Report to: **Environment Committee, 1st November 2022**

Report of: **Deputy Director – Corporate Policy and Strategy**

Subject: **FURTHER INVESTMENT IN ELECTRIC VEHICLE CHARGE POINTS**

1. Recommendation

1.1 That the Committee approves the core proposal to install electric vehicle charge points as outlined in this report and agrees to receive further reports of the detailed business case.

1.2 That the Committee delegates authority to agree an extension of these works to the Corporate Director – Resources, in consultation with the Chair and Vice chair of this Committee.

1.3 That the Committee authorises Officers to submit a bid for additional external funding as outlined in this report.

2. Background

2.1 The City Council's Policy and Resources Committee agreed on 8 February 2022 to make an allowance within the capital programme of £200K to install more EV charge points in the Council's car parks. This was agreed by Council and included in the capital programme, subject to a detailed report setting out the proposed business case.

2.2 This investment builds upon the provision of nine new EV charge points at St. Martin's Gate car park. This brought the total provision at SMG up to six 50kw rapid and six 22kw fast charging points. These are powered by national grid electricity from green renewable sources and are supplemented by electricity generated by Solar Photovoltaics on the roof of the car park.

2.3 A feasibility study examining the potential to install additional Solar PV at SMG is being progressed following approval by this committee in July 2022.

2.4 Since the new charge points went live in October 2021, there have been over 1,000 individual charging sessions at the site, collectively powering EV vehicles to drive over 73,000 miles. Petrol or diesel cars would have released over 14 tCO2 for an equivalent distance.

2.5 The Government has banned the sale of new petrol and diesel cars from 2030. Providing more EV charge points in Worcester is a key element of the Council's Environmental Sustainability Strategy and a specific action within the sustainability Action Plan.

2.6 There is currently a government grant programme that will provide match funding for charging in areas where residents do not have their own off-street parking. Subject to a successful bid, the On-Street Residential Chargepoint Scheme (ORCS) can provide up to 60% of the total capital cost for on-street provision which includes chargers in Council-run car parks.

2.7 It is recognised that a strategic approach needs to be taken to the long-term installation of EV infrastructure in Worcester. Officers are currently developing an EV charging strategy for the city. This will use the latest available data to identify the present and future uptake of EVs for people who live in, work and visit the city and to pinpoint where there is likely to be the greatest need for future investment in infrastructure.

2.8 The strategy will set out the role the City Council can play, in partnership with others, in the expansion of a public EV charging network. Given the current rate of growth in EV ownership, and the planned ban on the sale of new petrol and diesel cars from 2030 (with hybrids banned from 2035), it is considered that investment of the scale made in this report will be complimentary to any future strategy. The proposals within this report are based on initial work on an EV charging strategy, and the risk of misalignment between these proposals and a future strategy is very low.

2.9 There are two main issues to be considered when deciding upon investment in new charging points: location and technical specification.

3. Location for new EV charge points

3.1 A primary consideration for the Council is selecting locations that are not likely to be subject to flooding as this could cause irreparable damage to the charging units. This effectively rules out Pitchcroft, Croft Road, Newport Street, Tybridge Street and Cattlemarket car parks. Parts of Copenhagen Street car park are also subject to flooding.

3.2 The second consideration has been to provide charging provision for residents with no access to off-street car parking. This will open up the potential for a bid for additional funding from the Government's Off Street Residential Charging Scheme (ORCS).

3.3 The most suitable locations, excluding those subject to flooding, in addition to St Martin's Gate, are King Street (WR1 2NX) and Tallow Hill (WR5 1JT). Both are located close to residential areas with limited or no access to off-road parking, and there has been proactive demand from nearby residents to install EV infrastructure in these areas. As the car parks are accessible 24 hours a day, residents would have the option to charge overnight.

3.4 King Street is also well used throughout the day and by visitors to the night-time economy. Tallow Hill is popular with commuters using Shrub Hill Station and it is expected that this demand will grow with the development of the Shrub Hill Quarter.

3.5 King Street car park has 110 spaces and Tallow Hill car park has 113 spaces. Their occupancy rates are 95% and 60% respectively. Occupancy is much lower overnight. The most common ticket bought for King Street is four hours, whilst Tallow Hill has most tickets at three hours or up to twenty four hours.

3.6 St. Martin's Gate is relatively near to residential accommodation but already has provision of charge points. This can be considered for expansion at a future point.

3.7 Commandery car park could serve nearby properties although it is a smaller car park and is reasonably close to King Street.

3.8 Providence Street could be considered suitable but is very close to existing provision at St Martin's Gate. Clare Street is less suitable as it is a small car park relatively remote from residential properties. Copenhagen Street is a well used car park,

3.9 As mentioned above, St Martin's Gate has twelve EV charge points which are already available. There is strong potential, at a future date, to install more charge points at this location as demand increases. However it is considered appropriate to prioritise additional locations to increase customer choice and serve a wider residential catchment area.

3.10 It should be noted that EV charging bays are larger than conventional parking bays. This needs to be considered when deciding the location and overall number of charge points to install within each car park.

4. Type, volume and cost of EV chargers proposed

4.1 There are three main types of chargers on the market, differentiated by the rate of charge.

4.2 The most common type is 7kW which will fully charge most vehicles in around 6-7 hours depending on capacity. Average vehicle battery capacity is around 40kWh (6 hours full charge), although some vehicles will store up to 100kWh (14 hours full charge).

4.3 The next step up is to a 22kW charge point which will "fill" an average 40kWh vehicle in under two hours and would take 4.5hrs for a 100kW battery.

4.4 The next level is rapid 50kW chargers and then up to ultra-rapid, at 150kW or even 175kW. There are a number of ultra-rapid chargers, usually found in locations such as motorway service stations where customers will pay a premium to charge over a short stay. Rapid and Ultra Rapid chargers have an estimated cost in the order of tens of thousands of pounds each.

4.5 In addition to the cost of procurement and installation each charge point, there are also associated Western Power infrastructure costs. These will ensure that sufficient power can be drawn from the local network to serve the proposed chargers and, subject to cost effectiveness, an element of future proofing for additional chargers

4.6 It is important to note that there are a number of emerging charging behaviours, which were discussed at the recent Environmental Sustainability Summit held at the Guildhall. Those making very long-distance journeys will charge along the route and will want a very fast charge. Longer distance commuters will charge fully overnight where available. Other users may adopt more of a top up strategy, taking advantage of the availability of chargers at locations they are visiting.

4.7 Whilst on the one hand the requirement to charge an EV may be seen as a delay or unproductive time, on the other hand if charging is part of a planned visit then the time driving to a conventional filling station and the act of filling up with petrol or diesel is no longer required.

4.8 Faster charging is not always the most desirable option for customers who may not want to return to their vehicle within a few hours, or who are topping up rather than filling up.

4.9 It is recommended that a mix of 7kW and 22kW chargers are installed, allowing nearby residents to slow-charge overnight but also providing a faster charging option for shoppers and visitors.

4.10 Initial enquiries indicate that ORCS funding may be limited to 7kW chargers although this has not been confirmed and 22kW chargers will be included in the bid if eligibility is confirmed.

5. Proposal

5.1 Utilising the Council's £200k allocation the following works are recommended.

Core proposal

5.1 It is proposed that up to ten twin EV units are installed at Tallow Hill car park, giving the capacity for up to twenty cars to charge simultaneously.

5.2 At King Street, a smaller car park, the proposal is for up to six twin units to be installed, giving capacity for up to twelve cars to charge simultaneously.

5.3 Subject to procurement, it is estimated that the total cost for the chargers proposed above, including installation and essential work from Western Power Distribution, would be up to £150,000. This would be met from the £200,000 budget which has already been allocated.

5.4 Due to the procurement risk of cost inflation the core proposal is less than the total budget that has been allocated for expansion of the Council's EV charger provision.

Extended proposal

5.5 Subject to availability of budget following confirmation of the costs of the core proposal, extended provision will include additional chargers in Tallow Hill, King Street and / or additional suitable car parks as described earlier in this report. This will maximise the use of the budget and potential for ORCS funding.

5.6 Agreement of the detail of any extended proposal will be delegated to the Director of Resources in consultation with the Chair and Vice-chair of this Committee.

6. Potential Additional funding

6.1 Subject to member approval officers will submit a bid for ORCS funding for the works outlined above, as outlined earlier in this report.

Should this be successful, officers will review the value of the award and attached conditions and bring a report to this Committee with regard to additional works. This will also give the opportunity to consider the allocation of any unused contingency.

7. Other Options Considered

7.1 Given the large number of options for location and technical specification, there are a large number of variations and alternative options that could be considered.

7.2 The issues considered and the rationale for the recommendations within this report are covered above in sections 3 and 4 of this report.

8. Timescale for installation and next steps

8.1 If the recommendations set out in this paper are approved, a bid to the ORCS scheme will be submitted during November 2022. Subject to the outcome of the bid, a report regarding the use of additional grant funding and

8.2 Following procurement, the target installation period for King Street and Tallow Hill car parks would be during Summer 2023.

8.3 The pricing strategy will be developed during the procurement stage and will be subject to Member decision.

9. Implications

9.1 Financial and Budgetary Implications
An allocation of £200k is included in the capital programme for additional EV chargers.

The costs of the core proposal is £150k, with potential to spend up to £200k subject to agreement of additional works following establishment of detailed costing. Additional funding may arise subject to a bid to the ORCS fund as outlined within this report.

The pricing strategy for the proposed chargers will be developed prior to installation and be subject to Member decision as part of the detailed business case. However, if full funding for the £200k is by borrowing then the income to be derived from the chargers will need to cover both the running costs and capital borrowing. The estimated annual revenue cost of borrowing £200k at PWLB rates is approx. £25k p.a.

9.2 Legal and Governance Implications
The Council's standard procedures will be followed for procurement of the proposed works.

9.3 Risk Implications
There is a financial risk of cost inflation during procurement, and the budget being insufficient for the proposed works. This is mitigated by a core and extended proposal.

There is a risk of technology procured not matching market requirements or becoming obsolete. This is mitigated by the Council's experience of installing and operating chargers at SMG, and consultation with partners. The relatively small scale investment also mitigates this risk.

9.4 Corporate/Policy Implications

The proposals within this report align with the Environmental Sustainability Strategy. An EV strategy is being developed. The proposals within this report are based on initial research and will align with the emerging EV strategy.

9.5 Equality Implications

Parking bays for EV are wider than standard parking spaces as the infrastructure require additional space. They are therefore more accessible than standard spaces.

9.6 Human Resources Implications

No significant implications arise from the content of this report.

9.7 Health and Safety Implications

No significant implications arise from the content of this report.

9.8 Social, Environmental and Economic Implications

The proposals within this report will make EV charging more accessible to those without off street parking, which tend to be lower income households than those in larger properties with off street parking.

Supporting a move to more EVs will have a direct impact on reducing carbon and particulate emissions and improving air quality.

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Background Papers: **None**