

Report to: **Executive**

Date: **22 April 2021**

Title: **Electric Vehicle Charging and Renewable Energy Strategy**

Portfolio Area: **Climate Change and Biodiversity – Cllr Pearce**

Wards Affected: **All**

Urgent Decision: **N** Approval and **Y** clearance obtained:

Date next steps can be taken: Any recommendations will be considered at the Annual Council meeting to be held on 20 May 2021.

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**RECOMMENDATION:**

**That the Executive be RECOMMENDED to:**

- 1) note the progress of the EV Charging Strategy to date**
- 2) RECOMMEND to Council to approve capital expenditure of up to £170,000 from the Capital Programme Contingency Reserve as set out in the Finance Section at the end of this Report as follows:**
  - a. £80,000 for the upgrade of the network and rapid charger install at Totnes Depot and**
  - b. £90,000 for the network upgrade and limited initial phase of additional rapid chargers at Follaton House, to facilitate the conversion of the light commercial vehicle fleet to EV.**
- 3) RECOMMEND to Council to approve the spend of up to £15,000, funded from the Climate Change Earmarked Reserve to fund an externally commissioned report to investigate and scope opportunities primarily for EV Charging Points within the Councils property portfolio, namely car parks, depots and offices. Additionally, explore opportunities for solar and battery storage across the estate.**

#### **4) Note the contribution of these schemes towards the Council's Climate Change and Biodiversity adopted aims.**

### **1.0 Executive summary**

- 1.1 The Council is committed to de-carbonisation through the adoption of a Climate Change and Biodiversity Strategy and Action Plan.
- 1.2 As part of the Action plan the Council will be transitioning its fleet of vehicles over to EV (Electric Vehicles) and as a result needs to invest in charging infrastructure to support that transition at Follaton House and Totnes Depot.
- 1.3 More widely the Council needs to do the same for the public charging network to assist residents, businesses and visitors make the same transition. This work is ongoing and this report updates members on it and sets out the scope of a commission to inform that strategy into the future. In so doing, it will also consider complimentary solar renewable technology and battery storage opportunities.

### **2.0 Background**

- 2.1 Nationally, the demand for EV charging points is increasing. Various reports identify to achieve the desired migration of all new vehicles to electric by 2030 will require a significant step change in the rollout of publicly available charging points.
- 2.2 The national trend for EV vehicles is accelerating at 20% growth per annum, there are approximately 383,000 electric vehicles in the UK today, with an anticipated growth to between 2.7 and 10.6 million by 2030. This could rise as high as 36 million by 2040.
- 2.3 Nationally, there is currently 32 public charging points per 100,000 cars. This is insufficient if the growth anticipated in the uptake of electric vehicles continues and will not support the UK Governments pledge.
- 2.4 Within the district, there are circa 30 public EV charging points located in garages, supermarkets and car parks.
- 2.5 SHDC has one public EV point at Glanvilles Mill car park in Ivybridge, installed further to an arrangement with Highways England on a 7 year lease agreement with Swarco.
- 2.6 The requirement in the UK is for 400,000 charging points by 2030 up from the current 35,000. This is an 11.5 fold increase. If the same rate of expansion were adopted for SHDC, a further 345 plus charging points would be required in public locations.

2.7 The opportunity for SHDC is to maximise the provision of charging points within the footprint of its estate, engage with private operators and providers to exploit the growing demand and market, to create the catalyst for social change by providing charging points. This must be done in response to an evidence of need, to ensure maximum impact and support to those who need them; residents with no off road parking, day trippers and tourists more generally.

2.8 Devon County Council’s report commissioned as part of the Deletti Programme identified:

- 35% non EV owner respondents are planning to buy an EV in the foreseeable future
- 22% plan to buy an EV within the next three years
- Lack of charging facilities is one of the biggest barriers to EV uptake.
- Lack of EV uptake is a barrier to commercial roll out of charge points.
- Public sector action is therefore needed to kick start the market.

2.9 Within the SHDC geographic there are 30 existing EV charging points.

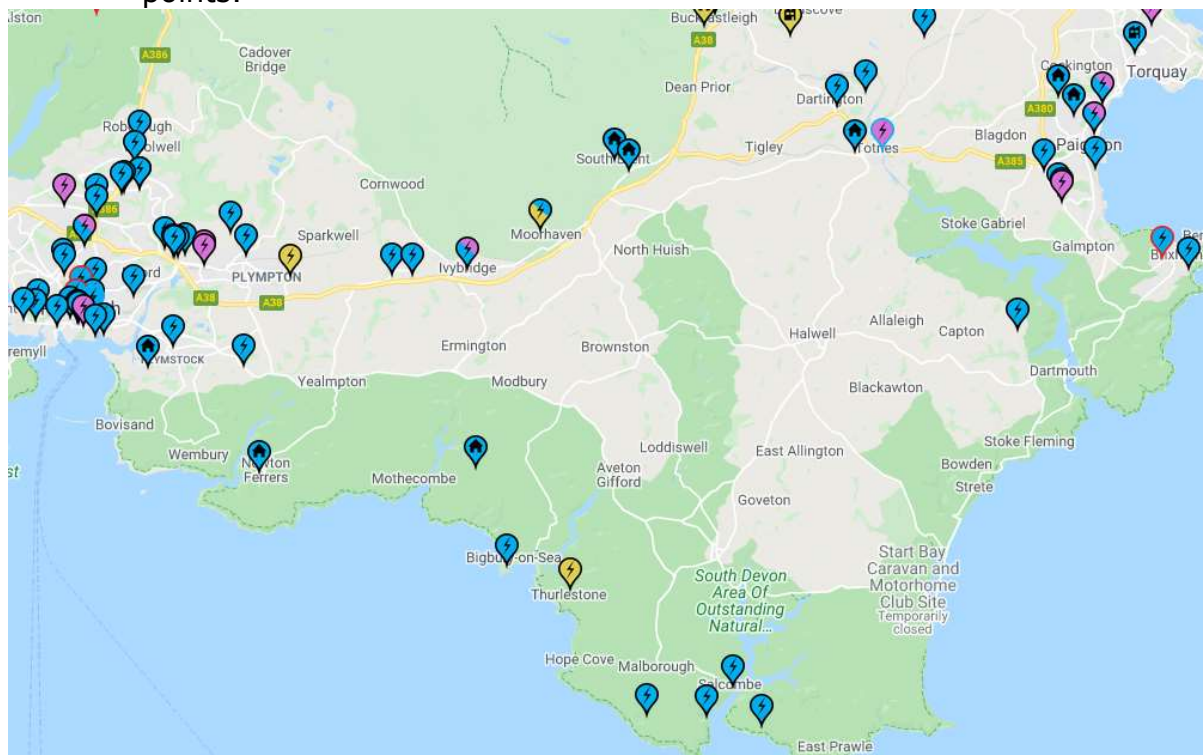


Figure 1 – ZAP MAP charger locations – Note, Follaton House is not shown as it is not a public charge point

2.10 Based purely on national multipliers, the anticipated growth would suggest 300+ charging points are required to satisfy the future demand. It is important that SHDC ensure a robust strategy

around the future role out of EV charging points to ensure that they are located where they will be needed.

- 2.11 It is clear from Figure 1 that the A38 corridor is better served than some of the coastal and rural areas. Many of these locations are tourist destinations, an industry worth £260m per annum to the local economy, and therefore will need to increase EV role out to meet tourist expectations and habits.

### 3.0 Current Position

- 3.1 **Existing SHDC EV points.** To date the following EV points are operable across the SHDC estate (car parks, commercial, depots, offices and fleet operational centres)

Location	No. of Bays	Type	Provided By
Follaton House	2	7kw post mounted dual unit	POD Point
Glanvilles Mill car park	2	50kw rapid charger	Highways England (7 year lease agreement)

- 3.2 Capacity upgrades are being examined at Follaton House with a view to increasing the number of EV points. This work is part of the evolving fleet programme and transition to EV of Council light commercial vehicles, see section 5.0 below for more details.

#### 3.3 Deletti Programme

- 3.4 The Deletti program is a collaboration agreement between Devon County Council (DCC), East Devon, North Devon, South Somerset, Teignbridge, South Hams District Council and West Devon Borough Council to provide EV charging points within the car parks in those geographical areas. It is well understood by members, and there is a shared view amongst officers and members that the timeframes are long. Officers are working to accelerate the role out to address this, within the parameters of the joint procurement.

- 3.5 The programme is DCC led. DCC have secured funding from the Regional Development Fund on a match fund basis (£500k). As part of the programme, SHDC have a match funding liability to the sum of £20k. It is a nonexclusive contract to allow for future electric charging projects if additional funds become available.

- 3.6 The program's intent is to secure a Private Sector Partner (PSP) to design, build, operate and maintain charge points through a concession arrangement. The tender for the PSP is weighted

higher to those who are able to provide the most sites for the money available. The PSP will be provided with a contribution towards the costs and will be granted a 10 year lease for the EV locations. The PSP must agree to the terms of the lease and ownership requirements within the concession agreement, They the PSP, become liable for the concession period for the maintenance and upkeep of the equipment, its operation, power provision from the local grid, bay markings, signage, and upkeep, and security of operation and the provision of supply with a minimum of a green energy target. At the end of the lease period (nominally 10 years) the ownership of the equipment, servicing, power supply and its upkeep reverts back to SHDC.

- 3.7 The program will deliver 22kW with two outlets, able to serve two parking bays simultaneously at each site. Suppliers have also been asked to consider how many additional charge points they are able to provide and to help future proof the sites and allow future expansion, suppliers should provide a passive provision of ducting at a minimum of 6 additional outlets at each site and a 69kva connection to the grid.
- 3.8 The performance specification requires the PSP to provide:
  - High levels of interoperability
  - Design equipment to comply with Disability Discrimination Act
  - Provide signage and contact number for faults
  - Ability to pay as go
- 3.9 As part of the tender analysis and tender negotiation / agreement the profit sharing mechanism, payment cycle, contribution from each party has to be established and confirmed.
- 3.10 The tenders have closed, and the successful bidder was Scottish Power. Therefore, from mid April it is anticipated, service delivery timeframes, SHDC contribution, and profit share should be established or at least emerging from the negotiations. The sequence of installation roll out will have to be agreed to with the Deletti members and confirmed with the supplier on their programme of installation whilst also working with Western Power Distribution.
- 3.11 The phase one sites are:
  - Heaths Nursery car park, Totnes
  - Quay car park, Kingsbridge
  - Mayors Avenue car park, Dartmouth
  - Creek car park, Salcombe
  - Park & Ride, Dartmouth
- 3.12 The phase two sites are:
  - Fore Street car park, Kingsbridge

- Victoria Street car park, Totnes
- Pavilions car park, Totnes
- Poundwell Meadow car park, Modbury

### 3.13 **On-Street Residential Charge-point Scheme (ORCS)**

3.14 SHDC have been invited by DCC to be part of an application for ORCS funding. DCC will also try to encourage Parish Councils to take up the opportunity of this funding and are prepared to submit bids on their behalf.

3.15 ORCS allows LAs to receive a grant for 75% of the capital costs relating to the procurement and installation of EV points in residential areas. Although targeted at on street parking, it can be used in car parks where you can demonstrate it can be used by local residents who don't have the ability to charge off street.

3.16 The criteria is charging points must be:

- accessible 24/7,
- local residents must be able to use the car parks free overnight,
- each charge point must have a dedicated bay and
- SHDC must commit to keeping usage under review and consider restricting to local residents only (although this clause is not always possible achieve).

3.17 The remaining 25% of the funding can be claimed on completion of the project. All costs associated with the installation must be evidenced. This will follow the same format as Deletti as in 10 year lease and concession agreement. To date funding for the following car parks is being considered and formal reports through Council will be raised:

- North Street, Totnes
- Steamer Quay, Totnes
- Lower Union Road, Kingsbridge
- Shadycombe, Salcombe
- Whitestrand, Salcombe
- Harford Road, Ivybridge
- Duncombe Park, Kingsbridge

### 3.18 **Parking Charges**

3.19 The parking charges position adopted by this council through the Deletti and other EV programmes, is one that EV drivers will have to pay to park in charging bays, the same as every other driver has to pay for a normal bay.

3.20 This approach should minimise any impact on car parking revenue, which is required to maintain and operate them.

## 4.0 Opportunity Analysis

4.1 Though there are ongoing initiatives which will see EV Charging points increase in time across the SHDC estate, there may be further opportunities to explore.

4.2 By supporting the migration to electric vehicles, the Council may be able to create a long-term revenue stream from the fees chargeable from the EV points, to utilise under used space within our car parks, commercial property, depots and offices which may currently incur maintenance cost for little revenue.

### 4.3 Considerations

4.4 The infrastructure and systems requirements will take time to define, design and implement. The necessity is to start the feasibility studies so that the implementation phase is in place as demand increases. There are various actions to take or considerations going forward as follows:

- Fulfilling and expanding the Deletti program
- Securing funding for the ORCS program
- Extending the number of EV points in car parks either by direct investment or through other funded programmes
- Extending applications through ORCS program, funding dependant
- Extending the commercial and office based number of EV points
- Exploring EV charging farm opportunities in new locations

4.5 In order to fully understand the scope of opportunities the feasibility of each needs to be assessed. Factors to consider are as follows:

- Availability of space (car park space implications)
- potential number of users (based on demographic figures)
- sourcing of a power supply and / or potential locations for solar panel installation
- engagement of other parties
- potential revenue stream
- scale of SHDC contribution

4.6 Factors such as migration to electric vehicles, range anxiety, charging and vehicle ownership models are common themes to all locations.

4.7 **Possible Locations** - There are the following car parks and car park capacity in the SHDC geographical area:

CAR PARK NAME	LOCATION	TYPE OF CARPARK	TOTAL BAY No's	DISABLED BAY No's	ALLOWED VEHICLES
Old Market	Totnes	Long Stay	28	0	Cars, Motorcycles
The Nursery	Totnes	Long Stay	95	0	Cars
Heaths Nursery	Totnes	Short Stay	84	4	Cars
Heathway	Totnes	Long Stay	56	2	Cars, Motorcycles
Victoria Street	Totnes	Short Stay	114	7	Cars, Motorcycle
Civic Hall	Totnes	Short Stay	22	2	Cars, Motorcycles
Steamer Quay	Totnes	Long Stay	51	3	Cars, Coaches
Longmarsh	Totnes	Long Stay	137	6	Cars, LGV
North Street	Totnes	Long Stay	55	1	Cars, Motorcycle
Pavilions	Totnes	Long Stay	119	0	Cars
Pavilions Short Stay	Totnes	Short Stay	21	0	Cars
Slapton Memorial	Slapton	Long Stay	75	0	Cars, LGV
Torcross Layby	Slapton	Short Stay	35	2	Cars
Torcross Tank	Slapton	Long Stay	86	5	Cars, Coaches, Motorcycle
Strete Gate	Slapton	Long Stay	98	0	Cars, Motorcycle
Park & Ride	Dartmouth	Long Stay	167	7	Cars, Coaches, LGV
Mayors Avenue	Dartmouth	Long Stay	214	5	Cars, motorcycles
Leisure Centre	Dartmouth	Short Stay	35	5	Cars
Cattle Market	Kingsbridge	Long Stay	115	3	Car, Coaches, Motorcycles, LGV
Duncombe Park	Kingsbridge	Long Stay	14	1	Car
Fore Street	Kingsbridge	Long Stay	109	6	Car, Motorcycles
Lower Union Road	Kingsbridge	Long Stay	60	4	Car, Motorcycles
Quay	Kingsbridge	Long Stay	232	15	Car, Motorcycles
Creek	Salcombe	Long Stay	242	0	Cars, Coaches, Motorcycles
North Sands	Salcombe	Long Stay	83	4	Cars
Shadycombe	Salcombe	Long Stay	66	2	Cars, Motorcycles
Whitestrans	Salcombe	Short Stay	21	2	Cars, motorcycles
Leonards Road	Ivybridge	Long Stay	187	0	Cars, Motorcycles
Glanvilles Mill	Ivybridge	Short Stay	44	7	Cars, Motorcycles
Hartford Road	Ivybridge	Short Stay	26	0	Cars
Poundwell Meadow	Modbury	Long Stay	69	2	Cars
Poundwell Street	Modbury	Short Stay	15	1	Cars
<b>Totals</b>			<b>2775</b>	<b>96</b>	

4.8 Those car parks pre-selected for the Deletti program are highlighted (yellow for phase 1 and blue for phase 2).



## **5.0 Solar and Battery**

- 5.1 It is not uncommon for car park based solar arrays to be coupled to EV charging and battery storage, where demand, site constraints and grid conditions align.
- 5.2 The opportunity for this is not well understood in South Hams and a site by site appraisal of the opportunities is required to assist the Council in any future renewable investment.
- 5.3 It is clear that a site by site assessment of our car parks to inform a future report to the Executive is required. That would report would set out the opportunities, risks, business case, and climate change impact of any possible renewable opportunities.

## **6.0 Fleet Conversion**

- 6.1 Fleet conversion presents an opportunity to reduce SHDC's carbon footprint significantly. Currently the fleet is made up of 70 vehicles and plant (across both councils), all with varying degrees of use, mileage and replacement timeframes.
- 6.2 A Fleet Forward Plan is currently being updated to identify replacement schedules, opportunities to move vehicles to electric, as well as assessing overall the fleet's ability to deliver against operational requirements.
- 6.3 In the next two years there is the opportunity to migrate up to ten vehicles to electric, which will require the installation of the necessary infrastructure within our Assets. Delivery of the first phase of SHDC Fleet Charging Points could be delivered (subject to recommendation 2, in the next 6 months. These would be located in Totnes Depot, which requires both the power supply and network to be upgraded and the chargers installed. The network supply upgrade cost is ~£60k and the install of the chargers allowing for OLEV funding is estimated to be a further £20k. This would provide 30 fast (7KW) chargers.
- 6.4 There would be a need for a further round of rapid chargers being installed in Follaton House to support future fleet transition as there is not enough space to charge all the fleet at the Depot each night.
- 6.5 **SHDC Offices**
- 6.6 The initial engineering surveys and cost estimates for power upgrades at Follaton House have been concluded, though not actioned. These upgrades will result in the capacity for EV charging points to be increased to 50 rapid chargers. The power supply upgrade costs are estimated at £70k and the cost of the chargers would be in addition to that and allowance of £20k would deliver

a limited first phase roll out, aligned to the fleet transition timeline. It is anticipated that further phases would be rolled out to match EV fleet transition as EV van technology evolves.

#### **6.7 Employment Estates**

6.8 The employment estates that SHDC owns could be suitable for the installation of a number of charging points. Clearly a demand from occupiers will be forthcoming as the migration to Electric Vehicles gathers pace. In the near term the question is one of demand and capacity. To understand this it is suggested that a survey of use relative to the occupiers is undertaken. This desktop study would reveal demand side requirements. From which engineering for the supply of EV Charging Points could be determined at current supply capacity as well as the feasibility and cost of upgrade to meet anticipated future demand.

6.9 The Head of Assets intends to undertake this work over the coming year.

### **7.0 Proposed Way Forward**

7.1 In order to fully understand the opportunities available to SHDC, it is recommended consultants are appointed to investigate and scope opportunities primarily for EV Charging Points within the Councils property portfolio, namely car parks, depots and offices. Working with key officers, the commission will identify a needs based, costed EV strategy which will be brought back to members for consideration.

7.2 Additionally, it will appraise opportunities for the provision of solar and/or battery storage that could complement EV role out, or stand alone in car park locations

7.3 Officers have worked up a brief with APSE Energy (extract in Appendix A) which has been costed at up to £15k depending on the number of opportunities identified. Members are asked to consider and approve this commission to ensure the District has a needs based EV strategy to govern any future spend.

### **8.0 Risks**

8.1 There are some common risks to increasing SHDC EV Charging Points, these are:

- The migration to Electric Vehicles is much slower than anticipated, reducing the demand and potential revenue stream, though not reducing the likely infrastructure and investment cost requirements

- Range anxiety is not resolved sufficiently enough for the uptake, in large conurbations this is a lesser problem, in SHDC geographic journeys are more likely to be further, therefore range anxiety is more of a barrier. Consequently demand for EV's is reduced.
- The infrastructure costs are prohibitive, and impact the viability (investment return and PSP engagement).
- The revenue displacement for loss of paid for parking spaces is not recovered by the charges associated with EV charging points
- The maintenance and upkeep of the EV charging points is prohibitive or unforeseen
- In respect of offices and commercial space, there is minimal demand, yet the infrastructure costs are proportionally high

8.2 To mitigate these risks there is the necessity to implement a robust governance structure and gateways process around the stages of the programme. The viability of the proposal should be reviewed as part of a gateway process at the following stages, demand analysis, definition, surveys, supply market engagement, detailed design, delivery and implementation. The viability analysis should examine the potential return on investment, the market demand, the supply industry appetite for engagement and the full lifecycle costs associated.

## 9.0 Implications

Implications	Relevant to proposals Y/N	Details and proposed measures to address
Legal/Governance	N	
Financial implications to include reference to value for money	Y	<p>Recommendation 2, investing £170,000 in EV infrastructure to facilitate fleet transition would be funded as follows:</p> <p>The £170,000 is recommended to be funded from the Capital Programme Contingency Reserve, as this would be capital expenditure.</p> <p>The current balance remaining on the Capital Programme Contingency Reserve is £350,000, therefore there is sufficient funding to meet this capital bid.</p> <p>Recommendation 3, commissioning the APSE review as set out in Appendix A, for £15,000, is recommended to be funded from the Climate Change and Biodiversity Earmarked Reserve.</p>

Risk	Y	Refer to Section 7
Supporting Corporate Strategy	Y	Which corporate strategy theme is being supported and how?
Climate Change - Carbon / Biodiversity Impact	Y	This report is brought to members directly in response to the Climate Change Strategy and Action Plan underpinning it.
Comprehensive Impact Assessment Implications		
Equality and Diversity		
Safeguarding		
Community Safety, Crime and Disorder		
Health, Safety and Wellbeing		
Other implications		

### **Supporting Information**

#### **Appendices:**

Appendix A – APSE Energy Brief (Extract)

## Appendix 1 – APSE Energy Brief

### Breakdown of support

#### Part 1 – Initial investigation Task

Days

2

1. Initial meetings with key officers to confirm the full extent of progress to date on this agenda; plans in place; expected progress; current policies and; general attitude to next stages. It is difficult to get all of this detail in a brief Teams meeting, but it is essential to determining the best way forwards.

The results of this will inform the other options below and reduce some of the time need on them.

0

2. Project Management, client liaison and quality control

#### Total

2

#### Part 2 – Demand led EV Strategy focusing on charging infrastructure Task

Days

1

1. Individual meetings with officers to understand the context of the work, relevant work undertaken to date and what will need to be done under this strategy.

Debate and discussion about the Council's approach and current strategy, the way forwards and to crystallise key issues. Requests for collation of appropriate data.

1

2. Review of policy and other data and documentation.

3. Considering experience from other local authorities that have provided useful precedents for the Council such as arrangements for the provision of EV chargers, civils/engineering work, taxi licensing, buses and freight and confirm the relationships in place.

1

Approach the DNO on behalf of the Council about local capacity.

1

4. Preliminary consideration of funding options for example via OZEV and how to put together a new communications strategy

2

5. Summarising the work and advice in a report for the Council including recommendations for next steps.

1

6. Project management, client liaison and quality control.

**Total** **7**

### **Part 3 – Potential for car park charging and solar PV including battery storage**

Generating energy at car parks for charging electric vehicles is a good investment as it will reduce electricity costs, provide a supply for the vehicles which is separate from the grid and so lessens dependence upon it and it shows that the Council is setting an example for others to follow. There may be further opportunities for income generation for example by charging other public service providers to charge their electric vehicles at the depot. The addition of battery storage can provide further opportunities for the Council. **Days**

#### **Task**

1. Meeting with asset / car park and other officers / managers to discuss the car parks, which to prioritise, identification of individual sites and limitations and to request relevant information and documents. 2

Research into each car park and issues which may impact on taking forward for installation such as energy demand, grid access, plans for EVs and charging infrastructure.

Virtual site inspection. Consideration of capacity, structural and technical issues. 4

2. Production and population of a financial model identifying all of the costs and income for each car park and providing full current market data to enable a decision to be made about financial viability.

Consideration of battery storage, grid capacity and access issues.

Approach the DNO on behalf of the Council to understand local capacity and how it will impact on each site. 2

3. Production of a full report highlighting all of the matters emerging during the investigation of the potential scheme and recommending next steps. 1

4. Project management, client liaison and quality control 1

**Total** **9**