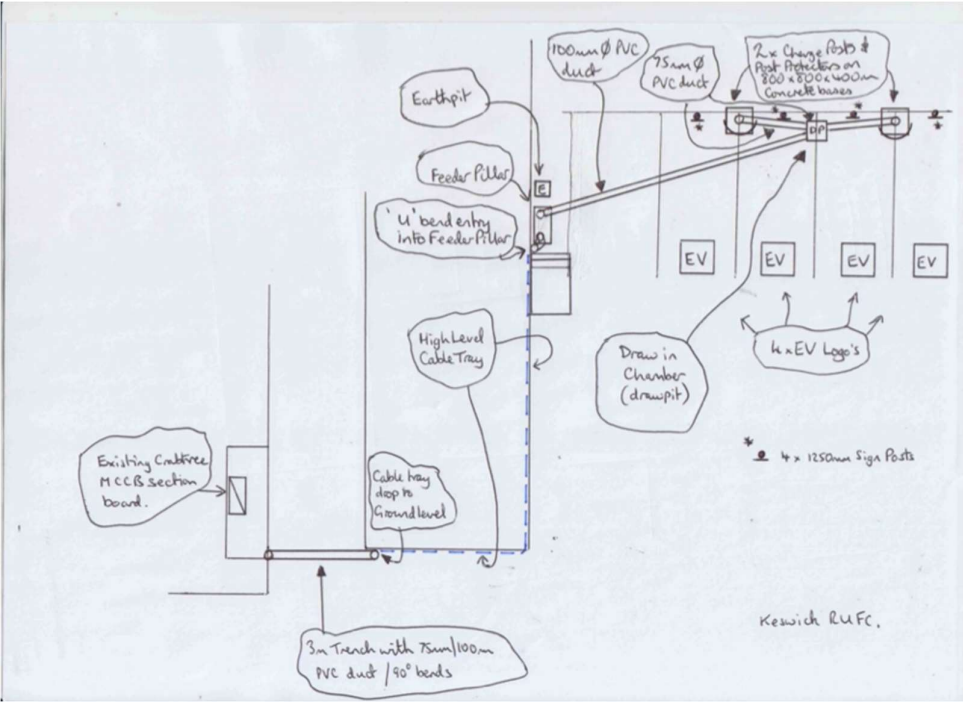


7.1.2 Keswick Rugby Club - paused

CMS looked at the rugby club in 2021 and while there were concerns over comms (as there are throughout Keswick if relying on the mobile data signal), this ticked many boxes. A suitable 3 phase supply is behind the main stand adjacent to one area of parking which is already designed to withstand flooding, and chargers could be installed at a safe height. The club committee wish to take advice from another Rugby Clubs which has recently engaged their own consultants.



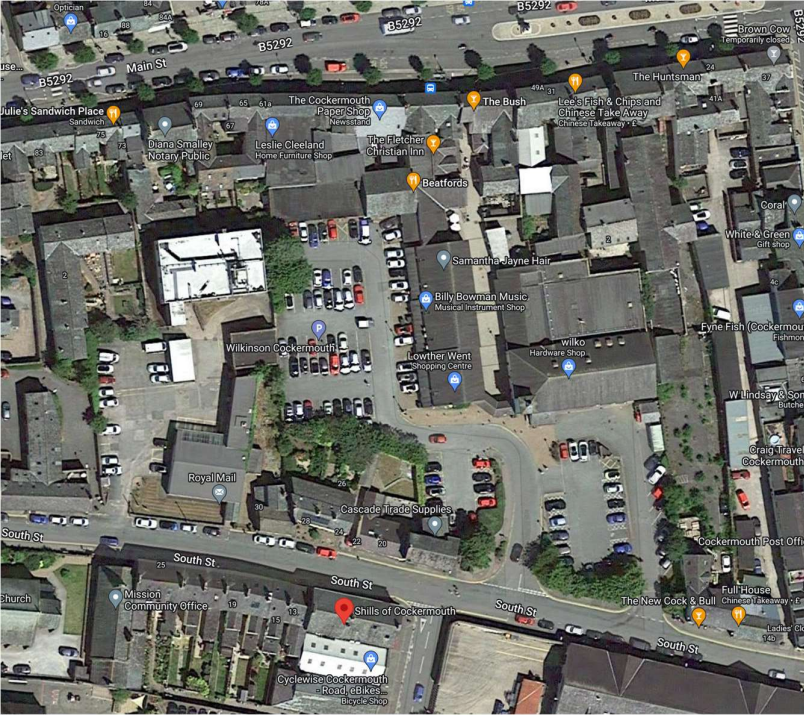




7.2 Cockermouth

7.2.1 Sainsburys - not suitable

The big Sainsbury's car park was investigated in 2021 and no suitable power was found. Wilkinson's Car Park could be worth more investigation, but it's tricky to match ENW's network plans with what is on the ground.



Also, it should be noted that the Woodville Park area has an Independent Distribution Network Operator, The Gas Transportation Corporation, with 85 customers. Many of the houses are suitably orientated for solar PV so this could be a good area for an integrated microgrid. This is beyond the scope of this project, would require significant funding and is not really a viable prospect given current regulations but could be the subject of a future project.

7.2.2 Kirkgate Centre - not suitable

Discussions with Kirkgate Centre and Allerdale proved fruitless - they were not willing to consider EV charging on the car park.

7.3 Other sites previously suggested for Charge My Street

Likes are the number of people who have clicked on "Like" on the CMS website after it has been suggested.

Place name	Status	Site owner	Likes	Comments	Fail Reason	Further Comments
Keswick Quaker Meeting House	Fail	Friends Trust Ltd, Friends House 173-7 Euston Road, London NW1 2BJ	0	Prohibitive DNO costs	Technical	Indicative costs from ENWL of ~£26k+VAT for electricity supply upgrade which is not feasible. Solar & battery storage could mitigate costs.
Oakhurst Service Station Lamplugh Rd, Cockermouth	Site Hibernated		4		Commercial	All housing nearby has off-street parking so little use for local residents, however there is a Travelodge and businesses nearby for daytime charging.
Lidl car park	Fail		0		Commercial	Lidl have existing arrangements with PodPoint.