



**ENVIRONMENT, REGENERATION AND STREETSCENE SERVICES
CABINET BOARD**

**IMMEDIATELY FOLLOWING SCRUTINY COMMITTEE
TUESDAY 14 NOVEMBER 2023**

**MULTI-LOCATION MEETING – COUNCIL CHAMBER PORT TALBOT
AND MICROSOFT TEAMS**

**ALL MOBILE TELEPHONES TO BE SWITCHED TO SILENT FOR THE
DURATION OF THE MEETING**

Webcasting/Hybrid Meetings:

This meeting may be filmed for live or subsequent broadcast via the Council's Internet Site. By participating you are consenting to be filmed and the possible use of those images and sound recordings for webcasting and/or training purposes.

Part 1

1. Appointment of Chairperson
2. Chairpersons Announcement/s
3. Declarations of Interest
4. Minutes of Previous Meeting (*Pages 5 - 16*)
 - 14 September 2023
 - 6 October 2023
5. Forward Work Programme (*Pages 17 - 20*)
6. Public Question Time
Questions must be submitted in writing to Democratic Services,
democratic.services@npt.gov.uk no later than two working days

prior to the meeting. Questions must relate to items on the agenda. Questions will be dealt with in a 10 minute period.

7. Key Performance Indicators 2023/2024 - Quarter 2 (1st April 2023 - 30th September 2023) (*Pages 21 - 44*)
8. List of Approved Contractors (*Pages 45 - 58*)
9. Proposed Traffic Regulation Orders for Awel Afan Housing Development off Channel View and Princess Margaret Way, Port Talbot (*Pages 59 - 72*)
10. Quarr Road, Pontardawe (Disabled Resident Parking Places) Order 2023 (*Pages 73 - 86*)
11. Highway Asset Management Plan (*Pages 87 - 196*)
12. Street Lighting Energy (*Pages 197 - 204*)
13. Zero Emission Vehicle Infrastructure Strategy (ZEVIS) (*Pages 205 - 336*)
14. Electric Vehicle On-street Home Charging (*Pages 337 - 358*)
15. Electrical Vehicle and Charging Infrastructure Transition to Ultra Low Emissions Update (*Pages 359 - 378*)
16. Urgent Items
Any urgent items (whether public or exempt) at the discretion of the Chairperson pursuant to Regulation 5(4)(b) of Statutory Instrument 2001 No. 2290 (as amended).
17. Access to Meetings - Exclusion of the Public (*Pages 379 - 384*)
To resolve to exclude the public for the following items pursuant to Regulation 4 (3) and (5) of Statutory Instrument 2001 No. 2290 and the relevant exempt paragraphs of Part 4 of Schedule 12A to the Local Government Act 1972.

Part 2

18. Proposed New Cinema Extension and Internal Improvement Works at Pontardawe Arts Centre - Party Wall Notices (Exempt under Paragraph 14) (*Pages 385 - 396*)

19. Place Plans - The Commission of Additional Consultancy Work to The Urbanists for the further development and expansion of existing proposals (Exempt under Paragraph 14) (*Pages 397 - 416*)
20. Update on the Council's Local Authority Waste Disposal Company (Exempt under Paragraph 14) (*Pages 417 - 422*)

K.Jones
Chief Executive

Civic Centre
Port Talbot

Wednesday, 8 November 2023

Environment, Regeneration and Streetscene Services Cabinet Board
Members:

Councillors. J.Hurley, W.F.Griffiths and S.Jones

This page is intentionally left blank

EXECUTIVE DECISION RECORD

**ENVIRONMENT, REGENERATION AND STREETSCENE SERVICES
CABINET BOARD**

14 SEPTEMBER 2023

Cabinet Members:

Councillors: J.Hurley and W.F.Griffiths (Chairperson)

Officers in Attendance:

N.Pearce, S.Brennan, D.Griffiths, M.Roberts, J.Stevens, J Davies, C.Morris,
S.Cook, T.Rees and C.Plowman

Scrutiny Invitees:

Councillors: S.Pursey and T.Bowen

1. **APPOINTMENT OF CHAIRPERSON**

Agreed that Councillor W.F.Griffiths be appointed as Chairperson for the meeting.

2. **CHAIRPERSONS ANNOUNCEMENT/S**

The Chairperson welcomed everyone to the meeting.

3. **DECLARATIONS OF INTEREST**

There were no declarations of interests received.

4. **MINUTES OF PREVIOUS MEETING**

That the minutes of the meetings held on 14 July 2023 and 28 July 2023 be approved as an accurate record.

5. **FORWARD WORK PROGRAMME**

The Forward Work Programme was noted.

6. **PUBLIC QUESTION TIME**

No questions were received.

7. **AMENDMENT TO BYELAW PROHIBITING CYCLING AT NEATH MEMORIAL GATES AND ALONG THE PATH BETWEEN THE BOTTOM POND AND CIMLA CRESCENT**

Decision:

Having given due regard to the Integrated Impact Assessment:

- That approval be granted to allow officers to commence the process of amending the byelaw that presently prohibits cycling at the Neath memorial gates and within the Gnoll estate between the memorial gates and Cimla Common.

Reason for Decision

To enable the development of an active travel route between Neath and Cimla, facilitating travel for everyday journeys on foot or by bike rather than by private car.

Implementation of Decision

The decision will be implemented after the three day call in period, which ended at 9am, Monday 18 September 2023.

8. **PUBLIC SPACE PROTECTION ORDERS - ABERAVON SEAFRONT**

Decision:

Having had due regard to the first stage Integrated Impact Assessment:

- That a six week public consultation, on the proposal to make the new Public Space Protection Orders at Aberavon seafront, be carried out;
- That the proposed consultation questionnaire, included as Appendix A of the circulated report, be endorsed.

Reason for Decision:

To ensure that appropriate dog control measures continue as appropriate at Aberavon Beach and Promenade.

Implementation of Decision:

The decision will be implemented after the three day call in period, which ended at 9am, Monday 18 September 2023.

9. **REPLACEMENT LOCAL DEVELOPMENT PLAN (RLDP) - REVISED DELIVERY AGREEMENT (DA)**

Decision:

Having had due regard to the Integrated Impact Assessment, the following be resolved to commend to Council for approval:

- That the RLDP Delivery Agreement, as presented in Appendix 2 of the circulated report, be agreed for the basis of consultation and subsequent submission to Welsh Government for approval
- That decision making on responses to any representations received following consultation be delegated to the Head of Planning and Public Protection in consultation with the Cabinet Member for Strategic Planning, Transport and Connectivity; and that any substantive changes deemed necessary to the Delivery Agreement, be reported to Council for approval.

Reason for Decision:

The recommendations were required to ensure compliance with Section 63 of the Planning and Compulsory Purchase Act 2004; The Town and Country Planning (Local Development Plan) (Wales) (Amendment) Regulations 2015; the Well-being of Future Generations (Wales) Act (2015); the Equality Act (2010); the Welsh Language Standards (No.1) Regulations 2015; Planning Policy Wales 11 (2021) and the Development Plans Manual Edition 3 (2020).

Implementation of Decision:

The decision will be implemented after the three day call in period, which ended at 9am, Monday 18 September 2023.

10. **PARKING REVIEW 2023**

Decision:

Having had due regard to the Integrated Impact Assessment:

- That the following options contained within the circulated report (14 September 2023), be approved: Option 1, Option 1B, Option 3, Option 4, Option 5, Option 6 and Option 7.
- In addition, that the recommendations received at the Special Environment, Regeneration and Streetscene Services Scrutiny Committee held on 28 July 2023 be approved as follows:
 1. That when the legal orders are advertised, to change the off-street car parking order and on-street traffic orders, residents and businesses will have the opportunity to raise any objections which will be brought back to a future meeting for Members consideration before any changes are implemented.
 2. That subject to available funding, a feasibility study would be considered to be undertaken to review the operational hours of the Neath pedestrianised zone, which will be considered against all other priorities within the Highways Capital Programme; or as suggested by Members, any other regeneration grants that become available which would be subject to a future report to Members.
 3. That a review be undertaken in October 2024, six months after all recommendations have been fully implemented during April 2024, to allow time for measureable data to be obtained over the summer period.
 4. That a Visitors Parking Permit, that would cover all car parks and attractions in the county (to include country parks), be explored further in conjunction with the country parks management.

Reason for Decision:

The new fees and charges sought to address the outstanding maintenance issues in the authorities' car parks and reducing the in-year budget pressures within parking services. Also, ensuring Neath Port Talbot car parks remained operational allowing the local environment and amenities to be enjoyed by future generations.

Implementation of Decision:

The decision will be implemented after the three day call in period, which ended at 9am, Monday 18 September 2023.

11. **URGENT ITEMS**

Because of the need to deal now with the matter contained in Minute No 14, the Chairperson agreed these could be raised at today's meeting as urgent items pursuant to Section 100B (4) (b) of the Local Government Act 1972.

Reason:

Due to the time element.

12. **ACCESS TO MEETINGS - EXCLUSION OF THE PUBLIC**

Decision:

That the public be excluded from the meeting during consideration of the following item of business on the grounds that it involved the likely disclosure of exempt information as set out in Paragraph 14 of Schedule 12A of the Local Government Act 1972 as amended by the Local Government (Access to Information) (Variation) (Wales) Order 2007 subject to the Public Interest Test (where appropriate) being applied.

13. **TRANSFER STATION ELECTRICITY CONTRACT (EXEMPT UNDER PARAGRAPH 14)**

Decision:

- That the Contract Procedure Rules be excluded in accordance with rule 5; and the direct award of a one year contract to the company named in the private circulated report, for the supply of energy to the Transfer Station, be endorsed;
- That delegated authority be granted to the Head of Streetcare, in consultation with the Head of Legal and Democratic Services, to make the necessary contract arrangement;
- That when the relocation of the Waste Collection Service to the Transfer Station is completed, the electricity requirements at the site be reviewed and a longer term arrangement be put in hand.

Reason for Decision:

To secure a value energy supply for the transfer Station.

Implementation of Decision:

The decision will be implemented after the three day call in period, which ended at 9am, Monday 18 September 2023.

14. **PROPOSED COMPULSORY PURCHASE ORDER – LAND AND BUILDINGS AT PONTNEDDFECHAN – NOTICES TO UNDERTAKE SURVEYS**

Decision:

Having had due regard to the Integrated Impact Assessment:

- That delegated authority be granted to the Head of Property and Regeneration to serve any requisite notices under Section 172 of the Housing and Planning Act 2016 to undertake surveys of the land and buildings at Pontneddfechan.
- That the Head of Property and Regeneration be authorised to amend the scheme of delegations to include the service of notices pursuant to the Housing and Planning Act 2016, and that the Head of Legal and Democratic Services be authorised to update the Constitution of Neath Port Talbot County Council to record this.

Reason for Decision:

To enable the Council to deliver the Pontneddfechan Levelling Up Fund (LUF) project and to ensure appropriate authority was in place for any future notices that may be required.

Implementation of Decision:

This decision was for immediate implementation, and therefore not subject to the three day call in period.

CHAIRPERSON

EXECUTIVE DECISION RECORD

**ENVIRONMENT, REGENERATION AND STREETSCENE SERVICES
CABINET BOARD**

6 OCTOBER 2023

Cabinet Members:

Councillors: S.Jones and J.Hurley

Officers in Attendance:

S.Brennan, D.Griffiths, M.Roberts, C.Morris, N.Jones, T.Rees and R.Turner

Scrutiny Invitees

S.Purseley and R. Wood

1. **APPOINTMENT OF CHAIRPERSON**

Agreed that Councillor S.Jones be appointed as Chairperson for the meeting.

2. **CHAIRPERSONS ANNOUNCEMENT/S**

There were none.

3. **DECLARATIONS OF INTEREST**

There were none.

4. **FORWARD WORK PROGRAMME**

The Forward Work Programme was noted.

5. **PUBLIC QUESTION TIME**

No questions were received.

6. LIST OF APPROVED CONTRACTORS

Decision:

Having had due regard to the Integrated Impact Assessment, the List of Approved Contractors be amended as follows:-

Companies to be added to the List of Approved Contractors, who passed the required assessments:-

<u>Company</u>	<u>Category</u>
Velta Construction Ltd (V014)	71,72,76,80
Platinum Security Management Ltd (P056)	3
Algeco Storage Ltd (M053)	10

Companies to be removed from the List of Approved Contractors due to failure to meet NPTCBC's Health & Safety criteria:-

<u>Company</u>	<u>Category</u>
Atom Electrical Contractors (A059)	43,50,70
W & B A Carpets (W029)	18,18A,18B,18C,18D,32
Roger Jones & Sons (J011)	16,51,111
Thortech Ltd (T022)	80,81,92,111
Dyfed Alarms (D028)	47,48,49
Fastec Electrical Services Ltd (F014)	22,41,43,47,48,49,68,70

Reason for Decision:

To keep the List of Approved Contractors up to date and as far as possible, ensure a competitive procurement process. These recommendations to be adopted for the purpose of supplying a List of Approved Contractors for invitation to tender within the relevant category.

Implementation of Decision:

The decision is proposed for implementation after the three-day call-in period, which ended at 9am, Tuesday 10th October 2023.

7. **PEN Y DRE, NEATH (REVOCAION OF LIMITED WAITING, 1 HOUR, RETURN PROHIBITED WITH 2 HOURS, MONDAY TO SATURDAY, 8AM TO 6PM, PERMIT HOLDERS EXEMPT) ORDER 2022**

Decision:

Having had due regard to the integrated impact assessment:

- That the objections be upheld in full to the Pen Y Dre, Neath (Revocation of Limited Waiting, 1 hour, Return Prohibited within 2 hours, Monday to Saturday, 8am to 6pm, Permit Holders Exempt) Order 2022 (as detailed in Appendix A to the circulated report) and that the scheme be withdrawn.
- That the objectors be informed of the decision accordingly.

Reasons for Proposed Decision:

The order shall remain in place due to the limited availability of parking for residents on Pen Y Dre, Neath.

Implementation of Decision:

The decision is proposed for implementation after the three day call in period, which ended at 9am, Tuesday 10th October 2023.

8. **TRAFFIC CALMING MEASURES AT B4434 TONNA UCHAF - MINI ROUNDABOUT, HEOL CAREDIG JUNCTION AND PEN Y BRYN JUNCTION ORDER 2023**

Decision:

Having had due regard to the integrated impact assessment:

- That the objection be overruled to the Traffic Calming Measures at B4434 Tonna Uchaf – Mini Roundabout, Heol Caredig Junction and Pen Y Bryn Junction Order 2023 (as detailed in Appendix A, B and C to the circulated report) that the scheme be implemented as advertised.
- That the objector be informed of the decision accordingly.

Reasons for Proposed Decision:

The proposed plateaux are required in the interest of highway safety.

Implementation of Decision:

The decision is proposed for implementation after the three day call in period which ended at 9am, Tuesday 10th October 2023.

9. **KEY PERFORMANCE INDICATORS 2023/2024 - QUARTER 1 (1ST APRIL 2023 - 30TH JUNE 2023)**

Decision:

That the report be noted.

10. **URGENT ITEMS**

There were three urgent items received.

11. **PROPOSED AGREEMENT FOR LEASE AND LEASE OF RETAIL UNIT 2 WITHIN THE NEW NEATH TOWN CENTRE LEISURE AND RETAIL DEVELOPMENT TO TINY TOWNS**

Having had due regard to the integrated impact assessment:

- That Members approved the granting of the agreement for lease and lease on the terms set out in the report.

Reasons for Proposed Decision:

The grant of the agreement for lease and lease will allow this prominently located vacant premises to be let and operated by a local company and provide an annual income for the Council.

Implementation of Decision:

The decision is proposed for implementation after the three-day call-in period which ended at 9am, Tuesday 10th October 2023.

12. **PROPOSED LEASE OF THE FORMER WILKO RETAIL LIMITED PREMISES COMPRISING PART OF THE GROUND AND FIRST FLOORS WITHIN THE MULTI STOREY CAR PARK IN NEATH TOWN CENTRE TO CDS (SUPERSTORES INTERNATIONAL) LIMITED T/A THE RANGE**

Decision:

Having had due regard to the integrated impact assessment:

- That Members approved the granting of the lease on the terms set out in the report subject to Welsh Government consent.
- Subject to existing lease to the Company being ended by exit notice or other method of termination.

Reasons for Proposed Decision:

The grant of the lease will allow this large prominently located premises which is soon to become vacant to be let and operated by a national company and provide an annual income for the Council.

Implementation of Decision:

The decision is proposed for implementation after the three-day call-in period which ended at 9am, Tuesday 10th October 2023.

13. **SURRENDER OF EXISTING LEASE AND GRANT OF A NEW AGREEMENT FOR LEASE AND LEASE OF CATERING KIOSK AND ADJOINING LAND AT THE WESTERN END OF ABERAVON SEAFRONT PORT TALBOT.**

Decision:

Having had due regard to the integrated impact assessment:

- That Members approved the revised terms and conditions for the surrender of the existing lease of the catering kiosk and adjoining land.
- The grant of a new agreement for lease and lease to facilitate the redevelopment of a new catering kiosk facility at the western end of Aberavon Seafront Port Talbot.

Reasons for Proposed Decision:

To enable the tenant to redevelop and provide a new enhanced catering kiosk facility on the western end of Aberavon Seafront for the benefit of the visitors and the local authority.

Implementation of Decision:

The decision was made for immediate implementation.

CHAIRPERSON

Environment, Regeneration and Streetscene Services Cabinet Board
(Immediately following the Scrutiny Committee starting at 10am)

Meeting Date 2024	Agenda Item and Type	Contact Officer
Page 17	Select List (Various)	Dave Griffiths
	Traffic Regulation Orders (Various)	Dave Griffiths
	Public Space Protection Order (Response from Consultation)	James Davies
	Regional Transport Plan – Update from Corporate Joint Committee	Dave Griffiths/Amanda Phillips
	Kennels and Stray Dogs Policy	Ceri Morris/Celvin Davies

Meeting Date 2024	Agenda Item and Type	Contact Officer
9 th February	Select List (Various)	Dave Griffiths
	Traffic Regulation Orders (Various)	Dave Griffiths
	Flood Risk Management Plan	Mike Roberts/Steve Owen
	Street Lighting Energy – Consultation Report	Mike Roberts
	Fleet Procurement Programme 2024/2025	Dave Griffiths
	City Deal Update on NPT Projects	Lisa Willis
	Property Asset Management Plan	Simon Brennan

Page 18

Meeting Date 2024	Agenda Item and Type	Contact Officer
22 nd March	Select List (Various)	Dave Griffiths
	Traffic Regulation Orders (Various)	Dave Griffiths
	Quarter 3 Performance Indicators 2023/2024	Shaun Davies/ Joy Smith
	Healthy Travel Charter	Joy Smith
	Local Area Energy Plan	Simon Brennan / Chris Jones

Meeting Date 2024	Agenda Item and Type	Contact Officer
3rd May	Select List (Various)	Dave Griffiths
	Traffic Regulation Orders (Various)	Dave Griffiths
	20mph Implementation Update	Joy Smith
	Regeneration Strategy	Andrew Collins

This page is intentionally left blank



Cyngor Castell-nedd Port Talbot
Neath Port Talbot Council

NEATH PORT TALBOT COUNTY BOROUGH COUNCIL

Environment, Regeneration and Streetscene Services Cabinet Board

Report of the Director of Environment and Regeneration N. Pearce

14th November 2023

Matter for Monitoring

Wards Affected: All Wards

Report Title: Performance Measures 2023/2024 – Quarter 2
(1st April 2023 – 30th September 2023)

Purpose of the Report:

To report Quarter 2 Performance Management Data (Appendix 1) – 1st April 2023 – 30th September 2023, Environment, Regeneration and Streetscene Services Cabinet Board. This will enable the Environment, Regeneration and Streetscene Services Cabinet Board and Scrutiny

Members to discharge their functions in relation to Performance Management.

Executive Summary:

Appendix 1 – Performance Measures

New quarterly performance reports were reported to members from the 1st quarter 2023/24. This new format moves away from the table format that we have previously reported for a number of years, to a graph format. The reports will also include more cumulative quarterly trend data. The new reports are visually better and include a performance summary doughnut within the cover page.

These new formats also take into account feedback from Cabinet Scrutiny Committee members on the previous performance reports format. Members received performance scrutiny training on the 20th October 2023, this included a section on the new reports format.

Performance Measures that have improved on or achieved target are GREEN status, Performance Measures that have not achieved target but performance is within 5% are AMBER status, Performance Measures that are 5% or more below target are RED status. Performance Measures that appear as BLUE status are 'Not suitable for comparison' and are for information only.

Where available, Performance Measures report Quarter 2 target, and 3 years of Quarter 2 data for comparison.

There are 23 measures reported in the period, 14 measures are improving or on target, 1 measure is 5% or more below target or previous year's performance, 1 measure is within 5% of target or previous year's performance and 7 measures are not suitable for comparison.

The measures improving or on target include:

- Two building control measures, both achieving 100%;
- Three planning measures showing an improvement;
- % of waste, reused, recycled or composted achieved an increase in recycling performance;
- 100% of waste enforcement prosecutions/penalties was achieved;
- Percentage of house hold missed collections (refuse) slightly decreased on the previous quarter;
- Percentage of missed collections (recycling) also decreased slightly on the previous quarter;
- Average days to remove fly tipping incidents is within target;
- Number of fly tipping reports shows a further reduction on last quarter;
- 27 people were helped into work, 2 into volunteering and 13 people gained qualifications assisted by the Workways Team. Workways+ ESF Funding ended on 31st August 2023 with project delivery ending on 31st July 2023;
- Business enquiries assisted is on target, and can expect a high number of enquiries when the new project is launched;
- On average, just took over a day to repair street lamp failures, well within target.

There are 7 measures not suitable for comparison and are mostly measures reported for information only. Although jobs created or safeguarded was unable to be reported, explanation is provided with the data.

The 1 Measure shown as Amber and reported as within 5% of previous year's quarter relates to kilograms of residual waste generated per person.

The 1 Measure shown as red and 5% or more below target or previous year's performance relates to percentage of major planning applications determined, explanation is within the data.

Appendix 2 – Compliments & Complaints

A list of Compliments and Complaints data, collected in line with the [Council's Comments, Compliments & Complaints Policy](#) for Cabinet and relevant Cabinet Board purviews.

Background:

The Performance Measures in Appendix 1 are all selected from Service Recovery Plans (SRPs).

Where possible, each Performance Measure will show a link how it contributes to at least one of the council's well-being objectives. If a Performance Measure does not directly link then it has been linked to the Governance and Resource theme.

Financial Impact:

The performance described in the report is being delivered against a challenging financial backdrop.

Integrated Impact Assessment:

There is no requirement to undertake an Integrated Impact Assessment as this report is for monitoring / information purposes.

Valleys Communities Impacts:

No implications.

Workforce Impacts

The progress described in this report was achieved whilst the workforce continued to respond to and continue to recover from the impacts of the pandemic.

Legal Impacts:

This report is prepared under:

- 1) The Local Government (Wales) Measure 2009 and discharges the Council's duties to "make arrangements to secure continuous improvement in the exercise of its functions"
- 2) Well-being of Future Generations (Wales) Act 2015
- 3) The Neath Port Talbot County Borough Council Constitution requires each Cabinet committee to monitor quarterly budgets and performance in securing continuous improvement of all the functions within its purview.

Risk Management Impacts:

Failure to provide a suitable monitoring report within the timescales could lead to non-compliance with our Constitution. Also, failure to have robust performance monitoring arrangements in place could result in poor performance going undetected.

Consultation:

There is no requirement under the Constitution for external consultation on this item.

Recommendations:

For Members to monitor performance contained within this report.

Reasons for Proposed Decision:

Matter for monitoring, no decision is required.

Implementation of Decision:

Matter for monitoring, no decision required.

Appendices:

Appendix 1 – Performance Measures – Quarter 2 Performance (1st April 2023 – 30th September 2023)

Appendix 2 – Compliments and Complaints information – Quarter 2 2023/2024 (1st April 2023 – 30th September 2023)

Officer Contact:

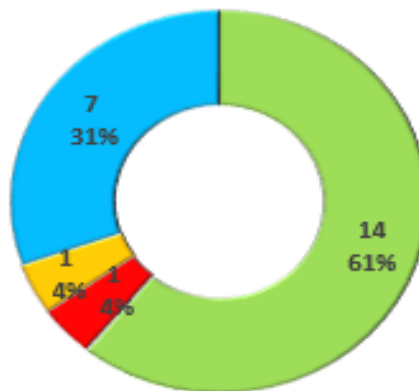
Joy Smith, Road Safety and Business Performance Manager.
Telephone: 01639 686581. E-mail: j.smith@npt.gov.uk



Performance Measures

Appendix 1 - Environment Directorate Measures -
Quarter 2 (1st April - 30th September) - 2023/24

Performance Measures Summary

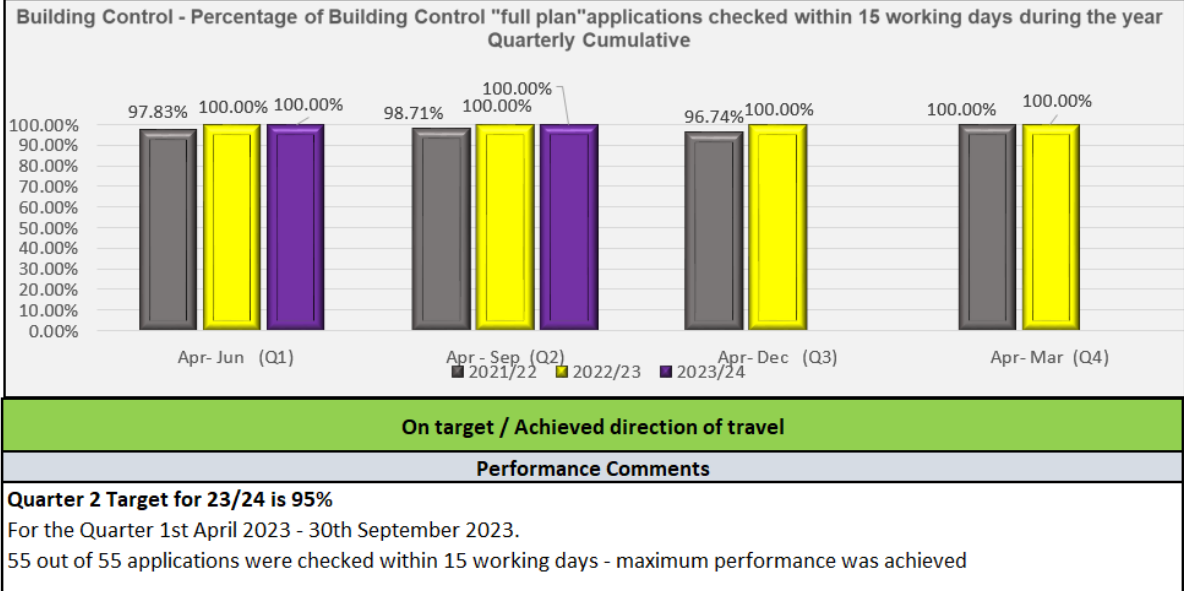


Performance Key BRAG (Blue, Red, Amber, Green)

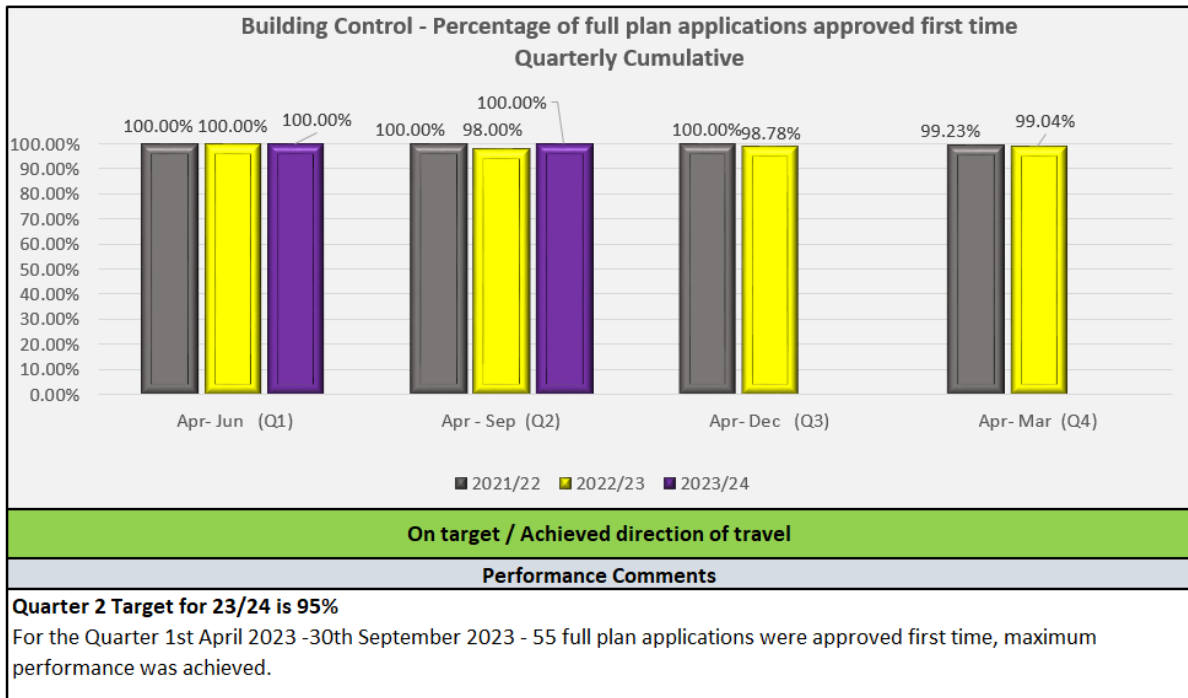


Well Being Objective 2 - All communities are thriving and sustainable

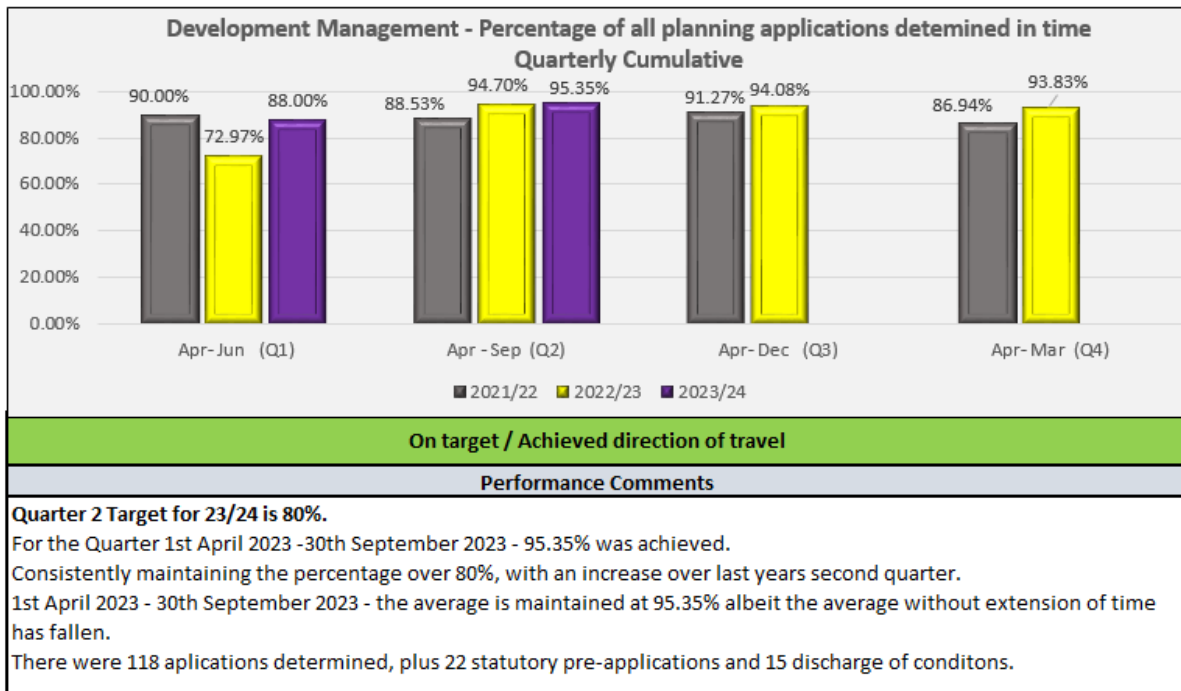
1.



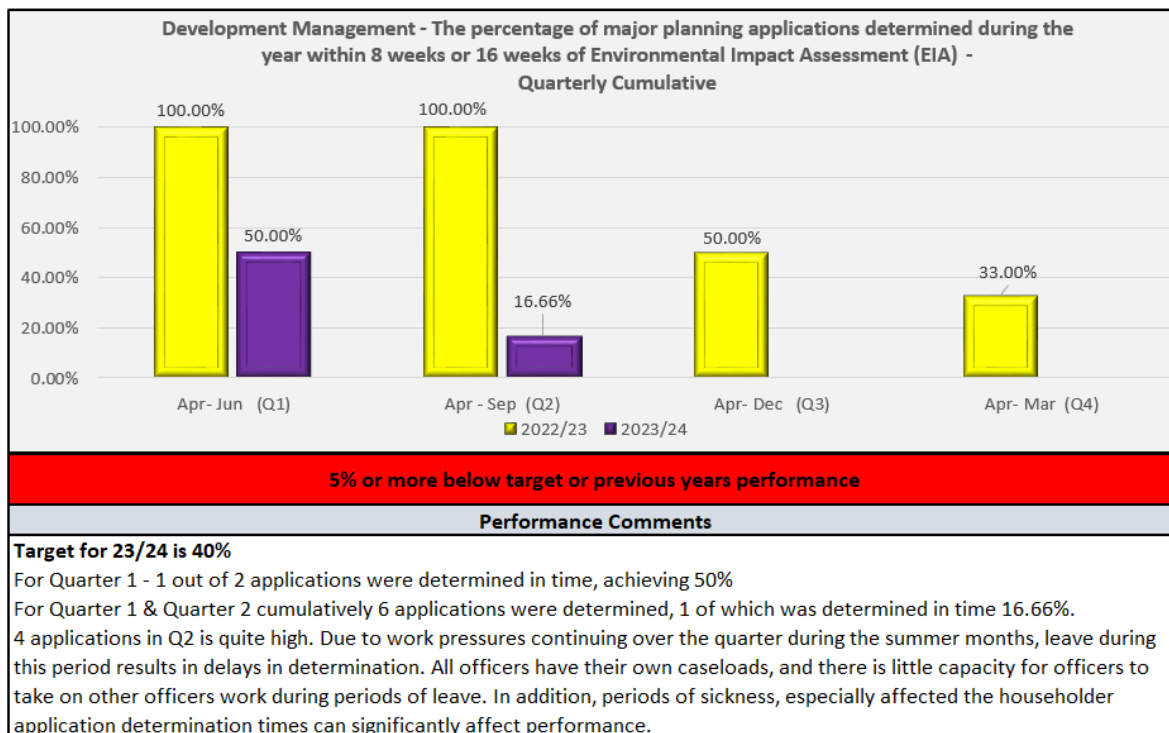
2.



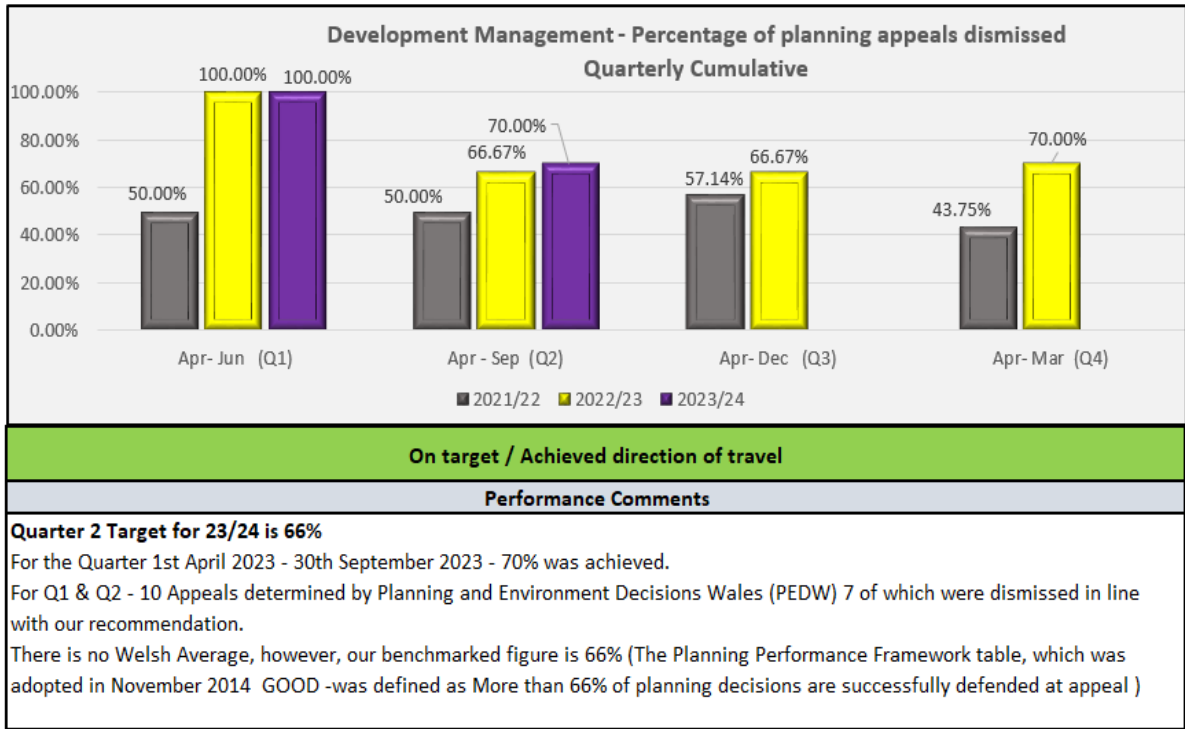
3.



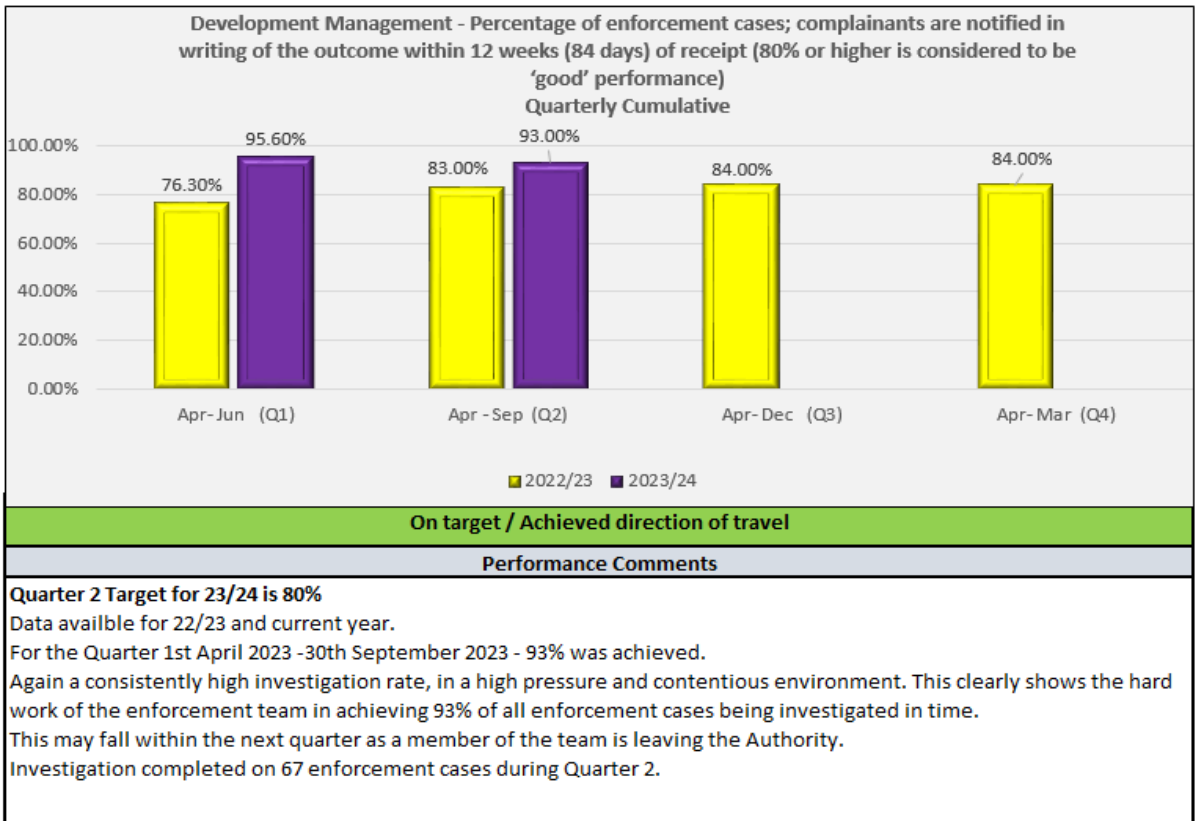
4.



5.

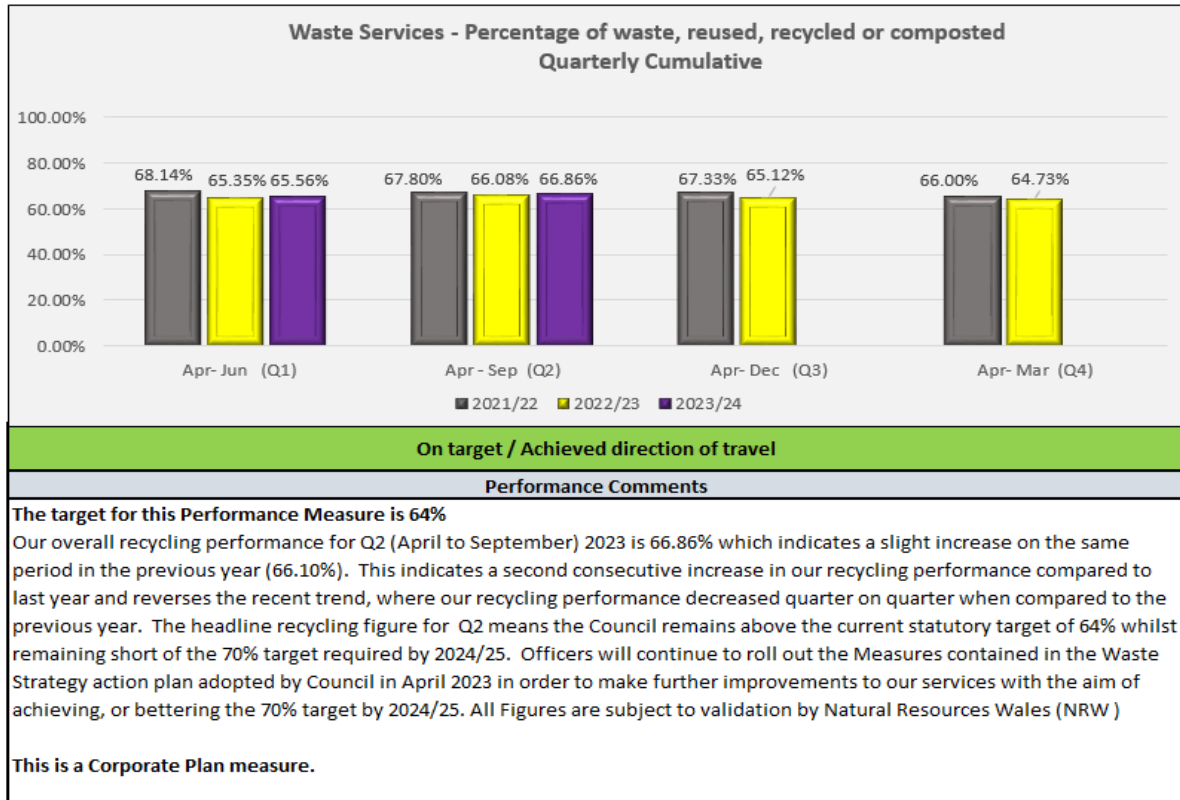


6.

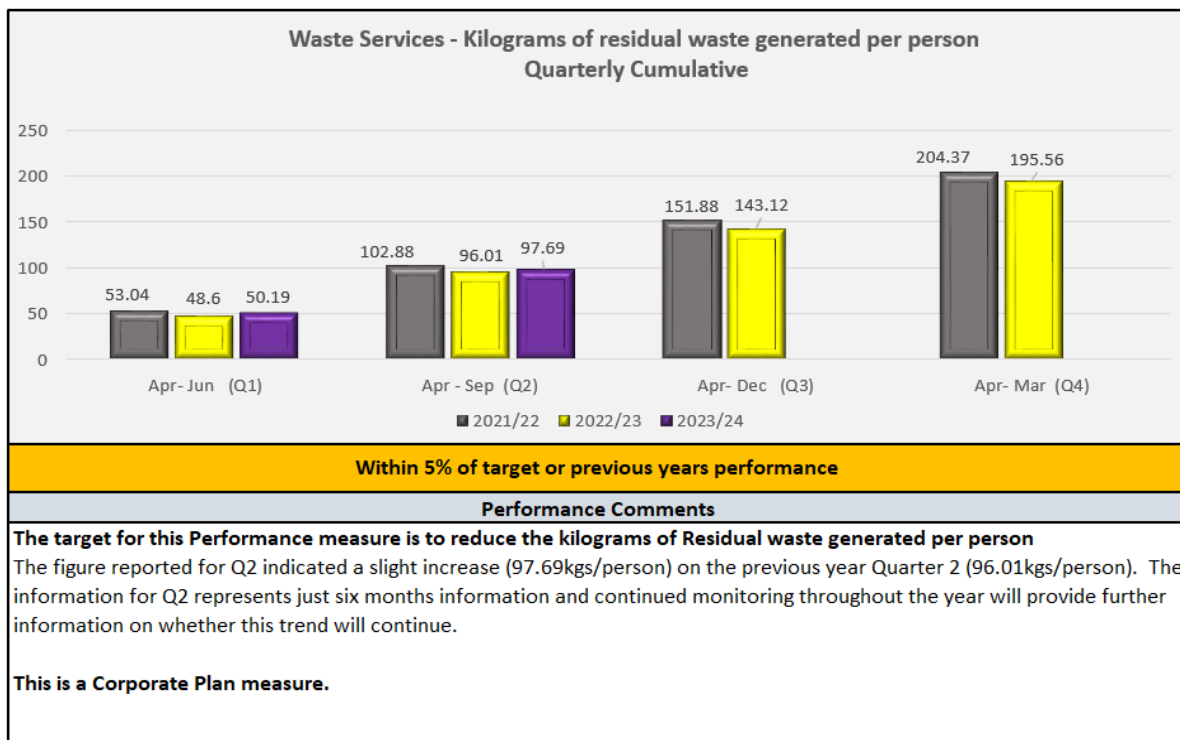


Well Being Objective 3 - Our Local Environment, Culture and Heritage can be enjoyed by future generations

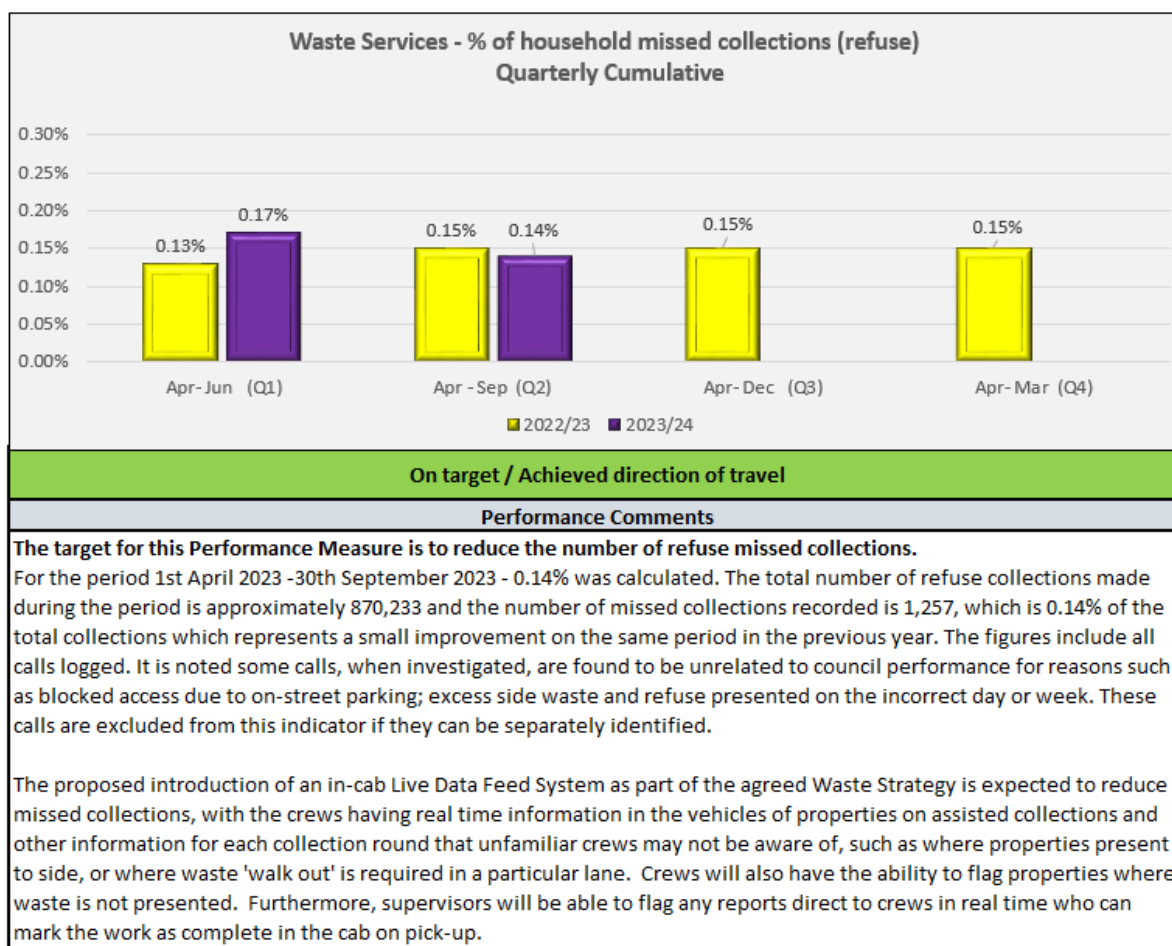
7.



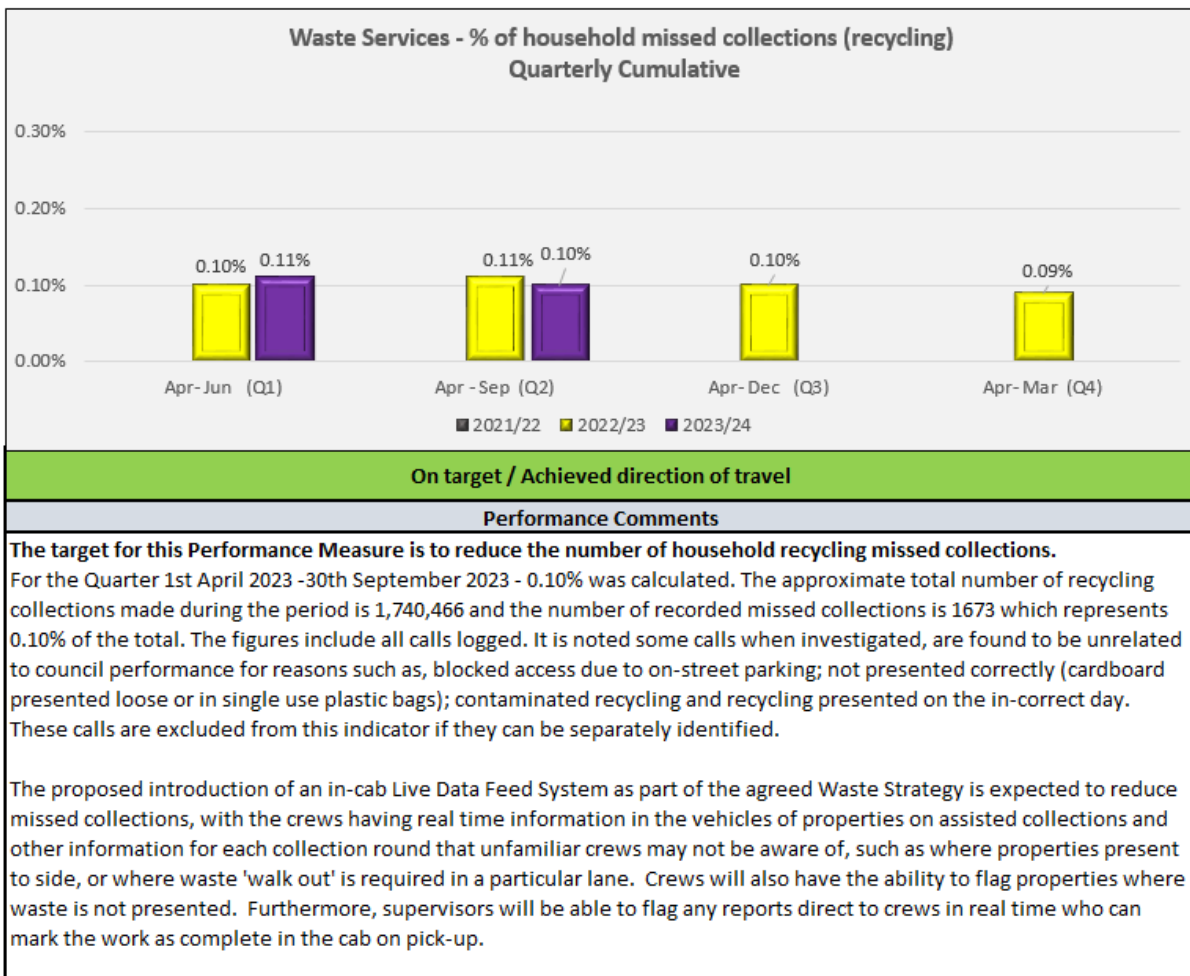
8.



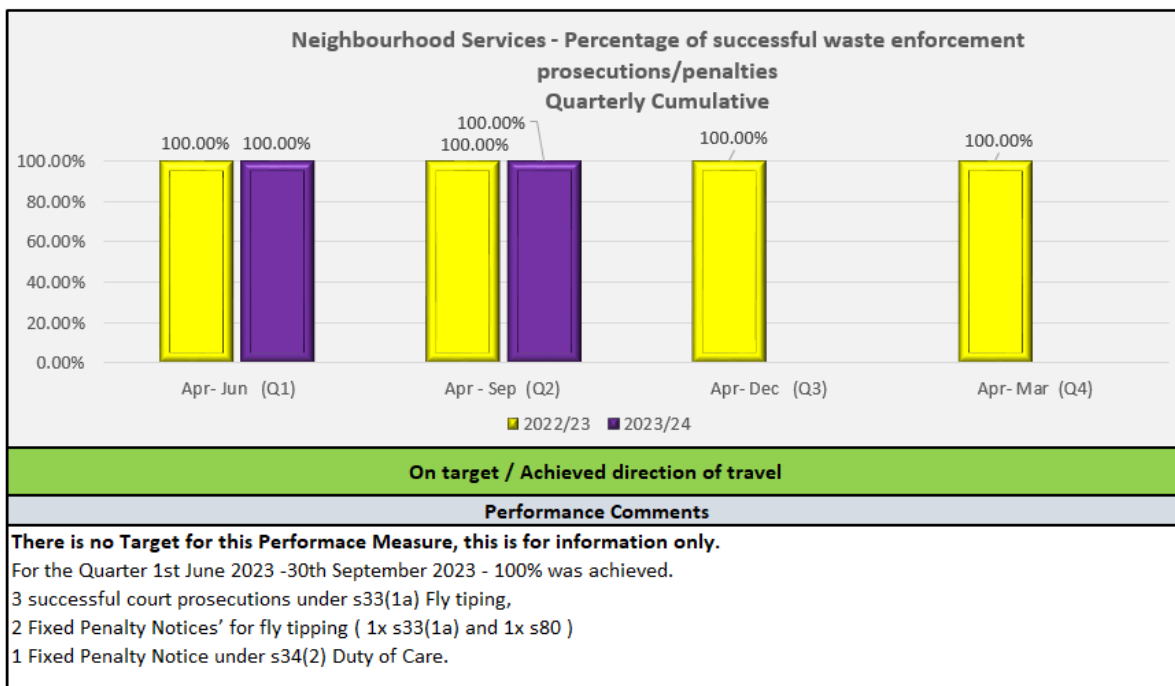
9.



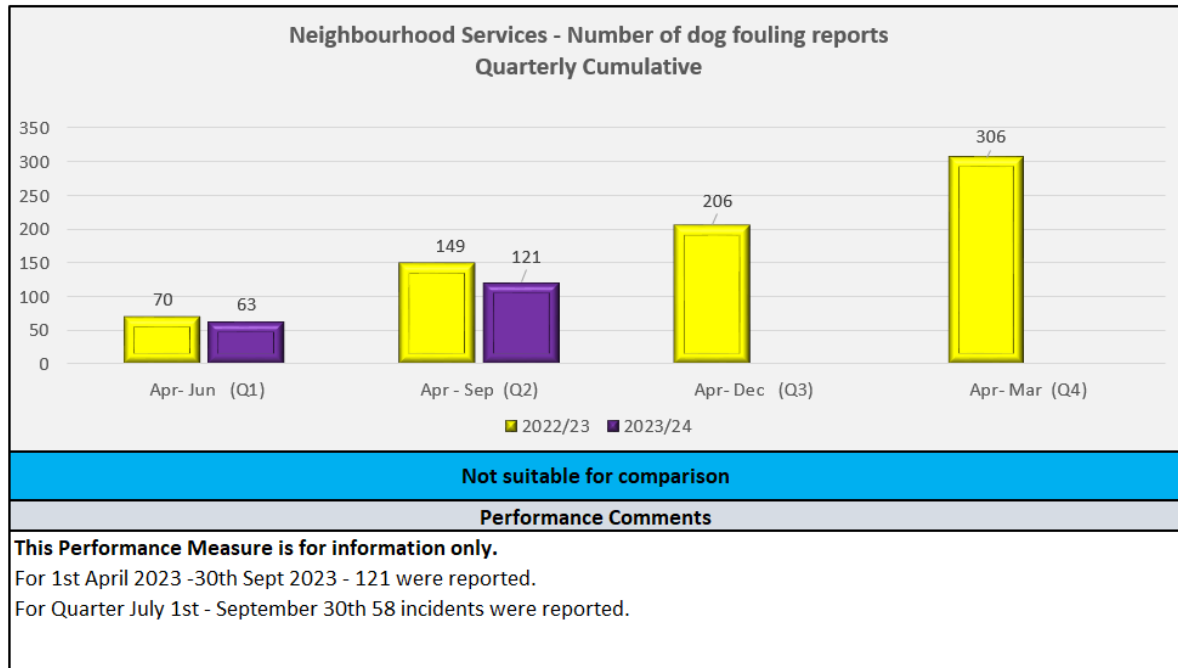
10.



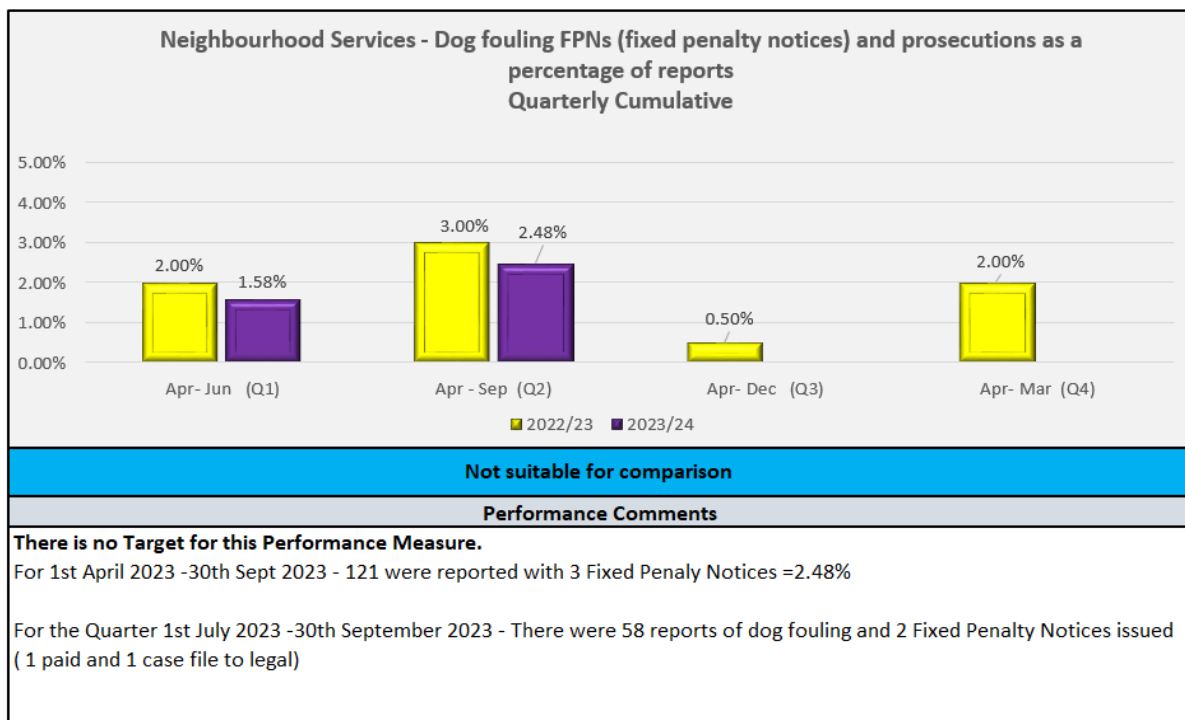
11.



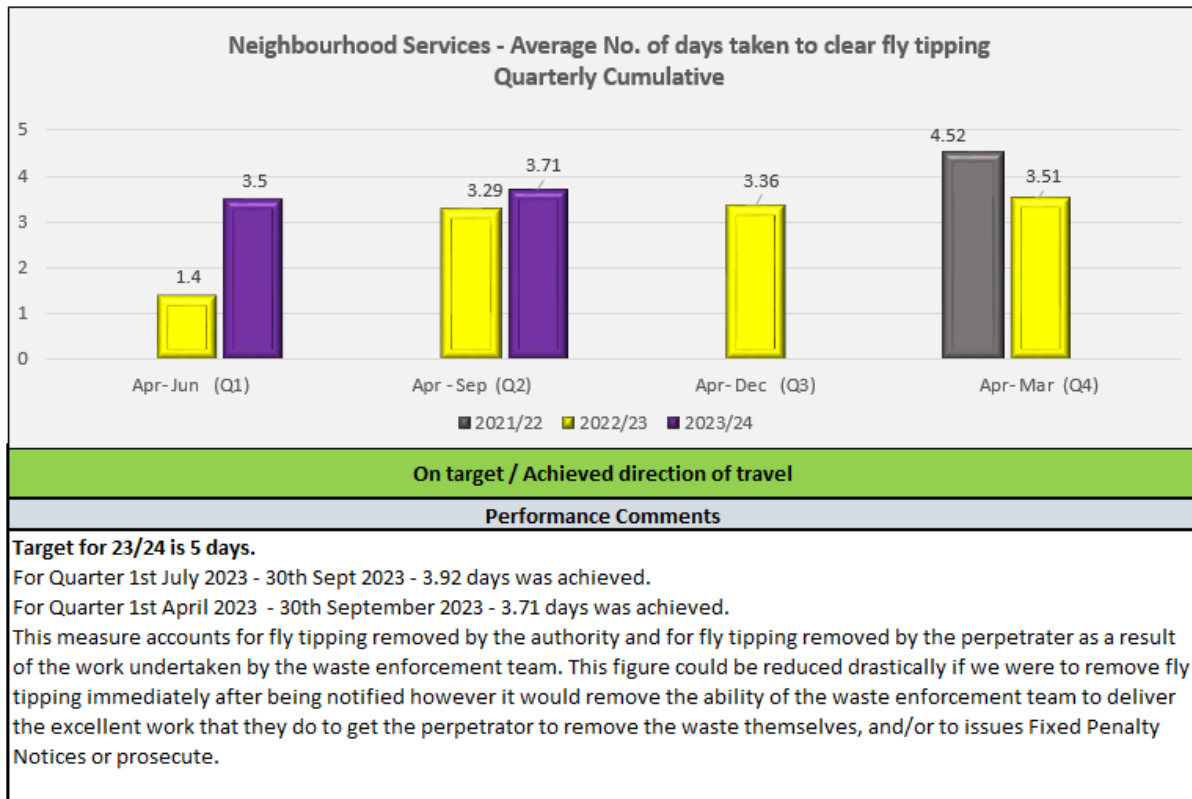
12.



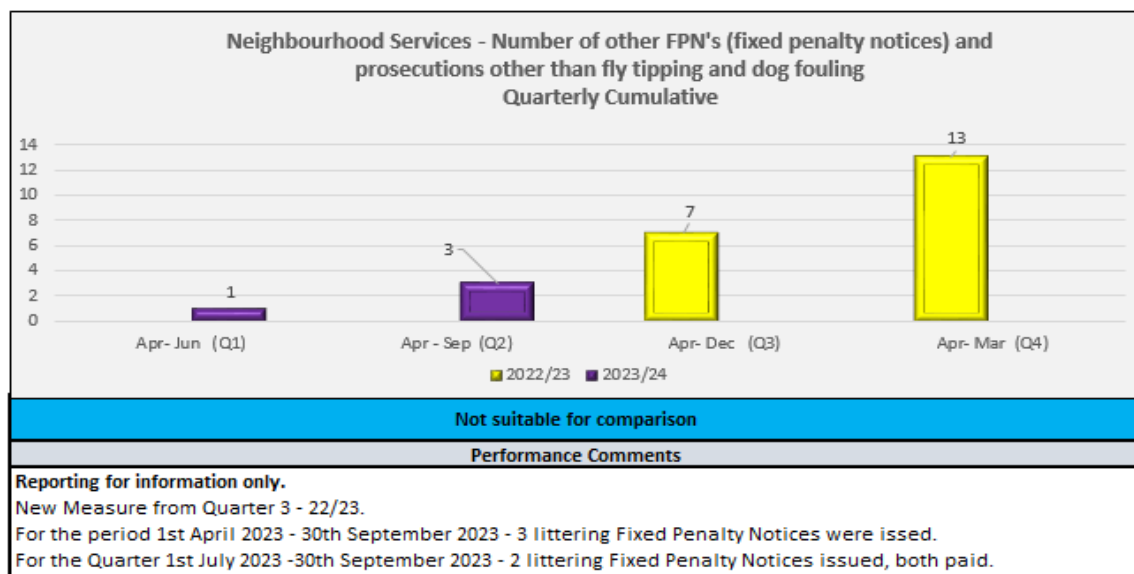
13.



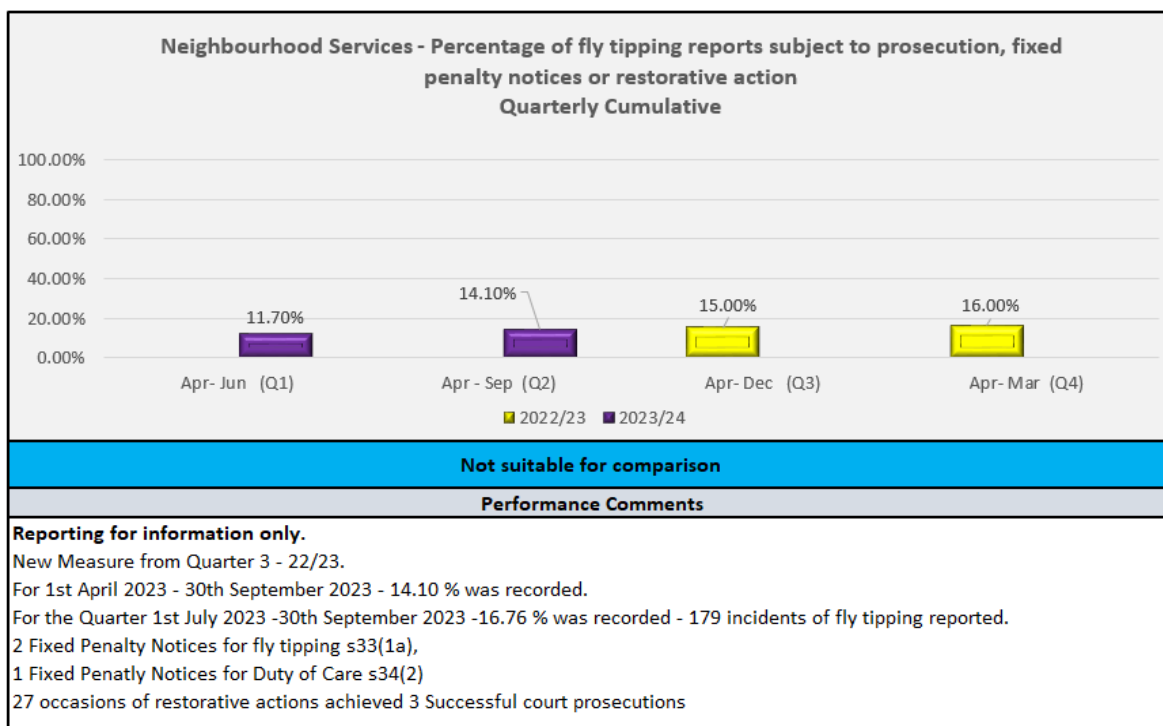
14.



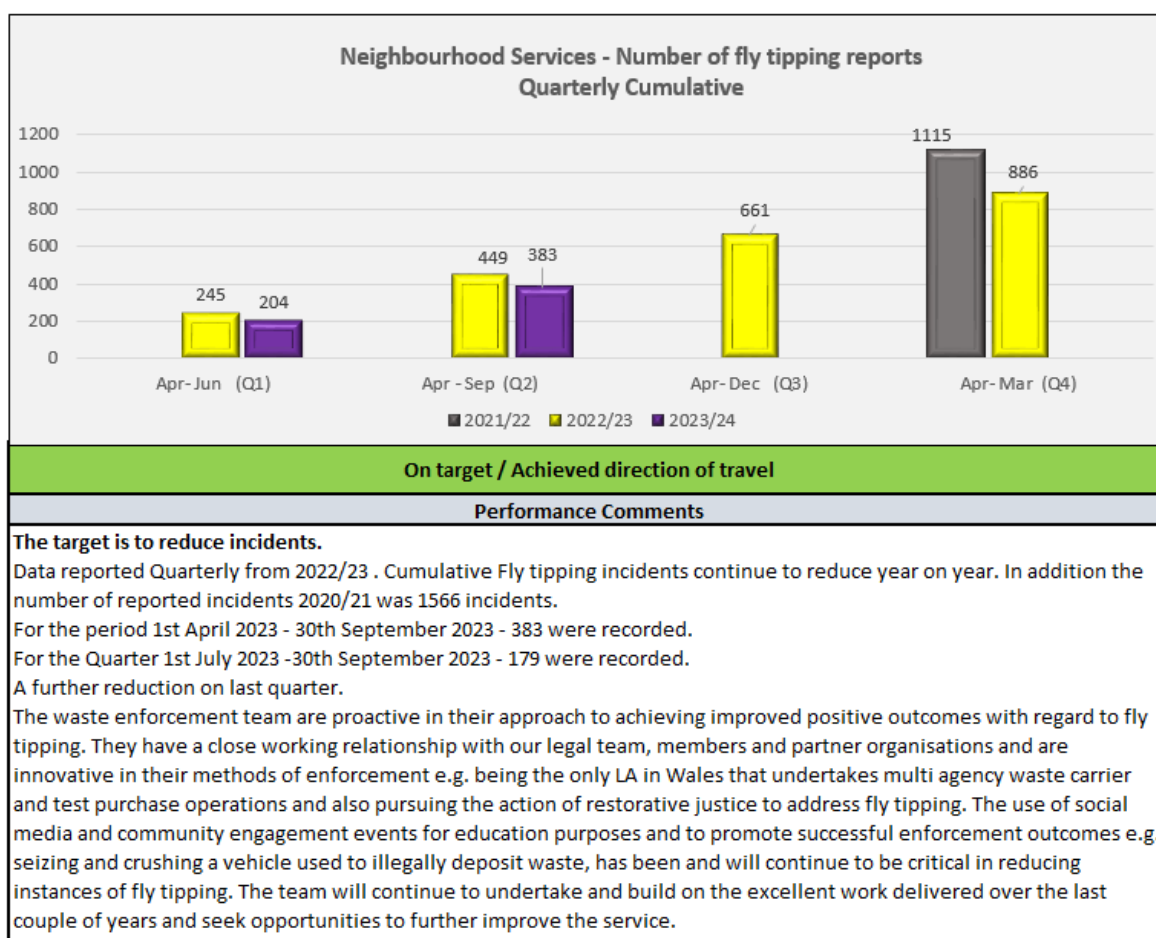
15.



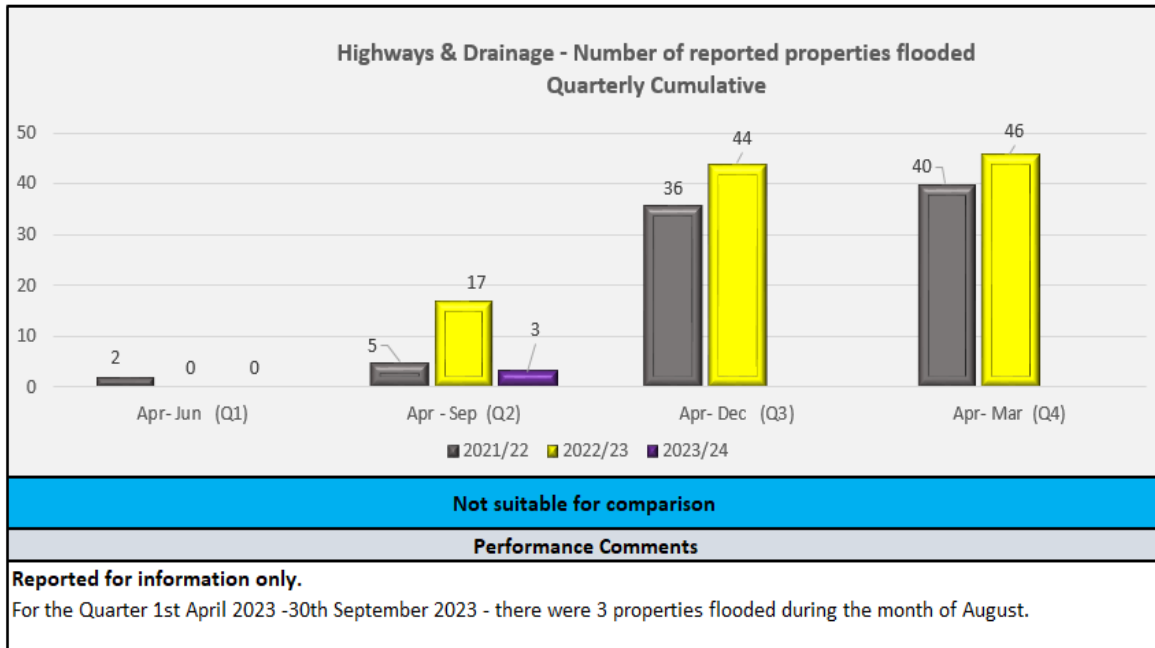
16.



17.

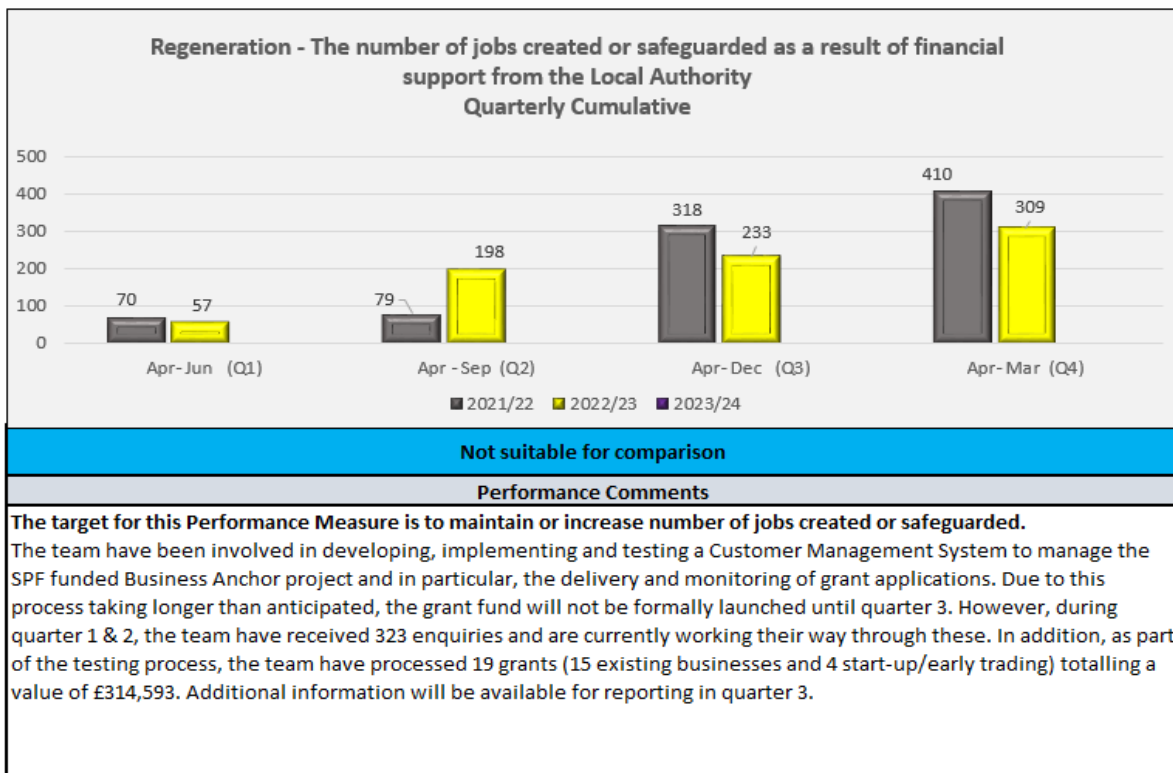


18.

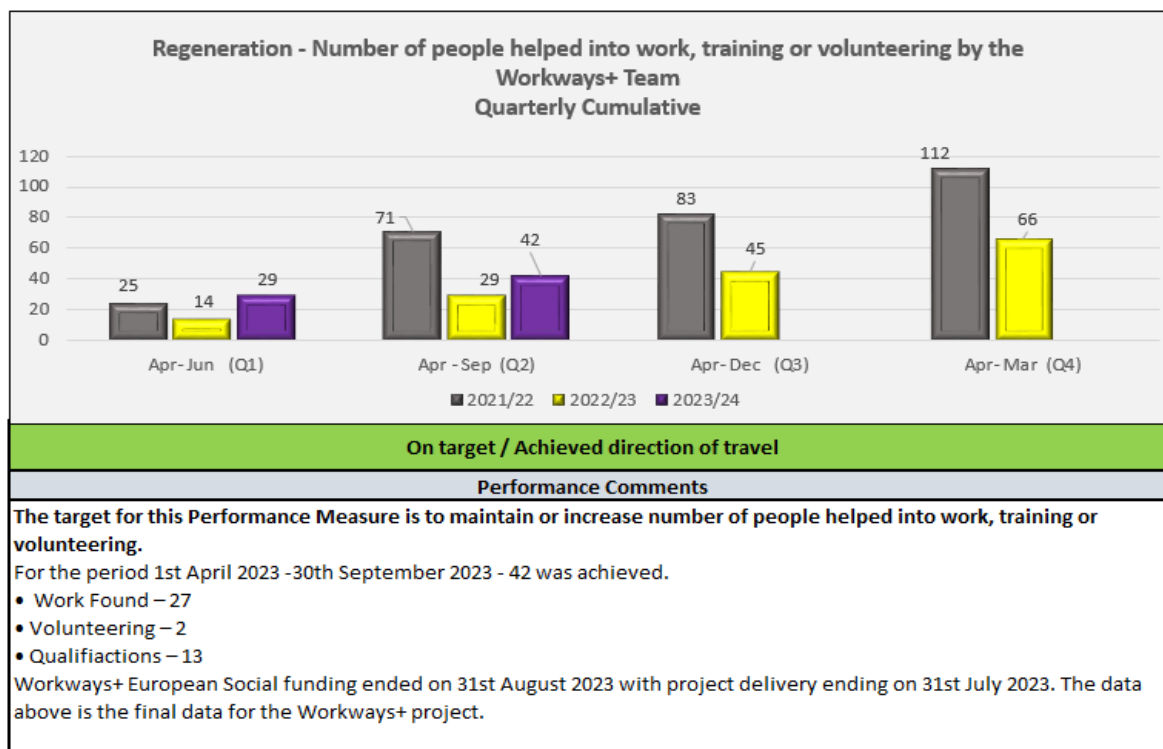


Well Being Objective 4 - Jobs and Skills

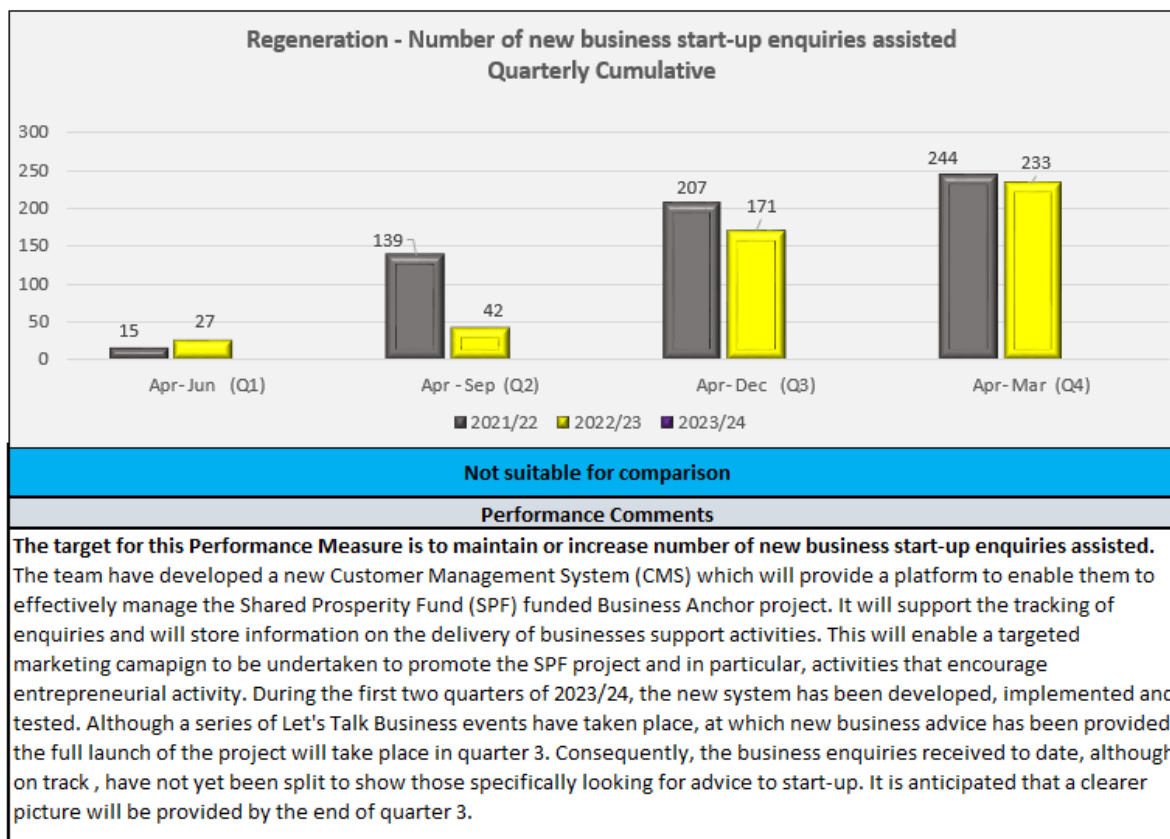
19.



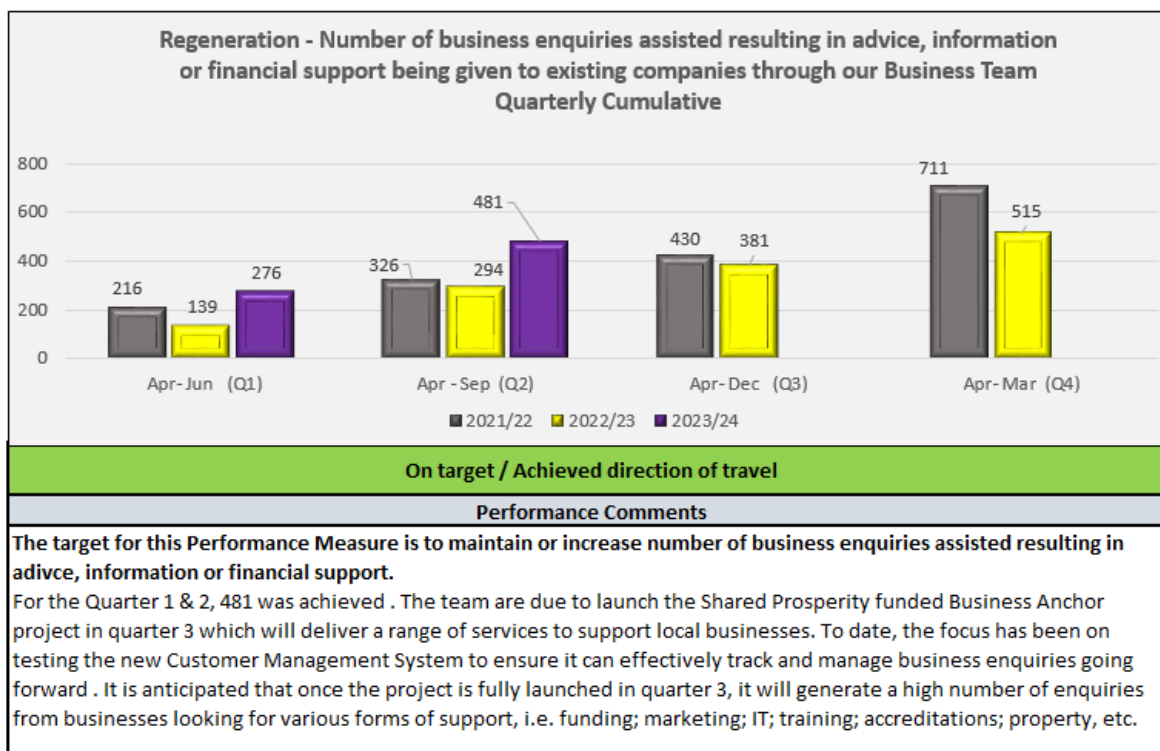
20.



21.



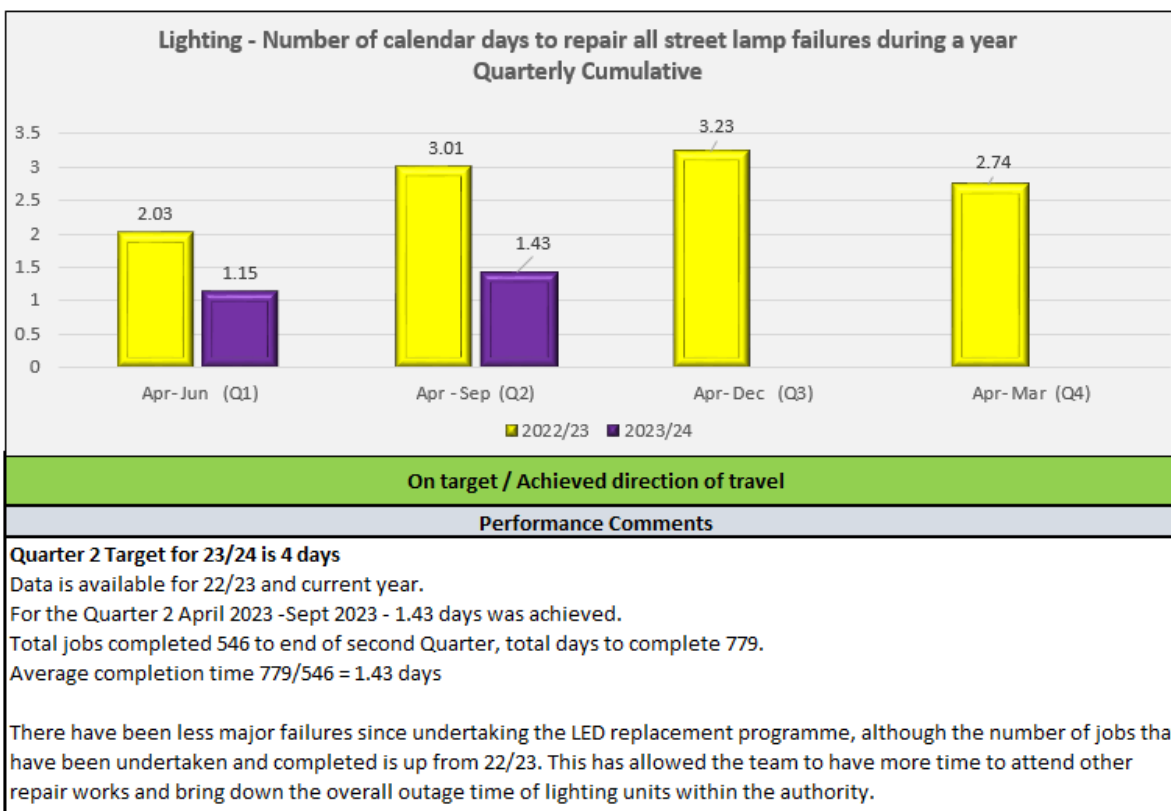
22.



Governance and Resource (cross-cutting)

Including Planning & Performance, Workforce Management, Financial Resources, Democracy, Community Relations, Asset Management and Commissioning & Procurement.

23.



This page is intentionally left blank



Cyngor Castell-nedd Port Talbot
Neath Port Talbot Council

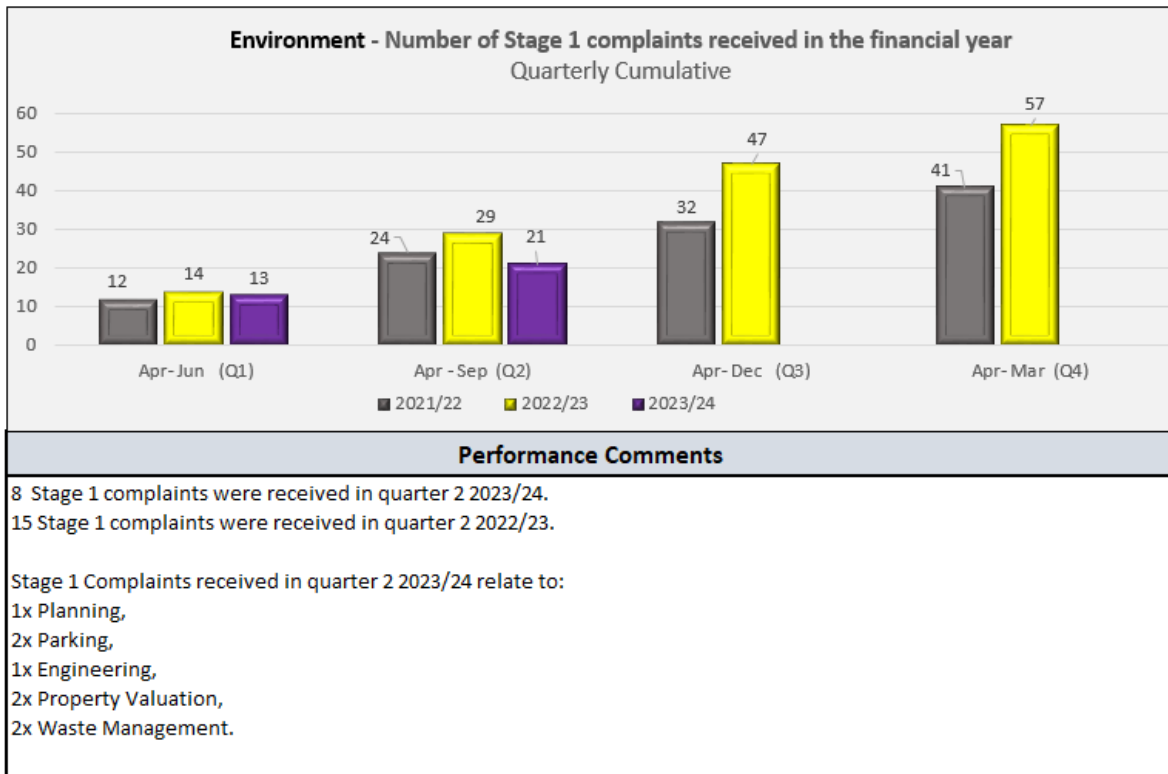
Performance Measures

Appendix 2 – Environment Directorate

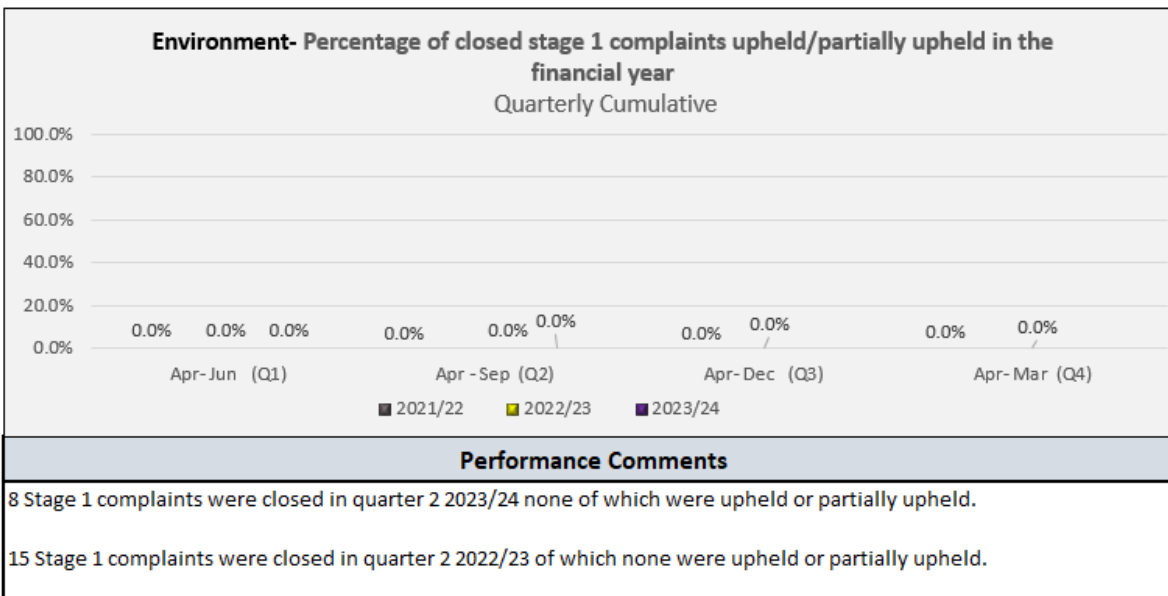
Compliments and Complaints

Quarter 2 (1st April - 30th September) - 2023/24

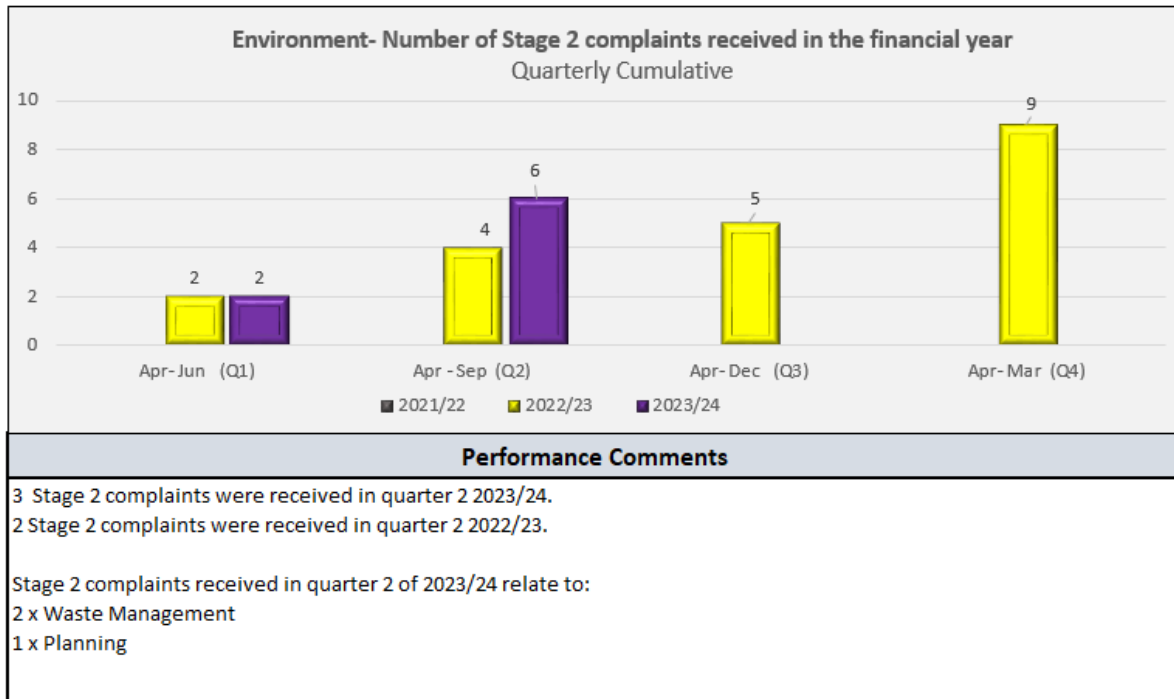
1.



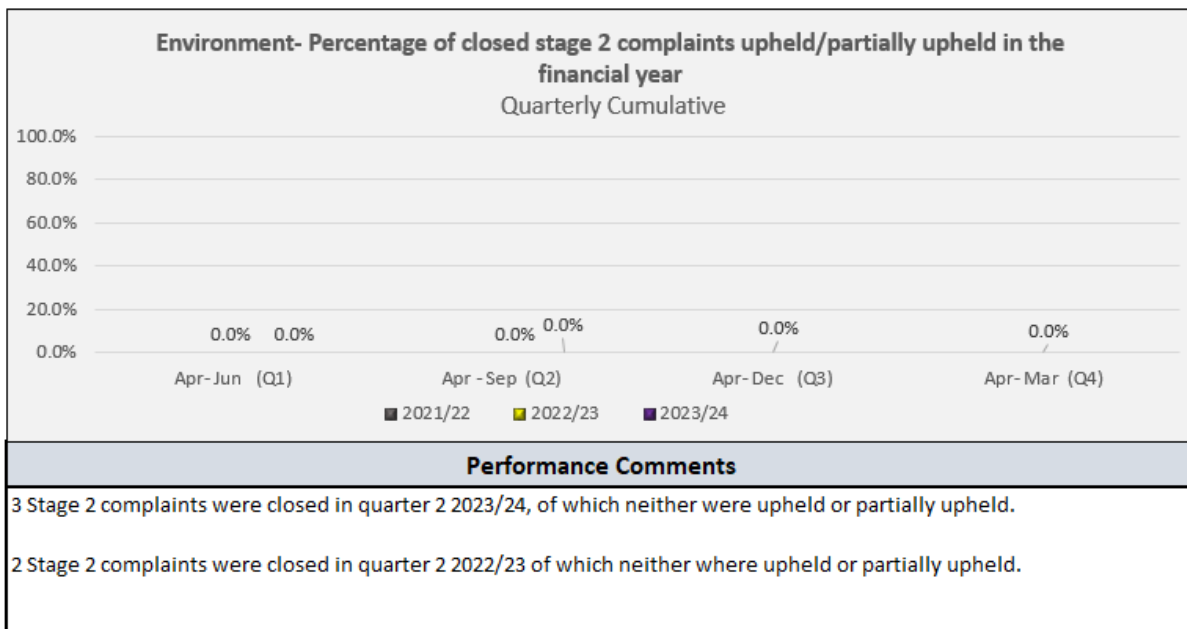
2.



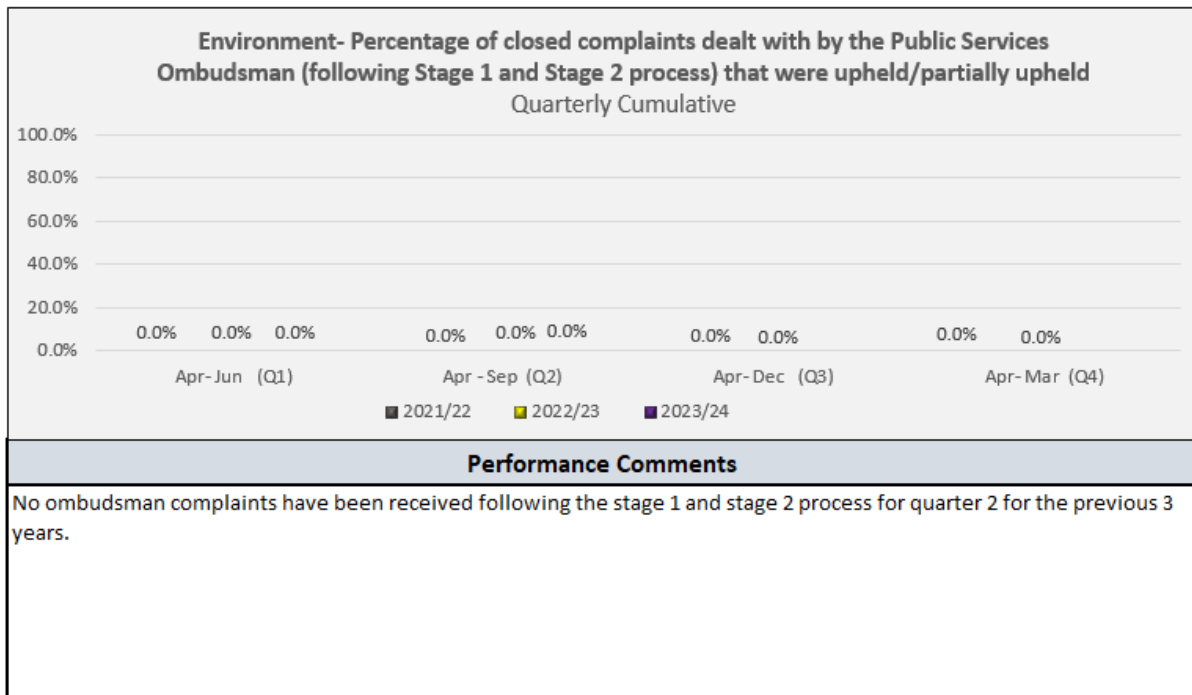
3.



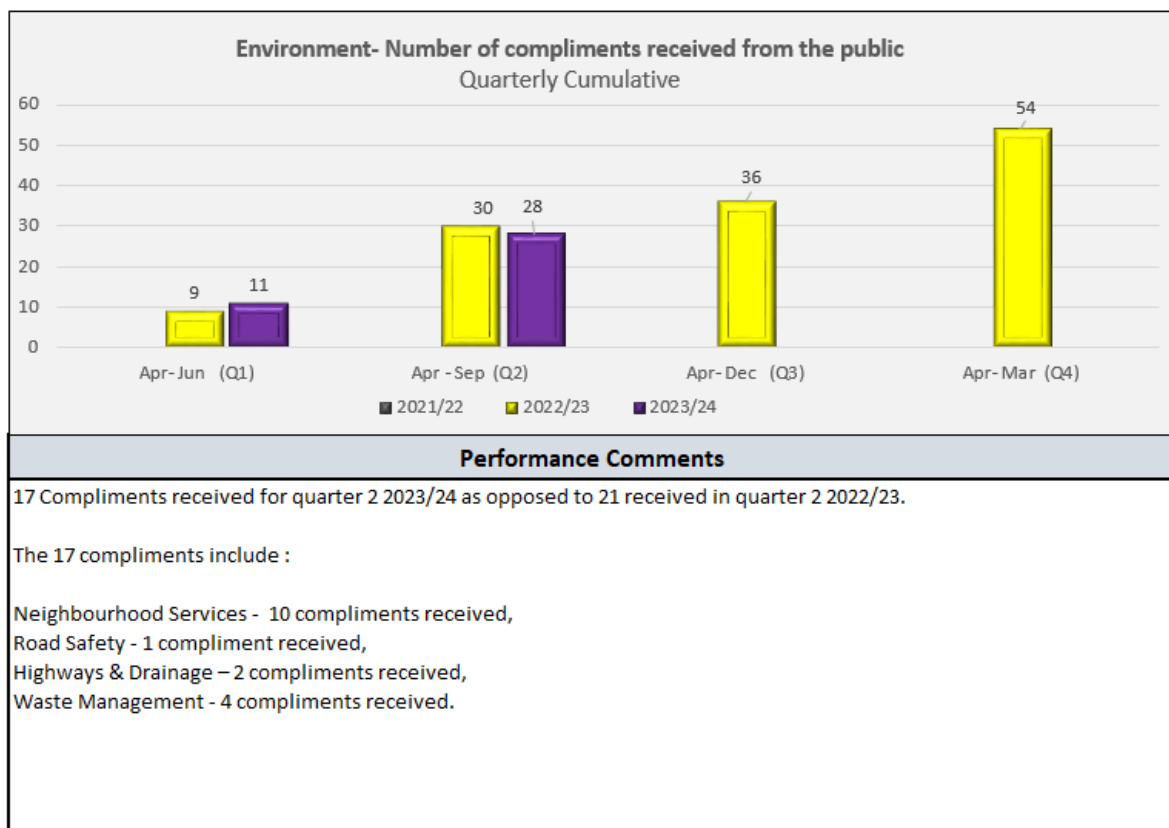
4.



5.



6.





Cyngor Castell-nedd Port Talbot
Neath Port Talbot Council

NEATH PORT TALBOT COUNTY BOROUGH COUNCIL

Environment, Regeneration and Streetscene Services Cabinet Board

14th November 2023

Report of the Head of Engineering & Transport (David W. Griffiths)

Matter for Decision

Wards Affected: All

List of Approved Contractors

Purpose of the Report:

To seek Members' approval to amend the List of Approved Contractors.

Executive Summary:

To seek approval for Contractors to be included on and removed from the List of Approved Contractors.

Background:

Members will be aware that on previous occasions, reports concerning the List of Approved Contractors have been presented to Cabinet Board.

The process gives local companies an opportunity to provide goods and services to the Council.

The full list of categories is set out in Appendix A for your information.

Financial Impacts:

No implications.

Integrated Impact Assessment:

A first stage Impact Assessment has been undertaken to assist the Council in discharging its legislative duties (under the Equality Act 2010, the Welsh Language Standards (No.1) Regulations 2015, the Well-being of Future Generations (Wales) Act 2015 and the Environment (Wales) Act 2016.

The first stage assessment, attached at Appendix B, has indicated that a more in-depth assessment is not required. A summary is included below:-

The report is seeking approval to add new Contractors and remove Contractors who have failed to meet NPTCBC's Health & Safety criteria.

This does not affect any group of people and or impact the Welsh language, biodiversity or the five ways of working.

Valleys Communities Impacts:

No implications.

Workforce Impacts:

No implications.

Legal Impacts:

No implications.

Risk Management Impacts:

No implications.

Consultation:

There is no requirement for external consultation on this item.

Recommendations:

Having had due regard to the Integrated Impact Assessment it is recommended that:-

The List of Approved Contractors is amended as follows:-

Companies to be **added** to the List of Approved Contractors

The following companies have applied to be included on the list and have passed the required assessments:-

<u>Company</u>	<u>Category</u>
DTPH Arb & Groundworks (D044)	77,84,101,102
Clean to the Core (C077)	105,111
Integrated Fencing Ltd (I019)	84,96
Betterclean Services (B044)	105

Companies to be **removed** from List of Approved Contractors

Removal of the following companies is required due to failure to meet NPTCBC's Health & Safety criteria (H027) and company has gone into Liquidation (A022).

<u>Company</u>	<u>Category</u>
Highcross Security & Electrical Ltd (H027)	21F,21G,41,43,47,48,49,50,60
Avalon Insulation Services Ltd (A022)	31,111

Reasons for Proposed Decision:

To keep the List of Approved Contractors up to date and as far as possible, ensure a competitive procurement process.

These recommendations to be adopted for the purpose of supplying a List of Approved Contractors for invitation to tender within the relevant category.

Implementation of Decision:

The decision is proposed for implementation after the three-day call-in period.

Appendices:

Appendix A - Categories for List of Approved Contractors

Appendix B - First Stage IIA

List of Background Papers

None.

Officer Contact

Hasan Hasan, Engineering Manager

Tel. No: 01639 686463

Email: h.hasan@npt.gov.uk

Amanda Phillips, Programme & Commissioning Manager

Tel. No: 01639 686483

Email: environment@npt.gov.uk

Appendix A

Categories for List of Approved Contractors

General Services

1. Signs
2. Plant Hire
3. Security
4. Clinical Waste
5. Pest Control
6. Re-Cycling
7. Waste Disposal (e.g. Car, Computers, Steel)
8. Crowd Control
9. Traffic Management
10. Portable Buildings
11. Scaffolding

Building Construction / Maintenance

12. Building Construction £50,000 - £200,000
13. Building Construction £200,000 - £1m
14. Building Construction over £1m
15. Minor Building Works below £50,000
16. Works of Adaptation below £5,000
17. Re-Roofing
 - a) Felt & Asphalt below £10,000 / above £10,000
 - b) Tiles & Slate below £10,000 / above £10,000
 - c) GRP
 - d) High Performance Coverings
 - e) Sheeting & Cladding
18. Supply & Installation of Floor Finishes
 - a) Flexible Sheet, Tiles, Carpets
 - b) Jointless
 - c) Rigid Tiles, Slabs, Mosaics
 - d) Wood
19. Plastering
20. Painting & Decorating
21. Supply & Installation of Windows/Doors (Windows to BS 7412, Doors to PAS 23/1, PAS 24/1 to BS 7950 Kitemark Scheme)
 - a) PVCU (using Aluplast System)
 - b) Timber
 - c) Aluminium

- d) Steel
- e) Roller Shutter
- f) Security Doors
- g) Automatic Doors
- 22. Suspended Ceilings
- 23. Welding / Fabrication below £5,000
- 24. Welding / Fabrication above £5,000
- 25. Stonework Repair / Restoration / Cleaning
- 26. Glazing & Safety Filming
- 27. Wall Tie Replacement
- 28. External Wall Insulation
- 29. Damp Proofing / Dry Rot / Woodworm Treatment
- 30. Cavity Wall and / or Loft Insulation
- 31. Asbestos Handling & Removal, Asbestos Surveys & Asbestos Consultancy Services
- 32. Window Blinds
- 33. Shop Fitters – Specialist Joinery
- 34. Refurbishment of Laboratories
- 35. Clearance of Void properties
- 36. Works to Listed Buildings

Mechanical & Electrical Engineering

- 37. Domestic (including Housing) Plumbing & Central Heating below £50,000
- 38. Domestic (including Housing) Plumbing & Central Heating above £50,000
- 39. Commercial Heating & Ventilating below £100,000
- 40. Commercial Heating & Ventilating above £100,000
- 41. Domestic (including Housing) Electrical Installation below £50,000
- 42. Domestic (including Housing) Electrical Installation above £50,000
- 43. Commercial Electrical Installations below £100,000
- 44. Commercial Electrical Installations above £100,000
- 45. Gas Boiler Maintenance
- 46. Maintenance of Building Management Systems for Heating & Ventilation

Mechanical & Electrical Specialist Services

- 47. CCTV
- 48. Intruder Alarms
- 49. Fire Alarms
- 50. Warden Call System
- 51. Lifts
- 52. Swimming Pool Plant Equipment
- 53. Water Systems Cleaning & Chlorination

54. Ductwork System Cleaning & Sterilisation
55. Domestic & Commercial Kitchen Equipment Maintenance
56. Supply & Installation of Specialist Kitchen Equipment / Fittings
57. Installation, Testing & Maintenance of Local Exhaust Ventilation (LEV)
58. Water Systems – Risk Assessment
59. Supply & Installation of Pipework & Ductwork Installation
60. Supply, Installation and / or Servicing of Automatic Door Systems
61. PA Systems / Sound Systems
62. Stage Lighting
63. Service / Repair of Kilns
64. Supply, Installation & Servicing of Leisure Services Equipment
65. Specialist Steelwork (stainless Steel & Fabricated Works)
66. Lightning Conductors
67. Fire Fighting Equipment including Hose Reels
68. Smoke / Fire Detectors
69. Stage Equipment including Curtains, Gantry, Special Effects etc.
70. Computer / Telephone Cabling

Civil Engineering

71. Civil Engineering £0 – £25,000
72. Civil Engineering £25,000 – £250,000
73. Civil Engineering £250,000 – £1m
74. Civil Engineering over £1m
75. Land Reclamation
76. Sewers & Drainage
77. Hard & Soft Landscaping
78. Ground Investigation
79. Demolition
80. Surfacing, Carriageway & Footways
81. Surface Dressing
82. Road Markings & Reflective Road Studs
83. Carriageway Slurry Surfacing & Footways
84. Fencing
85. Gabion & Blockstone
86. Steel Fabrication below £25,000
87. Steel Fabrication above £25,000
88. Bridge Works, New & Maintenance

Civil Engineering Specialists

89. Concrete Repairs
90. Diving Inspections & Works within Water

91. Bridge Deck Expansion Joints
92. Bridge Deck Water Proofing
93. Soil Nailing
94. Sewer Relining
95. Sewer Surveys
96. Safety Fencing
97. Bridge Parapets (Manufacture & Installation)
98. Access Plant for Inspection
99. Bridge Parapet Painting
100. Painting of Structural Steelwork
101. Arboriculturalist
102. Weed-spraying
103. Weather Forecasting
104. Playground Equipment
105. Specialist Cleaning
106. Synthetic Pitches and Sports Facilities
107. Bus/Cycle Shelters
108. Traffic Signals
109. Street Lighting
110. Street Furniture
111. Specialist Contractor not listed above – please specify type of work



Appendix B

Impact Assessment - First Stage

1. Details of the initiative

Initiative description and summary: List of Approved Contractors – Approval to add new Contractors and remove Contractors who have failed to meet NPTCBC’s Health & Safety criteria/gone into Liquidation.

Service Area: Procurement

Directorate: All

2. Does the initiative affect:

	Yes	No
Service users		x
Staff		x
Wider community		x
Internal administrative process only	✓	

3. Does the initiative impact on people because of their:

	Yes	No	None/ Negligible	Don't Know	Impact H/M/L	Reasons for your decision (including evidence)/How might it impact?
Age			x			There is no impact. Applications to be included on the Approved List of Contractors are accepted from all construction companies who meet the criteria.
Disability			x			
Gender Reassignment			x			
Marriage/Civil Partnership			x			
Pregnancy/Maternity			x			
Race			x			
Religion/Belief			x			
Sex			x			
Sexual orientation			x			

4. Does the initiative impact on:

	Yes	No	None/ Negligible	Don't know	Impact H/M/L	Reasons for your decision (including evidence used) / How might it impact?
People's opportunities to use the Welsh language			x			
Treating the Welsh language no less favourably than English			x			

5. Does the initiative impact on biodiversity:

	Yes	No	None/ Negligible	Don't know	Impact H/M/L	Reasons for your decision (including evidence) / How might it impact?
To maintain and enhance biodiversity			x			N/A
To promote the resilience of ecosystems, i.e. supporting protection of the wider environment, such as air quality, flood alleviation, etc.			x			N/A

6. Does the initiative embrace the sustainable development principle (5 ways of working):

	Yes	No	Details
Long term - how the initiative supports the long term well-being of people	✓		The addition of contractors onto the List of Approved Contractors will enable these companies to be procured in accordance with NPT's Procurement Rules. Contractors who fail to meet the requirements of this List will be given the opportunity to meet NPT's criteria. If this is not met, approval will be sought from Members to remove these contractors.

<p>Integration - how the initiative impacts upon our wellbeing objectives</p>	✓		<p>Approving additional contractors onto the List of Approved Contractors will enable NPT to procure works with these companies. This will allow the companies to provide employment opportunities, allowing people to take advantage of wealth generated through securing decent work.</p> <p>The List of Approved Contractors gives local companies the opportunity to be contracted by NPT to undertake works.</p>
<p>Involvement - how people have been involved in developing the initiative</p>	✓		<p>The companies have been assessed to determine their suitability to be included on the List of Approved Contractors. External financial checks have been undertaken. Various departments have undertaken checks on the companies for Insurances, technical ability, Quality, Environmental and Health & Safety.</p>
<p>Collaboration - how we have worked with other services/organisations to find shared sustainable solutions</p>	✓		<p>Several departments have been involved in checking that contractors are suitable to undertake works for the category/ies. Any contractors who fail to comply with the ongoing checks for the List of Approved Contractors will be given the opportunity to meet NPT criteria. If this is not met, approval will be sought from Members to remove these contractors. The List of Approved Contractors is available for use by all departments in the Authority wishing to undertake works.</p>
<p>Prevention - how the initiative will prevent problems occurring or getting worse</p>	✓		<p>Contractors who fail to comply with the ongoing checks for the List of Approved Contractors will be given the opportunity to meet NPT criteria. If this is not met, approval will be sought from Members to remove these contractors.</p>

7. Declaration - based on above assessment (tick as appropriate):

A full impact assessment (second stage) is not required	✓
Reasons for this conclusion	
<p>This First Stage Impact Assessment has been undertaken to assist the Council in discharging its legislative duties (under the Equality Act 2010, the Welsh Language Standards (No.1) Regulations 2015, the Well-being of Future Generations (Wales) Act 2015 and the Environment (Wales) Act 2016.</p> <p>This First Stage Assessment has indicated that a more in-depth assessment is not required. A summary is below:-</p> <p>The report is seeking approval to add new Contractor(s), add additional Category/ies for approved Contractor(s) and remove approved Contractor(s).</p> <p>This does not affect any group of people and/or impact the Welsh Language, Biodiversity or the Five Ways of Working.</p>	

A full impact assessment (second stage) is required	x
Reasons for this conclusion	
N/A	

	Name	Position	Signature	Date
Completed by:-	Amanda J. Phillips	Programme & Commissioning Manager	AJP	27/10/2023
Signed off by:-	David W. Griffiths	Head of Engineering & Transport	DWG	27/10/2023

This page is intentionally left blank



Cyngor Castell-nedd Port Talbot
Neath Port Talbot Council

NEATH PORT TALBOT COUNTY BOROUGH COUNCIL

ENVIRONMENT, REGENERATION AND STREETSCENE SERVICES CABINET BOARD

14th November 2023

Report of the Head of Engineering & Transport – D.W.Griffiths

Matter for Decision

Wards Affected: Sandfields East

**Proposed Traffic Regulation Orders for Awel Afan Housing
Development off Channel View and The Princess Margaret Way,
Port Talbot.**

Purpose of the Report:

To obtain Members approval to advertise the traffic regulation orders as indicated in Appendix A.

Executive Summary:

The report outlines the proposed traffic regulation orders and the reason why the orders are required.

Background:

The new Awel Afan Housing Development off Channel View and The Princess Margaret Way, Port Talbot has planning approval conditions that require various traffic regulation orders.

As part of the proposals, traffic regulation orders are required at the entry points of the Development off Channel View and The Princess Margaret Way to ensure that the access/egress to the development is kept clear from indiscriminate parking in the interest of road safety.

The proposed traffic regulation orders are 'Prohibition of Waiting, Loading and Unloading at Any Time', 'Prohibition of Waiting At Any Time' and 'Prohibition of Right Turn'.

The proposed scheme is indicated in Appendix A.

Financial Impacts:

The scheme is to be funded by the Developer.

Integrated Impact Assessment:

A first stage impact assessment has been undertaken to assist the Council in discharging its legislative duties (under the Equality Act 2010, the Welsh Language Standards (No.1) Regulations 2015, the Well-being of Future Generations (Wales) Act 2015 and the Environment (Wales) Act 2016.

The first stage assessment, attached at Appendix B, has indicated that a more in-depth assessment is not required. A summary is included below: -

A full impact assessment is not required as the proposed traffic regulation orders will provide a safe environment for all highway users.

Valleys Communities Impacts:

There are 'No Implications' associated with this report.

Workforce Impacts:

There are 'No Implications' associated with this report.

Legal Impacts:

The scheme is to be advertised for a 21-day period as part of the statutory process.

Risk Management Impacts:

There are no risk management impacts associated with this report.

Consultation:

A consultation exercise will be undertaken when the scheme is advertised.

Recommendations:

Having had due regard to the integrated impact assessment it is recommended that approval is granted to advertise the traffic regulation orders associated with the new Afan Awel Housing Development off Channel View and The Princess Margaret Way (As detailed in Appendix A to the circulated report) and if no objections are received that the proposals are to be implemented on site as advertised.

Reasons for Proposed Decision:

The proposed traffic regulation orders will prevent indiscriminate parking and facilitate the passage of vehicular traffic in the interest of road safety.

Implementation of Decision:

The decision is proposed for implementation after the three day call in period.

Appendices:

Appendix A – Plan – Awel Afan Housing Development off Channel View and The Princess Margaret Way Port Talbot – Proposed Traffic Regulation Orders

Appendix B – Integrated Impact Assessment.

List of Background Papers:

None.

Officer Contact:

Mr Hasan Hasan
Engineering & Transport
Tel. No. 01639 686463
Email h.hasan@npt.gov.uk

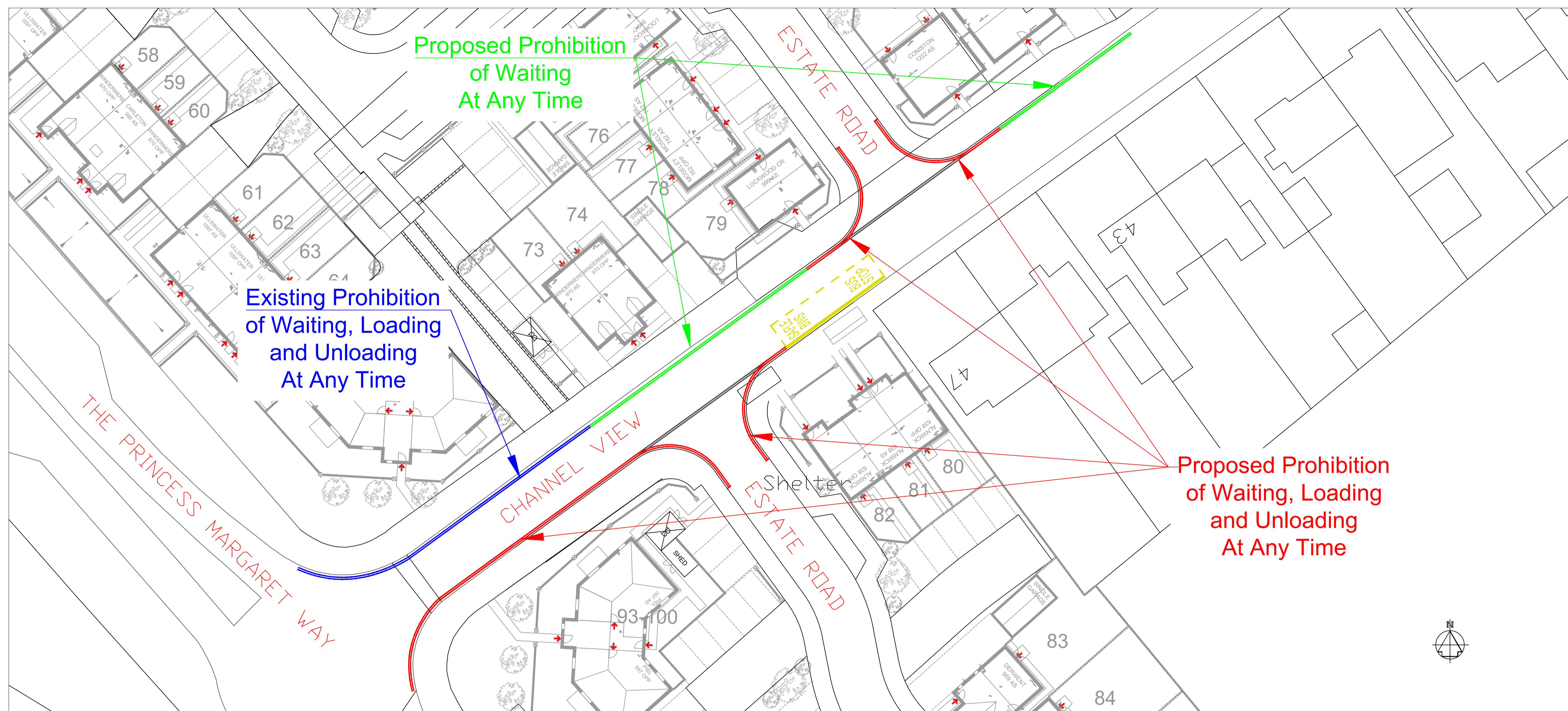
Mr Martin Brumby,
Engineering & Transport
Tel. No. 01639 686013
Email m.brumby@npt.gov.uk

Mr Ryan L. Jones,
Engineering & Transport Tel.
No. 01639 686771
Email r.jones15@npt.gov.uk

This page is intentionally left blank

1. All dimensions are in millimetres unless otherwise stated.

- KEY:-**
- ▬ Proposed Prohibition of Waiting, Loading and Unloading At Any Time
 - ▬ Proposed Prohibition of Waiting At Any Time
 - ▬ Prohibition of Right Turn
 - ▬ Existing Prohibition of Waiting, Loading and Unloading At Any Time



INSET A - PROPOSED TRAFFIC REGULATION ORDERS - SCALE 1:250 @ A1

APPENDIX 'A'

Rev	Details	Dr	Ch	Ap	Date

Client

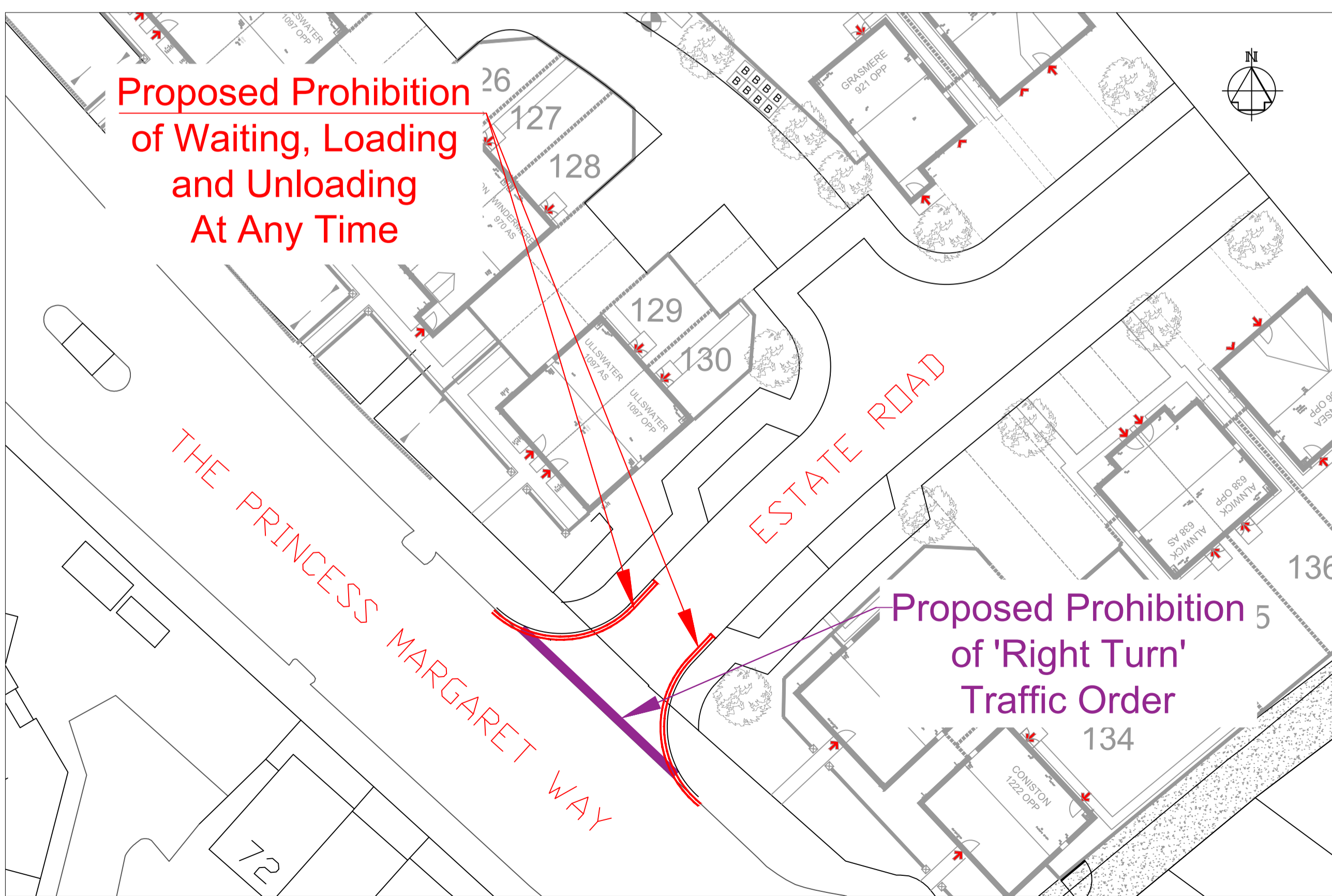
ENGINEERING AND TRANSPORT
 NICOLA PEARCE BSC (Hons), Dip TP, MRTPI
 DIRECTOR OF ENVIRONMENT AND REGENERATION
 THE QUAYS, BRUNEL WAY
 BAGLAN ENERGY PARK
 NEATH SA11 2GG

Job Title
**AWEL AFAN HOUSING DEVELOPMENT
 OFF CHANNEL VIEW AND
 THE PRINCESS MARGARET WAY
 PORT TALBOT**

PROPOSED TRAFFIC REGULATION ORDERS

File No.	Financial Code No.				
Drawn	RLJ	Checked	MCB	Approved	HHH
Date	OCT'23	Date	OCT'23	Date	OCT'23
Scales	As Detailed				
	Status				

Drawing No. R10600_CVAL_TRO-1



INSET B - PROPOSED TRAFFIC REGULATION ORDERS - SCALE 1:250 @ A1



SITE LOCATIONS - SCALE 1:2500 @ A1

This page is intentionally left blank

1. Details of the initiative

Initiative description and summary: Proposed Traffic Regulation Orders for Awel Afan Housing Development off Channel View and The Princess Margaret Way, Port Talbot.

Service Area: Engineering and Transport

Directorate: Environment and Regeneration

2. Does the initiative affect:

	Yes	No
Service users	Y	
Staff	Y	
Wider community	Y	
Internal administrative process only	Y	

3. Does the initiative impact on people because of their:

	Yes	No	None/ Negligible	Don't Know	Impact H/M/L	Reasons for your decision (including evidence)/How might it impact?
Age		N			L	There is no negative impact on the listed groups as the scheme will prevent indiscriminate parking thereby making the location safer for all users of the locality around the new development. This will encourage all users to walk and cycle to the development and in doing so will help to promote Active Travel.
Disability		N			L	
Gender Reassignment		N			L	
Marriage/Civil Partnership		N			L	
Pregnancy/Maternity		N			L	
Race		N			L	
Religion/Belief		N			L	
Sex		N			L	
Sexual orientation		N			L	

4. Does the initiative impact on:

	Yes	No	None/ Negligible	Don't know	Impact H/M/L	Reasons for your decision (including evidence used) / How might it impact?
People's opportunities to use the Welsh language	Y				L	There will be a positive impact as we welcome all correspondence in Welsh and English when dealing with the wider community.
Treating the Welsh language no less favourably than English	Y				L	There will be no negative impact because all permanent highway approved signage and road markings used in the traffic regulation order are Bilingual (Welsh / English) with Welsh placed above English.

5. Does the initiative impact on biodiversity:

	Yes	No	None/ Negligible	Don't know	Impact H/M/L	Reasons for your decision (including evidence) / How might it impact?
To maintain and enhance biodiversity		N			L	There is no negative impact as the road markings are located on the carriageway, therefore the scheme does not impact the existing Flora, Fauna or Biodiversity. Any signage located in the verge will be on a pole which will have minimal impact.
To promote the resilience of ecosystems, i.e. supporting protection of the wider environment, such as air quality, flood alleviation, etc.		N			L	There is no negative impact as the road markings are located away from the kerb allowing the carriageway and footway drainage to function as at present. The scheme is located within the existing road surface and as such there is no opportunity to provide additional drainage systems such as swales, soakaways etc.

6. Does the initiative embrace the sustainable development principle (5 ways of working):

	Yes	No	Details
<p>Long term - how the initiative supports the long term well-being of people</p>	Y		<p>Within the Neath Port Talbot presently 59.6% of adults are obese or overweight (with 23.6% being obese) it is predicted that by 2025 the number will have risen to 66.5%. A quarter of children in Wales are overweight or obese (including 12.4% that are obese) Wales has a higher percentage of adolescents self-reporting to be overweight or obese compared to England, Scotland and Republic of Ireland, with rates being generally higher in boys than girls.</p> <p>Only 48.4% of adults in Neath Port Talbot are meeting the physical activity guidelines compared to 53.1% in Wales. For most people, the easiest form of physical activity are those that can be built into everyday life such as walking and commuting by active travel. By enabling active travel, the proposal will contribute to improved health benefits for users whilst reducing carbon emissions from vehicles.</p> <p>The Welsh Governments Llwybr Nweydd Wales transport strategy sets out the 20 year ambition and focuses on delivering an accessible, sustainable transport system that is good for people, communities, the environment the economy and Welsh language and culture.</p> <p>The 5 year priorities call for a transport system and infrastructure that plays its part in reducing greenhouse gas emissions whilst increasing active travel and public transport use by providing safe, accessible, sustainable transport systems that people will want to use.</p> <p>The sustainable transport hierarchy places active travel at the forefront of transport and sets out how the strategy will encourage people to change their travel behaviour to use low-carbon sustainable transport, cycling and walking as the preferred transport modes.</p> <p>The traffic regulation orders will prevent indiscriminate parking thereby making the location safer for all users of the locality around the new development.</p>

Integration - how the initiative impacts upon our wellbeing objectives	Y		The traffic regulation orders will prevent indiscriminate parking thereby making the location safer for all users of the locality around the new development.
Involvement - how people have been involved in developing the initiative	Y		A statutory consultation exercise for the traffic regulation orders will be undertaken with letters and plans delivered to the adjacent properties detailing the proposals. The traffic regulation orders will be advertised in the South Wales Evening Post, on the Council's web site and Notices posted on site.
Collaboration - how we have worked with other services/organisations to find shared sustainable solutions	Y		The various sections within the Council such as Highway Engineering and the Legal section have worked together on this initiative.
Prevention - how the initiative will prevent problems occurring or getting worse	Y		In NPT 25.5% of homes do not have access to a car. Where car ownership levels are low, residents are more likely to be reliant on public transport and active travel for their day to day needs and to access key services and employment. Poor facilities can lead to difficulty in using active travel which can cause to social exclusion and isolation, which subsequently can lead to a range of health and social problems. Facilitating more journeys by Active Travel will reduce our consumption of natural resources and act to tackle the causes and consequences of congestion, climate change, traffic pollution and noise. Encouraging people to be more active by providing Active Travel routes will help people to be healthy, to achieve their potential.

7. Declaration - based on above assessment (tick as appropriate):

A full impact assessment (second stage) is not required	✓
Reasons for this conclusion	

After completing the assessment, it has been determined that this proposal does not require a full Impact Assessment (second stage). The traffic regulation orders will prevent indiscriminate parking thereby making the location safer for all users of the locality around the new development and, have no adverse impact on people who share protected characteristics or on people's ability to use the Welsh language.

A full impact assessment (second stage) is required	
Reasons for this conclusion	

	Name	Position	Signature	Date
Completed by	Hasan I. Hasan	Engineering Manager	HIH	26/10/2023
Signed off by	D.W.Griffiths	Head of Engineering & Transport	DWG	26/10/2023

This page is intentionally left blank



Cyngor Castell-nedd Port Talbot
Neath Port Talbot Council

NEATH PORT TALBOT COUNTY BOROUGH COUNCIL

ENVIRONMENT, REGENERATION AND STREETSCENE SERVICES CABINET BOARD

14th November 2023

Report of the Head of Engineering & Transport – D.W.Griffiths

Matter for Decision

Wards Affected: Pontardawe

(QUARR ROAD, PONTARDAWE) (DISABLED RESIDENTS PARKING PLACES) ORDER 2023

Purpose of the Report:

To consider the correspondence received following the advertisement of the (Quarr Road, Pontardawe) (Disabled Residents Parking Places) Order 2023, as indicated in Appendix A.

Executive Summary:

The report outlines the proposed Individual Disabled Parking Place for 21 Quarr Road, Pontardawe which was formally advertised resulting in one objection and one letter of support being received.

Background:

The individual disabled parking place (IDPP) is required due to the resident meeting all the criteria required for an individual disabled parking place to be located directly outside No. 21 Quarr Road, Pontardawe. This will give the applicant peace of mind to know that they will always be able to park directly outside the property they live in and therefore allowing them to use their motor vehicle to access shops, parks, medical centres etc. safe in the knowledge that no other vehicle can park in the proposed individual disabled bay.

The proposed scheme is indicated in Appendix A.

Financial Impacts:

The scheme is to be funded by the Council's Capital Programme.

Integrated Impact Assessment:

A first stage impact assessment has been undertaken to assist the Council in discharging its legislative duties (under the Equality Act 2010, the Welsh Language Standards (No.1) Regulations 2015, the Well-being of Future Generations (Wales) Act 2015 and the Environment (Wales) Act 2016.

The first stage assessment, attached at Appendix B, has indicated that a more in-depth assessment is not required. A summary is included below: -

A full impact assessment is not required as the introduction of the Individual Disabled Parking Place (IDPP) will assist in the resident of 21 Quarr Road, Pontardawe in having their independence to leave home, safe in the knowledge that they can return to park directly outside their property.

Valleys Communities Impacts:

There are 'No Implications' associated with this report.

Workforce Impacts:

There are 'No Implications' associated with this report.

Legal Impacts:

The proposal was advertised for a 21-day period from the 14/08/23 – 04/09/23.

Risk Management Impacts:

There are no risk management impacts associated with this report.

Consultation:

This item has been subject to external consultation.

A consultation exercise was undertaken for a period of 21-days from the 14/08/23 – 04/0923.

There were 21 letters and plans hand delivered to the properties on Quarr road detailing the proposals. Following a three-week consultation exercise, we received 1 objection and 1 letter of support to the proposal.

A summary of the support and the objection received is given below:-

Objection:-

- 1) The resident feels that parking is already restricted on Quarr road in particular at times when there is an event on at the nearby swimming pool.

- 2) Residents currently manage parking on the street already moving their cars later on in the evening when there is parking spaces available.
- 3) The resident is concerned that other residents with a blue badge will park in the space and that in turn will cause problems.

Support: -

- 1) There is 1 letter of support for the scheme, they support the IDPP for 21 Quarr Road, Pontardawe.

The Local Members have been consulted on the feedback received and support that the objections are overruled. They are aware of the applicants Medical conditions and feel that it will benefit the resident.

Recommendations:

Having had due regard to the integrated impact assessment it is recommended that the objection is overruled in full to the (Quarr Road, Pontardawe) (Disabled Residents Parking Places) Order 2023(as detailed in Appendix A to the circulated report) and that the scheme is implemented as advertised at the earliest convenience.

The objector will be notified of the decision of the board accordingly.

Reasons for Proposed Decision:

Having due regard to the objection that was received and also the letter of support there are many factors that were considered before making the proposed decision. Due to the Topography of Quarr road I believe there is a strong case for the scheme to be implemented as the road is at a steep gradient. The applicant met all the criteria to apply for an Individual Disabled Parking Place. It is also worth noting point 3 of the objection summery. The resident was concerned that anybody that holds a blue badge would be able to park in the bay, this is not true. Only the occupier of number 21 will be able to apply

for the disabled parking permit in relation to this bay and the council parking enforcement team are able to check this with the vehicle registration linked to the proposed permit.

Implementation of Decision:

The decision is proposed for implementation after the three day call in period.

Appendices:

Appendix A – Plan – IDPP 21 Quarr Road, Pontardawe.

Appendix B – Integrated Impact Assessment.

List of Background Papers:

None.

Officer Contact:

Mr Hasan Hasan
Engineering & Transport
Tel. No. 01639 686463
Email h.hasan@npt.gov.uk

Mr Martin Brumby,
Engineering & Transport
Tel. No. 01639 686013
Email m.brumby@npt.gov.uk

Mr Jonathan Davies
Engineering & Transport
Tel. No. 01639 686494
Email j.davies11@npt.gov.uk



Dwg. No.

Page 79

Job Title

NOTES

1. All dimensions are in millimetres unless otherwise stated.

Proposed 5.5m x 2.0m Individual Disabled Parking Place.

Rev	Details	Dr	Ch	Ap	Date

Client

APPENDIX A



ENGINEERING AND TRANSPORT
 NICOLA PEARCE BSC (Hons), Dip TP, MRTP
 DIRECTOR OF ENVIRONMENT AND REGENERATION
 THE QUAYS, BRUNEL WAY
 BAGLAN ENERGY PARK
 NEATH SA11 2GG

Job Title
21 QUARR ROAD, PONTARDAWE

PROPOSED INDIVIDUAL DISABLED PARKING PLACE.

File No.	Financial Code No.			
Drawn JJD	Checked MCB	Approved HHH		
Date JUN'23	Date JUN'23	Date JUN'23		
Scales NTS	Status PRELIM			
Drawing No.	IDPP-21QUARR ROAD			

This page is intentionally left blank

1. Details of the initiative

Initiative description and summary: Quarr Road, Pontardawe (Disabled Residents Parking Places) Order 2023
Service Area: Engineering and Transport
Directorate: Environment and Regeneration

2. Does the initiative affect:

	Yes	No
Service users	Y	
Staff	Y	
Wider community	Y	
Internal administrative process only	Y	

3. Does the initiative impact on people because of their:

	Yes	No	None/ Negligible	Don't Know	Impact H/M/L	Reasons for your decision (including evidence)/How might it impact?
Age		N			L	There is no negative impact on the listed groups only a positive impact for the resident that has applied for the Individual Disabled Parking Place.
Disability	Y				H	
Gender Reassignment		N			L	
Marriage/Civil Partnership		N			L	
Pregnancy/Maternity		N			L	
Race		N			L	
Religion/Belief		N			L	
Sex		N			L	
Sexual orientation		N			L	

4. Does the initiative impact on:

	Yes	No	None/ Negligible	Don't know	Impact H/M/L	Reasons for your decision (including evidence used) / How might it impact?
People's opportunities to use the Welsh language	Y				L	There will be a positive impact as we welcome all correspondence in Welsh and English when dealing with the wider community.
Treating the Welsh language no less favourably than English	Y				L	There will be no negative impact because all permanent highway approved signage and road markings used in the traffic regulation order are Bilingual (Welsh / English) with Welsh placed above English.

5. Does the initiative impact on biodiversity:

	Yes	No	None/ Negligible	Don't know	Impact H/M/L	Reasons for your decision (including evidence) / How might it impact?
To maintain and enhance biodiversity		N			L	There is no negative impact as the road markings are located on the carriageway, therefore the scheme does not impact the existing Flora, Fauna or Biodiversity.
To promote the resilience of ecosystems, i.e. supporting protection of the wider environment, such as air quality, flood alleviation, etc.		N			L	There is no negative impact as the road markings are located away from the kerb allowing the carriageway and footway drainage to function as at present. The scheme is located within the existing road surface and as such there is no opportunity to provide additional drainage systems such as swales, soakaways etc.

6. Does the initiative embrace the sustainable development principle (5 ways of working):

	Yes	No	Details
<p>Long term - how the initiative supports the long term well-being of people</p>	Y		<p>Within the Neath Port Talbot presently 59.6% of adults are obese or overweight (with 23.6% being obese) it is predicted that by 2025 the number will have risen to 66.5%. A quarter of children in Wales are overweight or obese (including 12.4% that are obese) Wales has a higher percentage of adolescents self-reporting to be overweight or obese compared to England, Scotland and Republic of Ireland, with rates being generally higher in boys than girls.</p> <p>Only 48.4% of adults in Neath Port Talbot are meeting the physical activity guidelines compared to 53.1% in Wales. For most people, the easiest form of physical activity are those that can be built into everyday life such as walking and commuting by active travel. By enabling active travel, the proposal will contribute to improved health benefits for users whilst reducing carbon emissions from vehicles.</p> <p>The Welsh Governments Llwybr Nweydd Wales transport strategy sets out the 20 year ambition and focuses on delivering an accessible, sustainable transport system that is good for people, communities, the environment the economy and Welsh language and culture.</p> <p>The 5 year priorities call for a transport system and infrastructure that plays its part in reducing greenhouse gas emissions whilst increasing active travel and public transport use by providing safe, accessible, sustainable transport systems that people will want to use.</p> <p>The sustainable transport hierarchy places active travel at the forefront of transport and sets out how the strategy will encourage people to change their travel behaviour to use low-carbon sustainable transport, cycling and walking as the preferred transport modes.</p>

			The IDPP allows residents who meets the criteria to apply for a parking bay directly outside of their property.
Integration - how the initiative impacts upon our wellbeing objectives	Y		The IDPP allows residents who meets the criteria to apply for a parking bay directly outside of their property.
Involvement - how people have been involved in developing the initiative	Y		<p>A statutory consultation exercise for the revocation of the traffic regulation order was undertaken with 21 letters and plans hand delivered to the adjacent properties detailing the proposals. The statutory notice for the traffic regulation order was advertised in the South Wales Evening Post, on the Council's web site and Notices posted on site.</p> <p>One objection and one letter of support was received to the scheme and it is recommended the objection is overruled and the scheme installed at the earliest convenience.</p>
Collaboration - how we have worked with other services/organisations to find shared sustainable solutions	Y		The various sections within the Council such as Highway Engineering and the Legal section as well as customer services have worked together on this initiative.
Prevention - how the initiative will prevent problems occurring or getting worse	Y		<p>In NPT 25.5% of homes do not have access to a car. Where car ownership levels are low, residents are more likely to be reliant on public transport and active travel for their day to day needs and to access key services and employment. Poor facilities can lead to difficulty in using active travel which can cause to social exclusion and isolation, which subsequently can lead to a range of health and social problems.</p> <p>Facilitating more journeys by Active Travel will reduce our consumption of natural resources and act to tackle the causes and consequences of congestion, climate change, traffic pollution and noise.</p> <p>Encouraging people to be more active by providing Active Travel routes will help people to be healthy, to achieve their potential.</p>

7. Declaration - based on above assessment (tick as appropriate):

A full impact assessment (second stage) is not required	✓
Reasons for this conclusion	
<p>After completing the assessment, it has been determined that this proposal does not require a full Impact Assessment (second stage). The proposed Individual Disabled Parking Place will have no adverse impact on people who share protected characteristics or on people's ability to use the Welsh language.</p> <p>One objection and one letter of support was received to the scheme and it is recommended the objection is overruled and the scheme installed at the earliest convenience.</p>	

A full impact assessment (second stage) is required	
Reasons for this conclusion	

	Name	Position	Signature	Date
Completed by	Hasan I. Hasan	Engineering Manager	HIH	05/10/2023
Signed off by	D.W.Griffiths	Head of Service/Director	DWG	05/10/2023

This page is intentionally left blank



Cyngor Castell-nedd Port Talbot
Neath Port Talbot Council

NEATH PORT TALBOT COUNTY BOROUGH COUNCIL

Environment, Regeneration and Streetscene Services Cabinet Board

14th November 2023

Joint Report of Head of Streetcare – M. Roberts and Head of Engineering & Transport – D. W. Griffiths

Matter for: Decision

Wards Affected: All Wards

Highway Asset Management Plan

Purpose of Report:

To update Members with regard to the continuing development of Highway Asset Management planning, to seek endorsement of a revised plan for 2023-2026, and identify some important additional work required.

Executive Summary:

Neath Port Talbot County Borough Council's Highway Asset Management Plan (HAMP) provides an integrated framework for the delivery of highway maintenance services across the Authority's road

network and optimises resources for the management of the highway infrastructure.

Background:

In Neath Port Talbot, as in other areas, residents, visitors and the business community rely on the local highway infrastructure to undertake their everyday activities. In line with guidance and best practice the Council is continuing to improve Highway Asset Management Planning. The Council's current Highway Asset Management Plan was adopted by Members in 2020.

The HAMP identifies the main asset groups of the highways infrastructure, individual asset inventory and condition data, along with any gaps where issues need to be reviewed to bring practices/assets up to required standards.

The aim of adopting an Asset Management strategy is to allow a planned approach to improve the management of the highway asset in respect of those components that are maintainable at public expense and for which the Council, as Highway Authority, is responsible. The aim is to ensure the asset is maintained efficiently to both a safe and serviceable condition in support of the objectives established in the Council's Corporate Plan, and the asset plan is intended to set out in practical terms the strategy for doing so.

This is the sixth review of the Council's HAMP since its original adoption and the document has been developed in line with nationally agreed criteria.

As part of the current review, the need for other important work has been identified in relation to the Regional Transport Plan for South West Wales. This work still needs to be completed, based on the

priorities set out in the Llwybr Newydd, the national transport strategy for Wales, however, it is proposed the attached document is endorsed in the interim whilst this is done.

In addition, more clarity is needed in relation to the management of cycleways because some cycleway provision is made as part of 'shared' footway provision on highways (which is subject to an associated inspection/management regime), whilst some provision is also made as part of 'shared' carriageways (and subject consequently to potentially a different inspection/maintenance regime). Furthermore, whilst the HAMP relates to adopted highway, there are also cycleways on other land which is not adopted highway, subject to a different asset management regime. There is also a further complication, in that whilst there are existing cycleways shown on the Council's adopted Active Travel Network Map (ATNM) which meet the Active Travel Act Guidance (ATAG), there are others which exist and don't meet the required standards. These non-compliant cycleways are included on the map as potential future routes.

So the management of cycle routes needs to be reviewed overall, and looked at across the adopted highway network, un-adopted highway and other land, and also the adopted Active Travel Network including as necessary a review of further documents such as the ATAG and the council's Highway Maintenance Plan. This is required to consider the management of the cycleway assets as a whole, including any de-minimus inspection and maintenance standards, which may in turn give rise to budgetary considerations. This is a substantial piece of work and may even warrant a specific asset management plan, notwithstanding that aside from the Active Travel Network Map aspirations, considerations probably also need extending to the Council's approach to any future re-allocation of road space to cycling as part of developing Active Travel. This will take significant effort to complete, hence it is similarly proposed the attached plan update is

adopted in the interim, and a further report is brought back when the Regional Transport Plan and cycleway work is completed.

Financial Impacts:

No direct financial implications.

The Highway Asset Management Plan and associated documents is a means of identifying the implications of given spending levels and ensuring that available monies are spent to best effect.

Integrated Impact Assessment:

A first stage impact assessment has been undertaken to assist the Council in discharging its legislative duties under the Equality Act 2010, the Welsh Language Standards (No.1) Regulations 2015, the Wellbeing of Future Generations (Wales) Act 2015 and the Environment (Wales) Act 2016.

The first stage assessment, as provided in Appendix B, has indicated that a more in-depth assessment is not required.

The plan is structured to help ensure funding is invested to best effect and where it is most needed, thereby maximising community benefit.

Valleys Communities Impacts:

No implications.

Workforce Impacts:

No direct implications. Any changes in the size of the works programme or in the balance of work undertaken internally or externally could potentially have workforce implications

Legal Impacts:

No implications.

Risk Management Impacts:

An asset management approach to Highway infrastructure provides a framework for informed decision making. This plan sets out the management arrangements required to ensure the benefits of investment are optimised and that the highway asset is managed to meet the expectations of the highway user, within the context of the Council meeting its statutory duties as the Highway Authority.

Consultation:

There is no requirement for external consultation on this item

Recommendations:

Having had due regard to the Integrated Impact Assessment, it is recommended that Members endorse:

- (i) The draft Highway Asset Management Plan 2023-26 as provided in Appendix A.
- (ii) That a further update be brought back to Environment, Regeneration & Streetscene Cabinet Board after completion of the Regional Transport Plan and Cycleway management work.

Reasons for Proposed Decision:

To keep up to date and continue developing, in line with good practice, the Council's Highway Asset Management Planning.

Implementation of Decision:

The decision is proposed for implementation after the three day call in period

Appendices:

Appendix A – Highway Asset Management Plan 2023-2026

Appendix B – Integrated Impact Assessment Screening Document

Officer Contact:

Mr. Aled Jones, Network and Programme Manager

Email: a.jones9@npt.gov.uk

Mr. Steve Owen, Highway and Drainage Manager

Email: s.owen@npt.gov.uk



Environment & Regeneration
Directorate
Neath Port Talbot Council (npt.gov.uk)

Highways Asset Management Plan 2023-26

Contents

1. Introduction	5
1.1 Highway Asset Management Planning	5
1.2 Drivers for Change	6
1.3 Progress to Date	11
1.4 Council Expectations from the HAMP	14
1.5 Corporate Asset Management within Neath Port Talbot CBC	14
1.6 Goals and Objectives of Highway Asset Planning	15
1.7 Time period and updating of this HAMP	17
1.8 Application of the HAMP	17
1.9 Strategic Document Framework	18
2. Asset Description	20
2.1 The Highway Asset	20
2.2 Assets Not Covered by this Plan	23
2.3 Asset Growth	24
3. Community Requirements	24
3.1 Public engagement and reporting	24
3.2 Results of Consultation and Use of Results	26
3.3 National Underground Assets Register (NUAR)	27
4. Future Demands	28
4.1 Introduction	28
4.2 Traffic Growth and Composition	28
4.3 Transport Strategy / Active Travel / Demands for Additional Assets	34
4.4 Utility Activity	47
4.5 Climate Change	49
4.6 Changes in Legislation	53
5. Levels of Service	57
5.1 Establishment of Levels of Service	57
5.2 Measurement and Reporting of Levels of Service	59
5.3 Performance Review	69
5.4 Periods of Additional Funding and Existing Level of Service	69
5.5 Target Levels of Service	74

6.	Lifecycle Planning	75
6.1	Purpose and Importance of Lifecycle Planning	75
6.2	Output from Lifecycle Planning	75
6.3	Lifecycle Plan Contents	75
6.4	Status of Lifecycle Plans	77
6.5	Status and Options Report (for Major Asset Groups)	78
7.	Financial Summary	79
7.1	Sources of Funding and Budget Allocation	79
8.	Risk Management	81
8.1	Corporate Risk Management Policy	81
8.2	Corporate Risk Management Process	84
8.3	Major Asset Risks	89
9.	Improvement Plan	91
9.1	Milestones	91
10.	Management & Control of the Plan	98
10.1	Responsibility for Delivery	98
10.2	Review and Update	99

Executive Summary

Neath Port Talbot County Borough Council's Highway Asset Management Plan (HAMP) provides an integrated framework for the delivery of highway maintenance services across the Authority's road network and optimises resources for the management of the highway infrastructure. Neath Port Talbot's road network is predominantly urban and has a total carriageway length of 858km whilst the footway network totals around 999km.

This document sets out the Council's objectives, policies and strategy for managing its highway infrastructure assets. It recognises the importance of highway infrastructure in supporting corporate, national, regional and local objectives and complying with legislation, such as the Environment (Wales) Act 2016, the Well-being of Future Generations (Wales) Act 2015, Welsh Language Standards (No.1) Regulations 2015, and the Equality Act 2010 (Statutory Duties) (Wales) Regulations 2011. The plan also recognises the risk-based approach, such as that laid down in the latest Code of Practice, 'Well-managed highway infrastructure', and considers its application to target areas of greatest benefit and need. National guidance and increasing financial pressures move the Authority anyway towards a more risk-based approach, which will help ensure funding is invested where it is most needed and to best effect.

Although the highway network can be given a monetary value, it plays a far more important role in the economic and social environments and contributes greatly to the well-being of the county and to Wales as a whole. The network connects villages, towns and communities and

underpins the economy. It enables people to follow their leisure pursuits and commute to and from work. Many of these objectives are encompassed within the new well-being objectives of the Authority's Corporate Plan and in the aspirations set out in The Wales Transport Strategy 2021.

The production of the Plan has brought together practitioners responsible for the different asset groups within the council and follows the principles established nationally in Wales through the County Surveyors Society. The purpose of this Highway Asset Management Plan is to ensure the delivery of highway services in an intelligence led and customer responsive way. This approach will ultimately deliver greater value for money and help achieve key council goals and objectives. Asset management requires a reliable knowledge of asset components and involves developing and maintaining comprehensive inventory and condition data. It also requires an understanding of individual asset group lifecycles and how long components can be expected to last. This knowledge provides the basis for predicting the annual level of investment required to deliver an appropriate level of service in the most cost-effective manner.

An asset management approach to highway infrastructure maintenance provides a framework for informed decision making. This plan sets out the management arrangements required to ensure the benefits of investment are optimised and that the highway asset is managed to meet the expectations of the highway user, within the context of the council meeting its statutory duties as the Highway Authority.

1.0 Introduction

1.1 Highway Asset Management Planning

Highway Asset Management Planning is a process intended to ensure that public infrastructure is managed cost effectively and that available funding is put to best use. To this end, the following definition of Asset Management, which is contained within the Framework for Highway Asset Management, has been accepted by Neath Port Talbot County Borough Council:-

“Asset management is a strategic approach that identifies the optimal allocation of resources for the management, operation, preservation and enhancement of the highway infrastructure to meet the needs of current and future users”

“The adoption of asset management has been proven to provide significant financial benefits” as determined by the review of accounting, management and finance mechanisms for Local Authority Transport Infrastructure Assets. This Asset Management Plan sets out how Neath Port Talbot CBC intends to access the potential benefits founded on the principles of: -

- **Affordable standards:** the Plan establishes standards that can be afforded and communicates them in such a way that the public know what service to expect.
- **Long term planning:** the Plan covers a set time period to ensure the right balance of short-term fixes, preventative actions and planned replacement of aged assets.

- **Appropriate Budget allocation:** the Plan identifies data and analysis concerning our assets to inform decisions about how best to allocate finite resources. It also identifies gaps in knowledge and associated actions.
- **Management of risk:** Within the context of long-term planning and the setting of standards and budgets, the plan aims to gauge and manage the risk associated with decisions made.

This plan should be read in conjunction with the Council's Highway and Winter Maintenance plans.

1.2 Drivers for Change

In July 2005, the UK Roads Liaison Group (UKRLG) published "Well Maintained Highways" the Code of Practice for Highway Maintenance Management. This Code emphasised the need to establish a logical management system to deliver value for money in highway maintenance. The Code recognised the need for local flexibility implied by the new focus on the needs of users and the community. It encouraged authorities to respond enthusiastically and creatively to the challenges posed by Best Value, The Wales Programme for Improvement, and general Sustainability.

The objectives of the Code of Practice were:

- To encourage the adoption of asset management planning as a means of demonstrating value for money in the delivery of highway maintenance, consistent with the wider principles of

integrated transport, sustainability and Best Value.

- To encourage the development, adoption and regular review of policies on highway maintenance, consistent with the wider principles of integrated transport, sustainability and best value.
- To encourage a focus on the needs of users and the community, and their active involvement in the development and review of policies, priorities and programmes.
- To encourage harmonisation of highway maintenance practice and standards where these were consistent with users' expectations, whilst retaining reasonable diversity consistent with local choice.
- To encourage the adoption of an efficient and consistent approach in the collection, processing and recording of highway inventory, condition and status information for the purpose of both local and national needs assessment, management and performance monitoring.
- To encourage the adoption and regular review of a risk management regime in the determination of local technical and operational standards, the rectification of defects arising from safety inspections, and investment priorities.
- To encourage continuing innovation in the procurement of highway maintenance services, whilst complying with high standards of corporate governance.

A revised Code of Practice for Highways “Well Managed Highway Infrastructure” was published in October 2016. The revised code requires authorities to apply a “risk-based approach” to the management of all highway assets. The County Surveyors Society Wales (CSSW) is co-ordinating the development of a nationally consistent response to the code across all Welsh local authorities. Using CSSW’s national Highway Asset Management Project, guidance is being developed to enable authorities to apply a consistent method of risk assessment.

Neath Port Talbot has established a Highway Maintenance Plan which describes how NPTCBC aims to:

- Maintain a safe passage for highway users.
- Protect the asset value of the highway.
- Ensure consistent standards of maintenance across the County Borough relative to road usage.
- Ensure expeditious movement of traffic by complying with the Traffic Management Act.
- Establish a “Needs Based” programme for the maintenance of the network.
- Target resources and maximise the benefit from available funds.

- Facilitate technical and financial monitoring to establish trends in highway condition and to assess achievement against expenditure.
- Provide a framework for reviewing policies and standards and for developing strategies.
- Implement the principles outlined in the latest Code of Practice.
- Ensure that all highway maintenance is undertaken with due regard for environmental considerations.
- Ensure that all highway maintenance is undertaken with due regard for the Section 6 Duty under Environment (Wales) Act 2016, which states that *‘A public authority must seek to maintain and enhance biodiversity in the exercise of functions in relation to Wales, and in so doing promote the resilience of ecosystems, so far as is consistent with the proper exercise of those functions.’*

As well as endorsing the above aims and objectives, implementation of the HAMP aims to support:

- The current and future requirements of the Whole of Government Accounts (WGA) and specifically the Chartered Institute of Public Finance and Accountancy (CIPFA) Highways Network Asset Code.

- The desire of Welsh Government to see authorities use asset management as a framework for the maintenance and development of highways, and to maximise the cost benefits of investment.
- The pressing need to manage ever increasing budget pressures resulting from the national financial position, exacerbated further with the sharp rises in inflation and inexorable cost increases within the construction industry, due to recent global economic factors.
- The introduction of the Prudential Code.
- Arresting the ongoing deterioration in some highway assets.
- The targeting of increasingly scarce resources to best effect.
- A positive response to increasing public expectation.
- Links to communities and promotion of economic wellbeing.
- Corporate drives towards the regeneration of coastal and valley communities.
- Continuing requirements to improve safety and reduce risks to highway users.

- The implementation of defensible strategies in the context of the National Police Chiefs' Councils investigations of fatal and serious injury road collisions.
- Compliance with Department for Transport (DfT) booklet "Maintaining a Vital Asset".

1.3 Progress to Date

This is the sixth update of the Neath Port Talbot CBC Highway Asset Management Plan, which was first produced in 2006. Some of the significant actions taken in the intervening periods include:-

- Development of an in-house condition survey for the classified and un-classified carriageway networks, as well as footways and footpaths, the data from which is used to inform works programmes.
- Identification of inventory and condition data for safety barriers, from which a maintenance programme is developed and actioned.
- The setting up of an inventory database and replacement system for highway signage.
- A review of the council's street lighting following life cycle analysis culminating in a £21 million investment programme to replace aged stock financed through prudential borrowing as part of the Council's Forward Financial Plan.

- A drainage review, which has created a comprehensive database of the culverts, gullies and ditches from which improved maintenance schedules have been produced improving cyclical maintenance.
- In 2015 the Authority published a Flood Risk Management Plan (FRMP). Work is underway to review this document which is expected to be republished in March 2024. Some actions completed to date in line with the Authority's FRMP include:
 - Implementation of 3 major construction projects at Aberavon Sea Front, Varteg Road, Ystalyfera and Rock Street, Glynneath to protect properties from Flooding and coastal erosion.
 - The development of 6 Flood Alleviation Business Cases at Skewen, Briton Ferry, Melyn Cryddan, Cadoxton, Ystalyfera and Glynneath.
 - Development and construction of the county's first Natural Flood Risk Management Scheme in Gnoll Country Park, Neath.
 - Continued investigation, locating and mapping of the entire drainage infrastructure in high-risk communities.
 - Implementation of a more robust and focused maintenance programme for 'Critical Flood Risk Assets'.
 - Implementation of a full CCTV survey and Structural Inspection of all 'Critical Flood Risk Assets'.

- An updated programme of works to strengthen substandard bridge decks, parapets and other structures.
- The new Baglan Energy Park link bridge was completed in April 2015 and forms an integral connection in a network route between Port Talbot and Swansea.
- In 2018, a detailed action plan for the management of potholes was endorsed, setting out key goals and future ambitions for the Highway Maintenance Services. Continuing works includes:
 - Investment in an alternative pothole repair system, by way of a new JCB Pothole Pro machine, as approved by the Members of the Environment and Regeneration Streetscene Services Cabinet Board in December 2022.
 - Exploration of Digital Solutions in the development of a new Highways Management System, which integrates Service First and Highway Inspector reports.
- The NPT Bee Friendly scheme was established in 2021 and appropriate sites on the highways network adopted for meadow management. This has increased the extent of wildflower habitat across NPT, demonstrating how the highways network can contribute to the S6 Biodiversity Duty. Approximately 32 hectares are now under management as meadows through the NPT Bee Friendly scheme.

1.4 Council Expectations from the HAMP

The Council expects, through the continued refinement of the Highway Asset Management Plan, to continue development of a more planned and holistic approach to maintaining and improving highway assets for users, in line with its statutory duties, which maximises return on investment.

1.5 Corporate Asset Management within Neath Port Talbot CBC

Neath Port Talbot County Borough Council is committed to continuous improvement. The corporate approach to asset management, particularly in the management and use of the Council's property and highway infrastructure assets, forms part of their commitment to support the objectives of the The Well-being of Future Generations (Wales) Act 2015.

The Corporate strategy helps to:

- Promote a corporate approach to the management of assets in pursuit of corporate aims and objectives, following the agreed protocol for Capital Programme Management.
- Secure continuous service improvement and build an understanding of the importance of assets in supporting service delivery.
- Manage property and infrastructure holdings and develop information covering their sufficiency, suitability and cost.

- Manage risk across the Council's range of assets.
- Ensure decision making procedures are developed for capital works which sets out how works will be prioritised within available budgets.
- Ensure that capital projects are delivered on time and within budget.

1.6 Goals and Objectives of Highway Asset Planning

The main objectives of this plan are: -

- To identify the extent and condition of the Council's highway infrastructure.
- To understand asset and maintenance treatment lifecycles.
- To inform budgeting and Works Programmes.

In mapping the way forward, gaps in knowledge and good practice have also been identified along with appropriate improvement actions. Alongside the clinical approach of analysing asset condition and lifecycle data, the input of elected ward members is also recognised, with particular regard to local streets in the production of programmes and actions.

It is also noted that environmental factors (particularly with regard to coal tar contaminated highways that have high waste material disposal costs), and economic factors, are driving a critical reappraisal of traditional maintenance treatments. Furthermore, the requirement to “do more with less” whilst ensuring solutions are “fit for purpose” has signalled the need to introduce lower cost treatments leaving in place as much as possible of the existing surface material, which is, in itself, a finite resource. To this end, Neath Port Talbot CBC has carried out surface preservative treatments using the latest materials and techniques and is currently assessing other preventative methods, along with recycling techniques for the purpose of lowering carbon footprint and increasing sustainability in its maintenance practice. The latest micro-surfacing treatments and injection jet patching are also innovative systems that are frequently in use today.

The Highways Maintenance Efficiency Programme’s (HMEP) booklet ‘Maintaining a Vital Asset’ sets out the UK Government’s expectations of councils in maintaining their networks. If the Council is to meet these expectations, it can only do so through the better use of its resources and the adoption of asset management planning. In addressing the expectations of Government in the areas of carriageways and footways, the Council has demonstrated a cost effective and innovative approach through the efficient use of internal resources, inventory and condition data providing for informed decision-making.

Considerable progress has been made in the implementation of asset management principles since the HAMP was first published. The identification of risks, performance gaps and the subsequent

improvement actions are now enabling an improving level of asset management aimed at, in the first instance, arresting further deterioration of the Council's highway asset.

1.7 Time period and updating of this HAMP

This Highway Asset Management Plan covers the period 2023-26, although the actions are based on longer term lifecycle plans. During this period, account will also be taken of any changes in knowledge and understanding as a result of the ongoing reviews and risk assessments etc.

1.8 Application of the HAMP

The HAMP aims to bring together all the Authority's goals, objectives and policies, utilising both existing and new practices, and sets out how the principles of asset management are being applied to ensure the highway service meets the requirements of the Council and highway users, whilst promoting sustainable development in accordance with the Well-being of Future Generations (Wales) Act 2015.

Effective planning will ensure that the network functions efficiently by highlighting the maintenance needs of the various highway components, whilst taking into account the effects of damage caused by increased traffic flows, the presence of heavier and larger vehicles, increasing inflation, new legislation, climate change, expanded operations by utility companies and increasingly constrained budgets.

The plan is expected to provide an effective management tool for the running of the highway network, with highway asset inventory and condition surveys enabling cost and risk to be appropriately considered within the lifecycle analysis process in order to inform summary actions, service standards and works programmes.

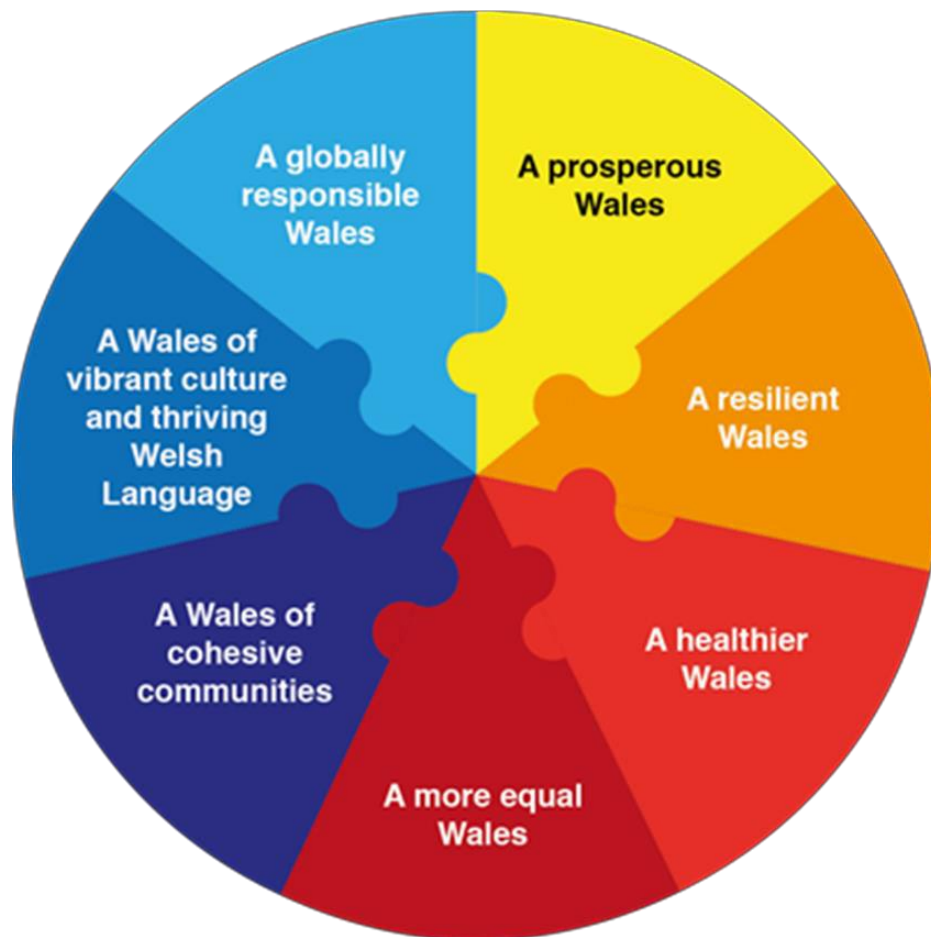
Continued assessment and monitoring over time will provide the basis for measuring performance standards.

1.9 Strategic Document Framework

The Neath Port Talbot Council Corporate Plan 2022-27 is produced to meet the requirements of the Well-being of Future Generations (Wales) Act 2015 (WBFG) and the Local Government (Wales) Measure 2009 by setting out well-being objectives, improvement priorities, the steps we will take to achieve them and how we will measure progress.

Well-being objectives and improvement priorities show how the Council contributes to the social, economic, cultural and environmental well-being of Neath Port Talbot and to the following seven national well-being goals contained within the Well-being of Future Generations Act.

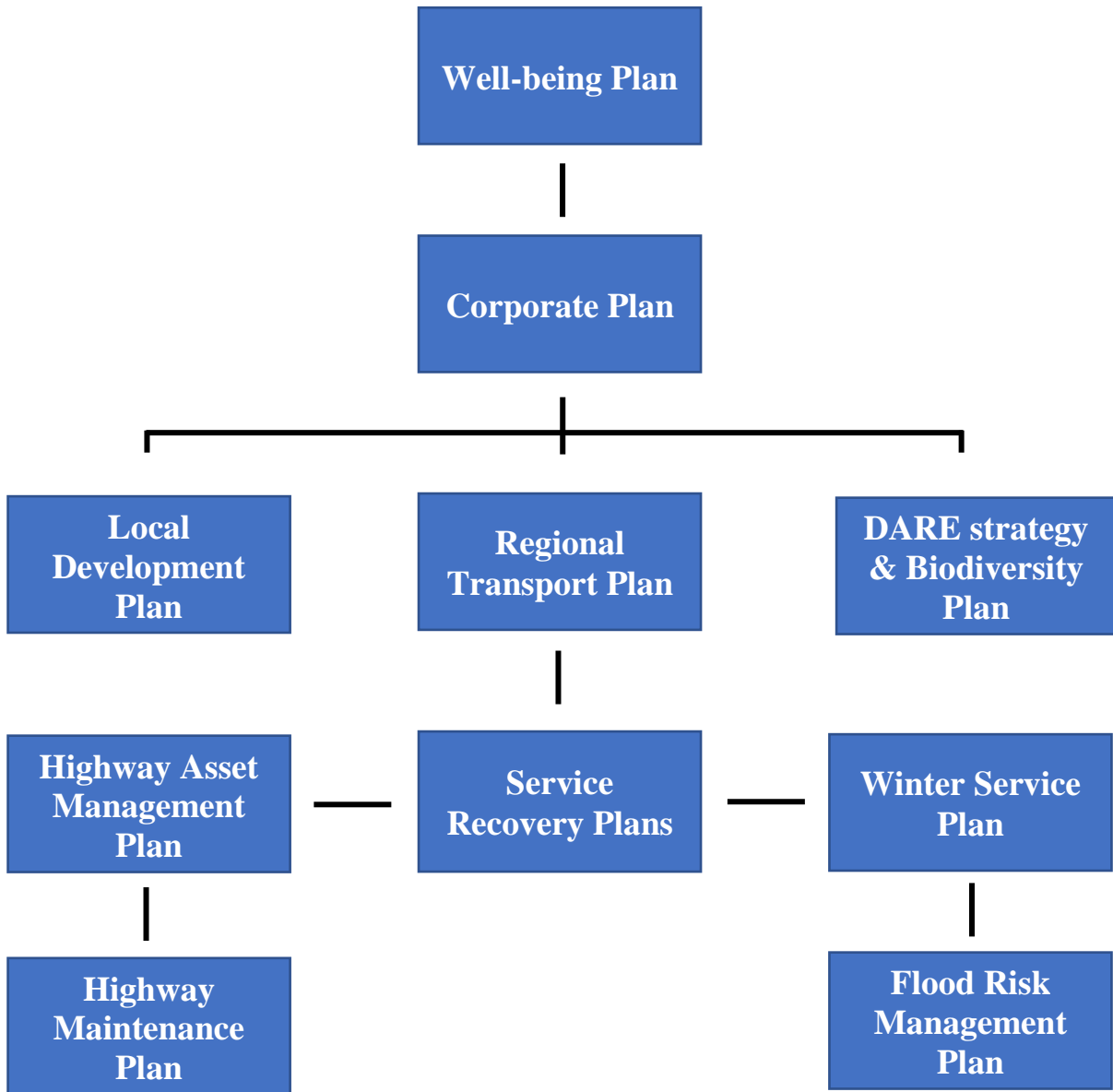
Figure 1.9 National well-being goals



This contribution is made through the way in which we work in accordance with the sustainable development principle contained within the Act.

The strategic document framework below details the relationship between NPT's various strategic documents and shows how the Highway Asset Management Plan fits in.

1.9.1 Strategic Document Framework

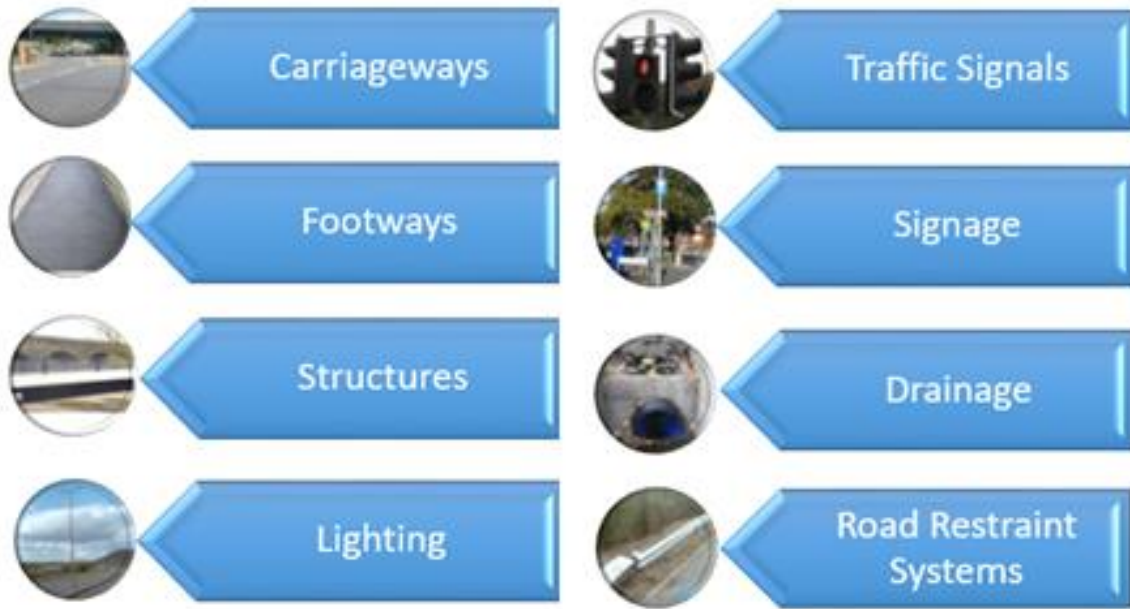


2.0 Asset Description

2.1 The Highway Asset

Neath Port Talbot CBC is the custodian of detailed spatially referenced data sets for the eight main asset groups shown in Table 2.1.1 below.

Table 2.1.1 – Main highway asset groups



An inventory overview of the main highway asset groups is shown in the table 2.1.2 below:

Table 2.1.2 - Main highway asset inventory

Neath Port Talbot CBC – Main Highway Asset Inventory		
Asset Description	Amount	Unit
Carriageway	858	Kilometres
Footways	999	Kilometres
Safety Barriers	40.12	Kilometres
	370	Sections
Post and Rail barrier	31.32	Kilometres
	498	Sections

Neath Port Talbot CBC – Main Highway Asset Inventory (cont.)		
Asset Description	Amount	Unit
Drainage:		
Critical and High Priority Culverts	94	Number
Road Culverts	2,003	Number
Gullies	31,947	Number
Highway surface water drains (survey ongoing)	1012.19	Kilometres
Structures:		
Bridges	392	Number
Culverts > 1 metre Diameter	126	Number
Retaining walls (in NPT ownership)	732	Number
Retaining walls (ownership unknown)	1,262	Number
Street Lighting	19,553 Lanterns 19,209 Columns	Number Number
Traffic Signals (light heads on junction control and pedestrian crossings)	87 Sets of Signals 514 (Red, Amber, Green) 269 (Red/Green Person)	Number Number Number
Signage:		
Illuminated	2,916	Number
Non illuminated	10,647	Number

Since the original HAMP was produced in 2006 the asset inventory has developed to such an extent that we now also have detailed information on the following additional assets groups shown in Table 2.1.3 below: -

Table 2.1.3 – Additional highway asset groups

Asset Description		
Benches	Litter Bins	Salt Bins
Bollards (unilluminated)	Pedestrian Barriers	Street Name Plates
Bus Shelters and Stops	Pedestrian Crossings	Traffic Calming Measures
Cycle Routes	Post and Rail Fencing	Trees
Dog Bins	Residents Parking Bays	Weather Stations
High Friction Surfacing	Road Markings	

2.2 Assets Not Covered by this Plan

Assets not covered by this plan include the following:-

- Motorways and Trunk Roads (for which Welsh Government is Highway Authority).
- Footpaths and car parks identified by Estates as being in Authority ownership but not part of the maintained adopted highway.
- Garage compounds owned by others.
- Public Rights of Way.
- Unadopted / private roads and structures.
- Lighting to car parks and parks not maintained by the Highway Authority.
- All other assets within the highway that fall under the responsibility of other organisation such as utility companies.

2.3 Asset Growth

Over the three years since the last HAMP, the carriageway asset within Neath Port Talbot has grown by 4.74 kilometres, representing a 0.55% network growth.

This increase has been due to new residential housing developments in the local area resulting in the adoption of new roads by the Authority. It is expected that, despite the economic downturn, this growth pattern will continue over the length of the Plan.

Such growth has resulted in an increase in other assets such as footways, drainage systems, street lighting and carriageway markings, highlighting the need to periodically update the relevant asset information.

Furthermore, increased use of expensive high specification materials, such as anti-skid and coloured surfacing (often implemented as part of accident reduction measures) together with block paviers and decorative stone flags in town centres (as part of regeneration schemes), increases the overall cost of asset maintenance.

3.0 Community Requirements

3.1 Public engagement and reporting

Previous corporate communications and community relations strategies were developed to help meet the requirement under the Well-being of Future Generations (Wales) Act 2015, to involve people

in the work that the Council carries out. They were also designed to make our collective communications and community relations efforts more consistent, effective and relevant, and to support the delivery of the Corporate Plan. A draft Public Participation Strategy 2023-2027 is currently in development to further strengthen the achievements accomplished to date.

The Council's website has been designed and developed to improve and encourage communication and engagement to help listen to what citizens have to say. Furthermore, we are using citizens' and wider stakeholders' stories to bring the Council's work to life, celebrating successes and highlighting areas where more work needs to be done to achieve our objectives.

With particular regard to the highway infrastructure, the main source of identifying local needs is through correspondence and via the Council's Service First Contact Centre and Customer Response Management system, which handles queries and complaints from the public. Requests for service from the general public are carefully monitored and the detailed reports, along with accident claims, provide a valuable source of information. This information can be fed into the budget and works programming processes.

This Authority has also established a process of dialogue with elected Ward Members prior to finalising the Planned Works Programmes. This process affords Members an opportunity to table concerns/requests in response to the needs of their ward constituents,

which can be considered in conjunction with the works identified from the condition surveys and other means.

3.2 Results of Consultation and Use of Results

Information in the previous section can help identify specific problem areas relating to the highway / drainage infrastructure and assist in identifying:-

- Potential projects for inclusion in future works programmes.
- Maintenance hot spots.
- Future minor works programme for the new JCB Pothole Pro machine.

However, whilst feedback is useful it is not intended that the Highways Asset Management Plan will be particularly driven by public consultation alone as many of the issues addressed by the HAMP are technical in nature and need to be considered in the context of longer-term analysis and projections.

It is anticipated that there will be continued consultation with specific stakeholders in future years, such as statutory undertakers. This will allow the Council to obtain the benefit of their input, to co-ordinate investment, and to ensure a shared understanding of asset management as it affects their particular areas of interest. This will help ensure that stakeholder input is appropriately considered in the establishment of policy and practice adopted by the Authority. Input from stakeholders is also a valuable source of information concerning

some aspects of the network and associated maintenance strategies. Their data will, along with technical surveys and other related information, contribute to ensuring appropriate asset management decisions are made.

3.3 National Underground Assets Register (NUAR)

Neath Port Talbot Council has also signed up to the UK Government sponsored digital platform which supports the Health and Safety Executive guidance document, 'HSG47 - Avoiding danger from underground services.

The new platform will provide important information for planners and operators alike in the formulation of control measures to minimize the risks when working over or near to underground services.

At present, asset owners are tasked to collect and validate available datasets, notwithstanding any limitations in terms of accuracy, to ensure that any legal obligations are met.

An additional level of investment would ultimately be required to deliver the full ambitions of the project, as would be necessary to:

- Centralise asset inventory for multi-disciplined services across NPT
- Accurately collect and maintain inventories of new asset groups.
- Ensure the sustainable and repeatable delivery of data so that the platform is kept reliably up to date.

A review on the costs and benefits of the scheme is planned to be further presented for scrutiny in April 2024.

4 Future Demands

4.1 Introduction

This section outlines the anticipated demands on the highway assets over the duration of this Plan. These demands, together with the associated risks, have been considered when formulating the plan.

4.2 Traffic Growth and Composition

Transport for Wales has developed strategic transport models (computerised representations of the transport network) to cover the whole of Wales. These models represent all the main forms of transport such as car, bus and rail. The models contain information on the trips that people make using each form of transport.

The transport model covering South East Wales was developed by Welsh Government between 2015 and 2017, whilst the transport models covering the rest of Wales were completed at the end of 2020.

These transport models are:

- Giving a better understanding of how the entire transport network works.
- Allowing assessment of the likely transport impact of different development scenarios, such as where new houses are built.

- Providing a simple means of testing a variety of new transport solutions so that new schemes can be proposed that make a positive difference to people’s lives.

Past increases in car ownership and the general reliance on the private car has put pressure on roads and existing junctions through increased demand for road space. A number of key roads and junctions are at capacity and congested which is constraining growth in some areas and affecting the daily life of residents. The statistics below, from the Department for Transport, indicate the changes in volume of traffic over the past 10 years or so.

The volume of traffic for all roads in Neath Port Talbot (Table 4.2.1) reflects a reduction in traffic from 2007 to 2010 (from 1.38 billion kilometers in 2007 to 1.27 billion kilometres in 2010) but then an increase in traffic from 2010 to 2019, until the inevitable reduction shown in the 2020 figures due to Covid-19. The reason for the fluctuation in traffic is unknown and could be a result of a number of factors, such as cost of fuel, financial downturn, or residents choosing more active forms of travel.

Table 4.2.1 Volume of Traffic 2007-2020 (All Roads) Within Neath Port Talbot

Year	2007	2008	2009	2010	2011	2012	2013
Billion Vehicle Km	1.38	1.34	1.32	1.27	1.3	1.29	1.3

Year	2014	2015	2016	2017	2018	2019	2020
Billion Vehicle Km	1.33	1.42	1.41	1.43	1.46	1.47	1.12

Table 4.2.2 shows the same trend within Neath Port Talbot for volume of traffic by class of road between 2007 and 2020.

Table 4.2.2 Volume of Traffic by Class of Road 2007-2020

	Motorway	A Trunk - Urban	A Trunk - Rural	A County - Urban	A County - Rural	All Major Roads
2007 - billion vehicle kilometres	0.55	0.02	0.2	0.11	0.24	1.12
2008 – billion vehicle kilometres	0.53	0.02	0.2	0.11	0.23	1.09
2009 - billion vehicle kilometres	0.51	0.02	0.2	0.11	0.23	1.07
2010 - billion vehicle kilometres	0.48	0.02	0.19	0.11	0.22	1.03
2011 - billion vehicle kilometres	0.51	0.02	0.19	0.11	0.23	1.06
2013 - billion vehicle kilometres	0.52	0.02	0.2	0.11	0.22	1.06
2015 - billion vehicle kilometres	0.54	0.02	0.21	0.15	0.23	1.14
2016 - billion vehicle kilometres	0.52	0.02	0.21	0.15	0.23	1.12
2017 - billion vehicle kilometres	0.53	0.03	0.21	0.14	0.24	1.14
2018 - billion vehicle kilometres	0.52	0.03	0.21	0.15	0.25	1.17
2019 - billion vehicle kilometres	0.52	0.03	0.21	0.15	0.25	1.17
2020 - billion vehicle kilometres	0.37	0.03	0.17	0.12	0.19	0.87

Whilst the overall level of traffic in NPT had been relatively static over the few years leading up to the Covid lockdowns, demand for road space in some localised areas is high and increasing. As a result, due to the level of traffic, local topography and the existing road system within urban areas, a number of congestion hot spots exist across the County Borough.

Within the Neath area:

- Pen-y-Wern Junction (Bryncoch, Neath):
Experiences congestion at peak times and, any further development in the area would have an impact on the junction and could require road improvements between the junction and the Neath River viaduct. As a result, Neath Port Talbot secured Welsh Government funding to design a scheme to improve the 120m length of highway between two roundabouts creating two left turn lanes and increasing the queuing capacity of both of the roundabouts. Funding to deliver this scheme is needed but Welsh Government are no longer supporting schemes that improve highway capacity.
- Cwrt Herbert / Roman Way:
Experiences congestion at peak times, one factor being the proximity to Dwr y Felin School and the Neath Port Talbot College campus. Land adjacent to Roman Way offers an opportunity to provide bulky goods shopping or housing in a central sustainable location, but such development could also increase traffic generation.

- Neath Abbey / Tesco:
Experiences congestion at peak times causing tailbacks onto the A465 trunk road/dual carriageway.
- Neath Town Centre (Stockham's Corner / Cimla Hill / Gnoll / Victoria Gardens):
Faces congestion, air pollution (Victoria Gardens) and in worst cases 'gridlock' at peak times. While development and regeneration proposals aim to revitalise the town centre, congestion could constrain demand.
- Melincryddan:
Experiences some congestion at peak times in the area between the Briton Ferry Road / Exchange Road (Lidl's) junction and Furnace Terrace, there is queuing in a north-easterly direction
- M4 J44
There is frequently congestion on the M4 around J44. This causes traffic to divert onto local roads to avoid this section of the M4.
- M4 J43/A465
Traffic builds up on the A465 approach to J43 causing daily tailbacks to Neath at peak times. Traffic diverts through Skewen and Briton Ferry to avoid this area due to the congestion.

Within the Port Talbot area:

- M4 Junctions 41 / 40 (Port Talbot):
These junctions currently provide access points to Port Talbot, Cwmafan and the Afan Valley. With the completion of the PDR (Peripheral Distributor Road) the Welsh Government has experimented with slip road closures, or partial closures (at Junctions 40 and 41), to discourage the use of the M4 for local traffic. It was decided that the M4 junctions were to remain open for the time being as junction restrictions may ease congestion problems on the M4, the changes could make access to some areas more difficult.
- Heilbronn Way:
Experiences congestion at times.
- Water Street:
Experiences congestion at peak times.
- A48 Junction at Old Road, Baglan:
Experiences congestion at peak times.
- A48 Junction at Sunny Mount and Pentwyn Baglan Road:
Experiences congestion at peak times.

Within the Pontardawe area:

- Tesco / Pontardawe Inn:
Experiences congestion at peak times.
- The Cross:
Experiences congestion at peak times. There is little potential to improve road capacity to address traffic congestion in Pontardawe, the emphasis will need to be on managing access to the town.

4.3 Transport Strategy / Active Travel / Demands for Additional Assets

The Joint Transport Plan for South West Wales 2015-2020 remains in place pending the new Regional Transport Plan and covers the four Local Authority areas in the region namely:

- Neath Port Talbot County Borough Council
- City and County of Swansea
- Carmarthenshire County Council
- Pembrokeshire County Council

The vision of the Joint Transport Plan 2015-2020 is to improve transport and access within and beyond the region to facilitate economic regeneration, reduce deprivation and support the development and use of more sustainable and healthier modes of transport.

The Transport Act 2000 and the Transport (Wales) Act 2006 require each local transport authority to replace the plan not later than five years after the date on which it was made. However, in 2019 the Welsh Government extended the 2015-2020 Joint Transport Plan owing to the emerging Wales Transport Strategy – Llwybr Newydd.

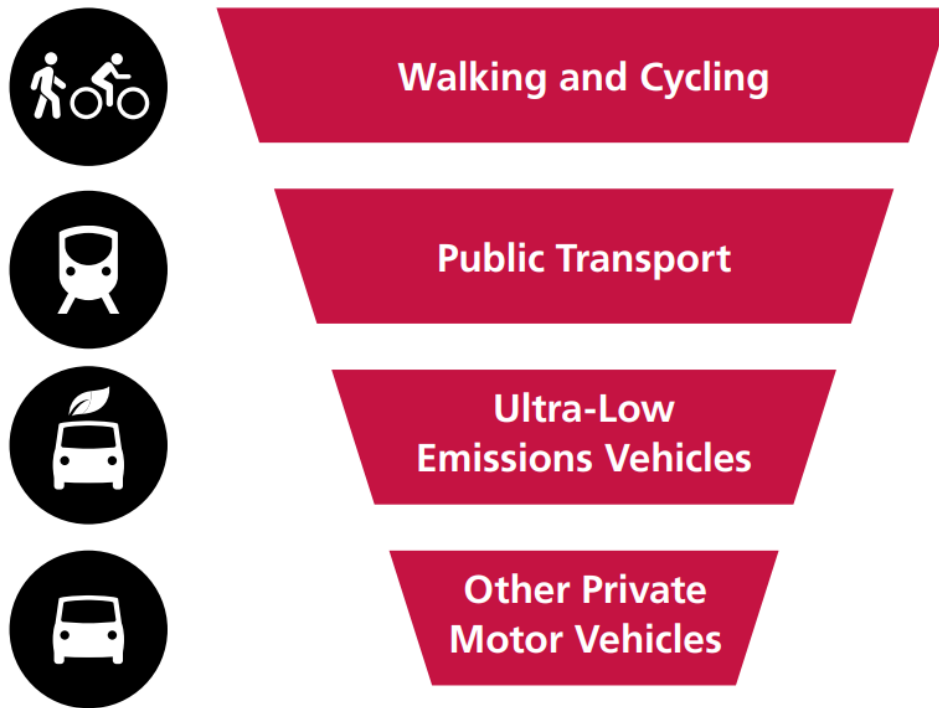
The Welsh Government issued guidance to the Regional Corporate Joint Committees in June 2023 for the development of Regional Transport Plans which will replace the current Joint Transport Plans. Regional Transport Plans need to be submitted to WG for approval by 29th March 2025. The guidance requires that the Regional Transport Plans will be shaped by Llwybr Newydd and aligned with Future Wales – the National Plan to 2040, and the emerging Regional Development Plans.

4.3.1 Llwybr Newydd: the Wales Transport Strategy 2021.

Llwybr Newydd: the Wales Transport Strategy was published in 2021 and changes the focus of transport priorities and sets out a hierarchy of travel for the future, as shown in figure 4.3.1

The strategy sets out to achieve a shift away from private car use to more sustainable transport modes for the majority of journeys; with aims to provide safe, accessible, well-maintained and managed transport infrastructure. Where new transport infrastructure is required, we will use the Sustainable Transport Hierarchy to guide decisions, and we will aim for it to be future-proofed in terms of adaption to climate change and facilitating more sustainable transport choices.

Figure 4.3.1 - The Sustainable Transport Hierarchy.



Since the development of the Joint Transport Plan in 2015 the focus set by the Welsh Government has moved away from improving the highway to increase capacity towards developing more sustainable modes of transport. As a result, highway improvement schemes proposed by Local Authorities have been reviewed as part of Welsh Governments Roads Review.

4.3.2 The Welsh Government Roads Review.

In 2021 the Welsh Government set up a review panel to consider highway improvement proposals. The review set out to test when to invest on roads consistent with Llwybr Newydd, Net Zero Wales, and

WG priorities. The findings of the Roads Review Panel were published in *The Future of Road Investment in Wales 2023*.

Cymmer Carriageway Improvements in Neath Port Talbot was considered by the roads review panel. The findings of the panel were that The Cymmer Carriageway Improvements scheme could proceed, subject to quantification of the carbon impact of construction and evidence that it has been minimised, and evidence that the local community has been fully engaged and is supportive of the proposed scheme.

4.3.3 The National Transport Delivery Plan 2022 to 2027

The National Transport Delivery Plan 2022 to 2027 sets out how Welsh Government will deliver against the priorities and ambitions set out in the *Llwybr Newydd*. The central role of Local Authorities in the development and delivery of local transport services and infrastructure is recognised, along with a commitment to provide a mix of core funds and grants for development works and grants for the delivery of infrastructure projects.

4.3.4 Joint Transport Plan for South West Wales 2015-2020

The following key transport issues formed the basis for the development of the Joint Transport Plan for South West Wales 2015-2020:-

- Active travel is being promoted by NPT. Active travel simply means making purposeful short-distance journeys using physically active means, such as walking and cycling, to reach destinations like a school, workplace, shops, or to access services. This mode of travel can be combined with public transport. However, active travel does not encompass journeys solely for recreational or social purposes.
- NPT aim to achieve a significant modal shift to walking and cycling as the most sustainable form of transport. Ideal for shorter trips, walking is key to encourage more people to reduce the use of cars. Walking also forms part of public transport journeys i.e., walking to and from buses, trams and trains. Positive impacts include reduced congestion, reduced air pollution, higher quality public realm and better physical, mental and social health.

Investing in infrastructure and support for walking and cycling can increase economic growth and vibrancy. Those walking and cycling tend to spend more money locally than drivers. Increasing walking and cycling can stimulate economic growth in urban areas and benefit local shops.

As a result, good infrastructure for walking and cycling is important. People also need encouragement, support and guidance to change their behaviours and switch their journeys to on foot or by bike.

Factors that affect how people travel include:

- Road traffic volumes in the region and pressures in terms of unreliable journey times, localised congestion, reduced air quality, increased noise, vibration and carbon emission issues.
- Road safety issues and associated public concerns - whilst there has been a general reduction in serious injuries and deaths from road traffic collisions, there are wide variations across the region and for particular road users' categories.
- Disparities in car ownership and use - whilst both have increased overall, growth has not been consistent across the region. Those with cars are able to participate in a far wider range of opportunities than those reliant on public transport, walking or cycling for mobility.
- Variations in Public Transport provision - these broadly match population distribution, with higher frequency services and better coverage to the south and east of the region, where the majority of the population live, with less extensive provision in the more sparsely populated rural areas. Rail, bus and coach services are provided by private sector companies through mainly commercial services along with services supported with Welsh Government funding.
- Access constraints - physical access to bus and rail services remains a barrier to mobility impaired in some locations.

- Transport poverty, along with the expenses associated with owning a vehicle and using public transport, renders these choices unaffordable for numerous individuals. Consequently, this affects their capacity to access crucial services and employment opportunities.
- Since the COVID-19 pandemic, the way many people travel has changed significantly, as a considerable number continue to work from home. The bus network experienced a substantial impact during the pandemic, resulting in a decline in the number of users. In addition, the Welsh Government has been subsidising the bus industry to maintain services at pre-pandemic levels. However, this support is currently under review, and it could potentially lead to a reduction in service provision in the near future.

Other key issues that influenced the Joint Transport Plan 2015-2020 include:-

- Freight operations are an essential contributor to the economy but are planned and delivered by the private sector within European and UK legislative processes.
- Ports and shipping facilitate the movement of passengers and freight to and from the region and are a critical link in the national supply chain network.

Under the existing Joint Transport Plan the vision for South West Wales is to:

“Improve transport and access within and beyond the region to facilitate economic development and the development and use of more sustainable and healthier modes of transport.”

From this vision stems the following strategic objectives:-

- To improve the efficiency and reliability of the movement of people and freight within and beyond South West Wales to support economic growth in the City Region.
- To improve access for all to a wide range of services and facilities including employment and business, education and training, health care, tourism and leisure activities.
- To improve the sustainability of transport by improving the range and quality of, and awareness about, transport options, including those which improve health and well-being.
- To improve integration between policies, service provision and modes of transport in South West Wales.
- To implement measures which will protect and enhance the natural and built environment and reduce the adverse impact of transport on health and climate change.

- To improve road safety and personal security in South West Wales.

The long-term strategy of the plan identifies:-

- Improving strategic east/west road and rail links – to create more reliable internal connectivity and improved connectivity with the rest of Wales, the UK and our European neighbours.
- Improving linkages between key settlements and strategic employment sites – to create a range of attractive passenger transport and walking and cycling opportunities linking key settlements with their hinterlands and with strategic employment sites.
- Improving the efficiency of the highway network – through a range of appropriate mechanisms including demand restraint.
- Improving the integration of land use and transportation planning – through the use of accessibility planning, to ensure that development is properly located, and to encourage more sustainable travel choices and reduce the barriers to interchange.
- Improving Strategic Bus Corridors – to create more reliable and attractive connectivity between key settlements.

- Improving safety in transport – to reduce personal injuries and fears for personal safety.
- Providing more and better information - to raise awareness of the range and use of sustainable transport options.

Furthermore, a range of policies are identified under the following broad headings:-

- Reducing Greenhouse gas emissions and other environmental impacts from transport, including the development of innovative infrastructure solutions to support the fuels of the future, such as hydrogen and electric powered vehicles.
- Integrating local transport.
- Improving access between key settlements and sites.
- Increasing safety and security. Enhancing international connectivity.

The existing Joint Transport Plan for South West Wales is expected to be replaced by the Regional Transport Plan for South West Wales in 2025. The revised plan will be based on the priorities in the Llwybr Newydd.

Completed developments under the current plan include, but are not limited to:

- Harbourside strategic employment site – reduction in ground contamination, removal of buried structures and voids and construction of access road and associated drainage works.
- Improvements to the signalized junctions in Neath Town Centre to improve sequencing and the provision of traffic safety cameras on traffic signals at Afan Way and Fabian Way.
- Active travel routes between Trebanos and Ystalyfera; between Neath and Tonna; between Blaengwrach and Glynneath; and along Dwr-y-Felin Road.
- Bridge strengthening at Pontwalby bridge, Heol y Deryn and Afan Way.
- Blaengwrach River Bridge, Nant Tewlaeth Footbridge, Cwm Cottages Footbridge, Bryndda Footbridge and Park Street footbridge replacements.
- Retaining wall strengthening/repair work at Gnoll bank, Fairyland, Ynyscorrwg farm (Glyncorrwg) and Ffordd Silkin.
- Stabilisation works at Ponrhydyfen landslip, Bryn to Goytre Cycle route landslip and Tonmawr Road.
- Speed reduction measures on A474 Cwmgors to Pontardawe and A4109 Inter Valley Road.

- Culvert strengthening at Cwmcregan, Green Hill and Primrose Bank
- Port Talbot Integrated Transport Hub.

Future Developments:

The following proposed developments are relevant to Neath Port Talbot:-

- The establishment of a new Freeport at Port Talbot and Milford Haven could create up to 16,000 new jobs and attract £5.5bn of investment. From a highway perspective, despite the percentage of HGVs on urban Principal A roads decreasing over the last decade, the Freeport development would inevitably bring about a local increase of this traffic category, thereby accelerating the rate of deterioration of roads that link the Freeport with the M4. Such levels of deterioration would put increasing pressure on the already insufficient highway maintenance budgets.
- Wildfox Resorts Group's first resort is expected to be the £300M Afan Valley development, due to open in 2027. Afan Valley would be the first of three proposed resorts in the UK, featuring 570 lodges and a range of facilities, which include a hotel, climbing centre, spa, central plaza, restaurants, an indoor water park, car parks and a series of mountain bike trails, all set within a wider area of mountain biking and hiking in the Afan Valley.

Such an attraction is certain to put further demand and maintenance pressures on some highways as the anticipated increase in traffic flows along the A4107 would significantly shorten the renewal cycle of the asset.

- Cymmer Viaduct, a Grade II listed structure, has failed its structural assessment and is in urgent need of replacement or bypass. The structure is on a bus route and is currently the only viable means of accessing the upper Afan Valley. In 1999, as an interim measure an 18-tonne weight limit and single lane working, controlled by traffic lights, was introduced. The long-term plan is to close the viaduct to vehicular traffic, refurbish it so as to open it to pedestrians, and then upgrade the existing lower route to make it suitable to larger vehicles. The feasibility and outline design has been completed and detailed design is currently taking place with construction programmed for 2024/25.
- Public transport connections at interchanges – a proposal to look at improving the connections between various modes of travel.
- Baldwins Bridge – joint scheme with City & County of Swansea who are managing the project - Design complete.
- Plans to tackle urgent transport issues affecting Cymmer, Abercregan and Glyncorwg has received backing from Welsh Government Roads Review with the Cymmer Carriageway Improvements project being listed as a “Local Authority Scheme”. This means it can qualify for Welsh Government

transport grant funding subject to meeting new criteria in Wales for road building and the Welsh Government's commitments under the Well-being of Future Generations Act.

4.4 Utility Activity

Activity by Statutory Undertakers and other Utilities can have a major effect on the maintenance and management of road assets. This can generally be detrimental to the life cycle of the asset.

All statutory undertakers are responsible for carrying out their own reinstatements, although they must be to Department of Transport standards (see *New Roads and Streetworks Act 1991 – Specification for Reinstatement of Openings in the highway*).

At present NPT, in line with Department of Transport standards, enforces a 2-year maintenance period on all reinstatements and 3 years on any excavation greater than 1.5 metres.

Neath Port Talbot CBC as part of its statutory duties inspects a random sample of 30% of utility works during the following three stages:-

- The process of excavation.
- Within 6 months following interim or permanent reinstatement of the works.

- Within the three months prior to the end of the maintenance period.

Any remedial works required during the maintenance period are completed by the utility company, thereby reducing any potential future deterioration of the highway assets and unnecessary costs to the Authority.

NPT is committed to improving standards of utility reinstatements and has introduced a Random Sample Coring Programme (RSCP), via an outside contractor, in order to check both utility company and internal contractor works in the highway. Over 500 coring extractions have been taken since its introduction. The results of the checks undertaken from the 'Specification of the reinstatement of openings in highways' (SROH) has resulted in an 80% failure of completed reinstatements which need to be improved to avoid further deterioration of the highway asset. With this in mind, the Authority has arranged for underperforming utilities/contractors to attend "Improvement Meetings" during which representatives are able to explain the measures to be put in place to improve reinstatements, thus ensuring the life and structural stability of the highway asset in the future. NPT will continue to undertake appropriate enforcement action for non-compliance and, where necessary, to offer support to encourage continuous improvement in compliance levels.

NPT also attend Highway Authority and utilities meetings on a quarterly basis. The coordination of authorities' and all statutory undertakers'

planned works are discussed in an effort to improve forward planning and help extend asset life cycles.

Co-ordination and monitoring is important, not only to minimise delays to the travelling public, but also because the Council is often criticised for traffic management delays caused by utility company repairs and reinstatement works.

4.5 Climate Change

It is very difficult to forecast changes in climate but there has been an acceptance that general weather patterns are changing. The noticeable changes in the past few decades have seen a number of severe winters and increased rainfall. Some winters have brought long periods of sub-zero temperatures and heavy snowfalls. As a consequence of this, the Authority made the decision to provide a salt barn which provides additional capacity and has increased the resilience of salt stocks in an effort to ensure the Strategic Network remains accessible during severe weather conditions.

Increased rainfall has resulted in short heavy downfalls, producing localised flooding. Prolonged periods of lighter longer lasting rainfall have resulted in land becoming saturated and flooding due to excessive surface water run-off. Furthermore, it is envisaged that, with the increasing severity of weather conditions, flooding will become more prevalent, testing the existing highway and drainage infrastructure and providing increased infrastructure budget pressures.

NPT's DARE Strategy

On 30th April 2019, the Welsh Government declared a climate emergency. The announcement drew attention in Wales to the magnitude and significance of the latest evidence on climate change. NPT responded to such challenges with the DARE (Decarbonisation and Renewable Energy) strategy.

NPT aims to deliver DARE by:

- Reducing the carbon emissions, resulting from delivering the council's work programme. Lessening energy consumption and switching to energy sources that are less harmful to the environment.
- Overcoming barriers to renewable energy and encouraging the use of sustainable and renewable resources.
- Managing our natural resources so that carbon sequestration is maximised, and carbon release is minimised.
- Working with partners and business, sharing good practice, assets and resources.
- Promoting the benefits of cleaner energy and emission reduction to council employees and the people of Neath Port Talbot.
- Attracting additional funding from Welsh Government and other relevant sources.

Since 2010, there have been numerous UK and Welsh Government plans and acts which set the strategic and legislative context for DARE. Perhaps the most notable of which is the Well-being of Future

Generations (Wales) Act 2015. This ensures public bodies take account of the issues around health, resource consumption, and the environment for future generations.

Action on climate change and decarbonisation are crucial to achieving the objectives of the Act. Within the Swansea Bay City Region (SBCR), the Re-Energising Wales Project (Regen) sets out a vision for climate action up to 2035. It requires a step change in energy efficiency and renewable energy generation. It also calls for a decarbonisation of heat, a transport revolution, greater local energy generation and ownership, and a switch to smart energy.

A focus on achieving these objectives as part of a wider economic vision for SBCR has been made possible by the Swansea Bay City Deal strategic programme. This is a collaboration between the Welsh Government, the four local authorities, universities, and the private sector in the city region. The City Deal investment programme will transform the regional economy by improving skills, commercialising new technologies and ideas, and building expertise in digital technologies, life science and wellbeing, energy and advanced manufacturing.

Neath Port Talbot Council are leading on two City Deal projects which integrate with DARE:

- Homes as Power Stations (HAPS)
- Supporting Innovation and Low Carbon Growth, a programme of seven inter-related projects which together are designed to

deliver low carbon, sustainable and inclusive economic growth for the region.

Improving air quality is also important for people's health and wellbeing. The council's Air Quality Strategy: 'Airwise - Clean Air for Everyone', has already resulted in improvements, but more work is needed and this, too, is an important aspect of DARE.

Nature Emergency

On June 30th 2021, the Welsh Government declared a nature emergency, in recognition of the dramatic human-induced declines in biodiversity. The motion also recognised that there should be parity between actions taken to tackle climate change and those taken to tackle biodiversity loss.

The NPT Biodiversity Duty Plan outlines how it intends to achieve against S6 of the Environment (Wales) Act 2016 and how it may respond to the nature emergency.

The highway network can impact on biodiversity and the natural environment in a number of ways, including creating roadkill hotspots and offering opportunities for increasing the wildflower habitat in grassy areas.

It is important that network improvements, e.g. bridge maintenance, and new road schemes, are planned to ensure that projects maintain and enhance biodiversity.

The HAMP acknowledges the need to ensure that we respond to the nature emergency accordingly.

4.6 Changes in Legislation

The Well-being of Future Generations (Wales) Act 2015 came into force on 1st April 2016 and has had an impact on decisions relating to the maintenance and management of highway assets and on the way in which services are delivered. The requirement to react and adapt quickly to new changes in legislation often leads to an increase in expenditure for the Council in the maintenance of assets. Examples include:

- In 2009 and 2010, the Flood Risk Regulations and the Flood and Water Management Act came into force in the UK. In response, the Council produced a Flood Risk Management Strategy and Flood Risk Management Plan which, amongst other outcomes, have primarily identified the critical drainage infrastructure that will, when operating effectively, reduce the risk of flooding.

New National Standards for Sustainable Drainage Systems became statutory on 7th January 2019, implementing Schedule 3 of the Flood and Water Management Act in Wales. The new standards have seen a significant shift from traditional drainage systems to sustainable drainage, which has brought new and challenging maintenance demands to the Authority.

As a result of the actions undertaken in line with the Flood Risk Management Plan (FRMP), the Authority has identified a number of Critical Flood Risk Assets (CFRA's), many of which convey ordinary watercourses which require significant remedial works. It is envisaged that, over the coming years, many more highway culverts and highway surface water drains will be identified that will require significant remedial and upgrading works to ensure they are fit for purpose. The council currently inspect and maintain 90 CFRA's, all of which require annual investment to ensure communities are kept safe from flooding.

- Underpinned by the Well-being of Future Generations (Wales) Act 2015, Welsh Government's vision for electric vehicle charging in Wales reflects their 'commitment to inclusivity' and supports their aspiration to end Wales' contribution to climate change by 2050, thereby improving the quality of the air that we breathe. A ban on the sales of new petrol and diesel only cars and vans, to be introduced in 2030, places greater emphasis on the urgency in meeting the challenge of providing sufficient electric vehicle charging - a vital component in the transport revolution for Wales.

NPT will be required to deliver this major infrastructure project and subsequently fund the maintenance of the associated assets to fulfil Welsh Government's commitment.

- In July 2022, Welsh Government approved the Statutory Instrument (SI) to reduce the speed limit on restricted roads. When the SI comes into force on 17th September 2023, the general speed limit for restricted roads will reduce from 30 miles per hour to 20 miles per hour in Wales.

The scheme aims to reduce injuries on the road network, encourage a shift to active travel modes and to improve the environment and economy of local communities by reducing the negative externalities associated with vehicle use.

NPT are required to deliver this major scheme and to subsequently maintain the associated signage and road marking assets which will put further pressure on future highway maintenance budgets.

- The Active Travel (Wales) Act 2013 places a duty on Local Authorities to map and plan for suitable routes for active travel within designated localities. These designated localities are specified by Welsh Government and derived from the Office for National Statistics' Built-Up Areas.

Settlements within designated localities in Neath Port Talbot include: Neath, Port Talbot, Pontardawe, Croeserw, Cymmer, Brynamman, Gwaun Cae Gurwen, Blaengwrach, Glynneath, Cwmafan, Seven Sisters and Resolven.

The assignment of designated localities, does not limit an authority's ability to develop network maps for other localities, where there is demand for active travel routes and a high potential for their use. Crynant received a large number of consultation responses during the Active Travel Network Map (ATNM) consultations in 2021, which showed a demand for routes in this locality. As a result, future routes were added in Crynant during the revision of the Councils ATNM in 2021.

The Act requires local authorities to prepare, publish and keep under review an ATNM which comprises of:

Existing routes – informs the public of the existing routes in the County Borough that the Council considers suitable for active travel meeting Welsh Government standards; and

Future routes – Future Routes are either routes that do not yet exist, or routes that fall short of the threshold to be classified as an existing route and require improvement.

The current version of the Council's ATNM was approved by Ministers on 3rd August 2022 and can be viewed at

<https://datamap.gov.wales/maps/active-travel-network-maps/>

5 Levels of Service

5.1 Establishment of Levels of Service

Levels of Service are “*the defined service quality (service standards) in respect of particular asset components against which performance can be measured for the benefit of users*”.

Levels of Service are composite indicators that reflect the social, economic and environmental goals of the community and may relate to safety, availability, accessibility, condition, environmental impact, customer service and financial performance (cost). Ideally, levels of service should create visible linkages between user needs, corporate objectives and any works undertaken on the asset.

The connection between customer expectations and what can, in practice, be delivered needs to be understood and communicated to stakeholders. It is also important that everyone involved in the process is aware that decisions which impact on service delivery need to align with the overall policies and objectives of the Council.

Defined levels of service are the realistic aspirations that a Highway Authority strives to meet reflecting statutory obligations, corporate goals and customer expectations in delivering highway services. Levels of service need to consider the preservation and physical integrity of the asset as well as meet the demands of safety, availability and accessibility.

Key requirements affecting the development of levels of service are:

- **Legislative requirements:** It is a requirement that levels of service comply with the legal obligations and statutory duties incumbent on a Highway Authority. Additionally, the adoption of recognised codes of practice will provide the necessary guidance to align service delivery with national best practice.
- **Policy and objectives:** NPT sets out its policies and corporate objectives in documents such as the adopted Joint Transport Plan for South West Wales and Highway Maintenance Plan. Levels of service are not only determined by local objectives as there also -needs to be an acknowledgment of the wider national targets set out by the Government. As a consequence, the budget and asset planning process is designed to enable strategic choices and decisions to be made in an informed manner so that the council can manage its budgets and services with due regard for prudence, stability, investment and efficiency.
- **Customer expectations:** The expectations of all road users, the community and local businesses need to be recognised as a factor in the service level decision-making process. The provision of better information will enable consultation with customers on a more informed level.
- **Best practice guidelines:** A number of best practice guidelines exist that directly influence levels of service. While these best

practice guidelines are not always statutory requirements, they represent a description of accepted good practice. This can be particularly important in ensuring that assets are protected against public liability claims. The most significant best practice guidance document relevant to this Plan is the Code of Practice for 'Well-managed highway infrastructure'.

- **Affordability:** Service options set out to consider the most economically efficient way of delivering an acceptable level of service over the long term. Pressures on council funding and increasing demands on the highway network mean it is not always possible to secure the required funding to deliver the desired solution and budgets influence what can realistically be achieved. Affordability must therefore be recognised and acknowledged when setting deliverable levels of service.
- **Availability of resources:** The availability of suitably skilled resources throughout the construction industry is limited and targets can sometimes be difficult to achieve.

5.2 Measurement and Reporting of Levels of Service

An Asset Management approach provides existing and projected data to support the decision making process. In practical terms, this provides the necessary information to make informed choices regarding the identification and assessment of service needs.

Once the requirements driving an asset group's service level have been determined, it is necessary to develop service options to evaluate them. This process should clearly identify the service options applicable to the particular asset group.

As noted previously, service delivery can be influenced by a number of factors such as legislation, best practice guidelines, Health and Safety requirements, corporate goals, political influences, customer expectations and financial constraints. The aim is to improve service provision through developing or altering current practices, as part of developing NPT's HAMP, via a process of continued monitoring and review.

In setting its own standards for asset groups, NPT has considered the following set of generic service levels:

- **Statutory Minimum:** Meeting statutory or legislative requirements and notes for guidance only.
- **Existing:** The impact on the asset if current funding levels are maintained.
- **Steady State:** To arrest deterioration of the asset and maintain current condition, performance and value.
- **Prescribed Service:** An enhanced standard based on customer expectations and/or political aspirations.

- **Optimum Service:** An optimum level of service based on long term economic lifecycle planning.
- **Attainable Service:** A reinterpretation of the Optimum Service in light of available resources representing the best long-term return for available shorter-term funding.

Ultimately, the chosen option must be a result of a combination of cost, benefit and risk. Depending on the asset category, the option's evaluation criteria include:

- Programmes and planning
- Safety implications and requirements
- Availability of service or asset
- Accessibility to service or asset
- Condition of the asset
- Environmental impact of providing and maintaining the asset
- Customer service, expectations and perceptions
- Risk and benefits
- Finance
- Performance targets

In respect of adopted and specified service standards, the asset management process will monitor, review and report on progress and performance. As such, where possible, levels of service will need to be measurable and realistic, having performance targets that can be set out and measured using appropriate indicators. Such indicators include:

- Single Data List (superseded the National Indicator Set measures (NIS's) in 2011)
- Local Performance Indicators (LPI's)
- Recording of Response Times
- Customer Complaints Monitoring Procedures
- Condition Surveys

To inform the monitoring process, the tables on the following pages give examples of asset inspection regimes, maintenance criteria, and response standards. These, along with other information, are detailed within the Council's Highway Maintenance Plan.

Table 5.2.1 Highway Network Inspection Regime – Frequency

Classification		Safety Inspection	Technical Surveys
Carriageways			
A Road	Strategic Route, Main Distributor, Secondary Distributor	Safety inspection regime in place	Annual SCRIM (100%), SCANNER (50%)
B Road			
C Road	Link Roads/Local Access roads		Annual SCRIM (100%), SCANNER (25%)
Unclassified	Local access roads		Annual visual survey

Table 5.2.1 Highway Network Inspection Regime – Frequency

(cont.)

Classification	Safety Inspection	Technical Surveys
Footways		
Prestige and Primary Routes	Safety inspection regime in place	Biennial visual survey
Secondary walking routes		
Link and local access footways		
Industrial estates and other footways		
Cycleways		
Adopted as part of Carriageway/footway	Safety inspection regime in place for all cycleways, except for cycle trails	Visual survey
Remote from Carriageway/Footway		Visual survey
Cycle trails		Not undertaken
Safety Barriers		
Safety Barrier	Safety inspection regime in place	Condition survey carried out every 3 years. Principal condition survey every 6 years.

Table 5.2.2 Criteria for consideration of Maintenance

Planned Maintenance – Carriageways		
Survey Criteria	Investigation Options	Action options (*)
SCRIM: Area has considerable negative SCRIM difference (ILs based on CS228) and evidence of skid related accidents	visual site assessment / accident data / pendulum / sand patch test / GripTester	resurface / monitor / survey following year
Deflectograph: Area of low residual life (less than 15 years)	visual site assessment / core / trial pit	resurface / reconstruct / monitor
SCANNER: Analysis of individual parameters in accordance with PMS guidelines	visual site assessment / core / trial pit	resurface / preventative treatment
Visual Inspection: Analysis of 1-4 ratings to create scheme assessment lengths	visual site assessment	resurface / preventative treatment
Planned Maintenance - Footways		
Main Shopping Areas / Busy Urban (flexible) / Other Urban Areas / Rural Footways	Trips > 20mm Depressions > 25mm Coarse cracking Coarse crazing	Localised Repair or Restore Surface
Busy Urban Areas (Rigid)	Trips > 20mm Depressions > 25mm Cracks/gaps > 20mm Rocking Flags	

Table 5.2.2 Criteria for consideration of Maintenance (cont)

Category	Defect	Treatment
Planned Maintenance - Kerbing		
All Footways	Severe deterioration	Localised repair or restore upstand
Busy Urban Areas	Up-stand / kerb height 75mm or less Kerb deterioration	
Other Urban Areas / Rural Footways	Up- stand / kerb height 30mm or less Kerb deterioration	

Note: Prioritisation is subsequently undertaken on the basis of greatest risk.

Table 5.2.3 Inspection Regime for Highways

Reactive Response Standards	
Defect	Response Time
Road pothole or footway trip hazard > 20mm	1 – 35 Days(*) (Normally 2hr, 24hr, or 35 days)
Surface depressions which exceed the New Roads and Street Works Act (NRSWA) intervention requirements.	As above (*)
'Knocked Out' Kerb	As above (*)
Hazardous debris or obstruction in the carriageway, missing covers	2 Hours
Flooding or surcharging highway drainage system	2 Hours

(*) Response time prescribed, at Inspectors discretion based on risk

Table 5.2.4 Inspection Regime for Structures

Bridges, Culverts, Retaining walls and Cattle Grids	
Inspection Category	Frequency
General	2 Years
Principal	6 Years
Special	As Required (*)

(*) Special Inspections can be conducted following a collision or flooding or where an abnormal load is to pass.

Other Highway Structures, Culverts, Retaining walls etc	
Inspection Category	Frequency
General	2 Years or receipt of report/complaint

More frequent inspections are identified in the 'Structures Database

Table 5.2.5 Cyclic Maintenance Frequencies

Activity	Frequency
Gully Cleansing General	Annually
Culvert Inlet & Outlet Cleansing Critical and High priority	Proactive scheduled maintenance Additional proactive maintenance prior to forecast heavy rainfall.
Grass Cutting and Hedge Trimming Adopted R'bouts & Islands Grassed Verges Highway Flail Cutting Sites Safety Cutting	As per detailed schedule but typically(*): Minimum 4 cuts per year Minimum 4 cuts per year Minimum 1 cut per year Additional cuts where unusual growth has created a hazard. (*) or as otherwise agreed as part of Biodiversity / Bee Friendly sites.

Table 5.2.5 Cyclic Maintenance Frequencies (cont.)

Activity	Frequency
Verge Maintenance Weed Spraying (footways) Application of Retarders Noxious Weed Removal	Programme of spraying twice per year in Summer Not Used Ragwort – As and when required (pulled up) Japanese Knotweed – Selected areas per year (sprayed)
Siding General	Where vegetation encroaches by 300 mm as identified by Inspectors
Cleansing General	Litter pick –Minimum - 4 times / year - max daily Sweeping –Minimum - 4 times / year -max weekly

Table 5.2.6 Maintenance of ‘Aids to Movement’

Activity	Frequency
Traffic Signal Maintenance* Fault Attendance	Urgent fault - 2 hours (repair within 8 hours) Non - urgent – 24 hours (repair within 72 hours)
Sign Cleaning Class I, Class II, Class III & Unclassified Roads	As required to preserve safety
Road Marking Reinstatement** Class I, Class II, Class III & Unclassified Roads	As required to preserve safety
Reflective Stud Replacement All Classes	As required to preserve safety

* Bulk changes may only be undertaken at certain times during the week at specified locations.

** Road markings affected by maintenance works or surface dressing are reinstated within 14 days of the works being completed.

Table 5.2.7 Maintenance of Street Lighting and Illuminated Signs

Repair of Faults	
Category of Fault	Minimum Attendance and Assessment Time*
Outages	
Illuminated 'Aids to Movement'	5 working days
Lighting unit	5 working days
Section of Lighting	Same day when the fault is on an NPT circuit i.e., not on a WPD circuit
Emergency	
To make safe potential electric danger Associated with public lighting infrastructure.	Within 2 hours

Cleaning and Servicing

Installation	Frequency
Signs and Bollards	Every site visit
Lighting Units	On lamp repair

Fault Detection

Approximately 98% of the Council stock (lighting columns) are controlled by a Central Management System (CMS) which allows automatic nightly fault reporting.

5.3 Performance Review

Alongside measurement and reporting of service level performance and the production of periodic Status and Options reports, actual performance can, as appropriate, be compared from time to time with the predicted or targeted performance at the time of establishing the management and investment strategies for a given asset. In any event, a summary performance report will be presented periodically to the Council's Capital Programme Steering Group and Directorate Management Team in consideration of which, if any, amendments to levels of service and investment will be considered alongside the business planning process for individual service areas.

5.4 Periods of Additional Funding and Existing Level of Service

Annual capital investment into Highways and Engineering by the Council has remained effectively constant over the last decade, although the amount allocated to carriageways has fluctuated year on year depending on the availability of roads grant funding and priorities that have arisen within other highway asset groups such as footways, structures, drainage and road safety.

Welsh Government funding, in the form of the Local Government Borrowing Initiative (LGBI) and Highways Refurbishment Grant (HRG), has led to temporary improvements in the condition of the highway network over the last decade. Without this additional funding, historical capital investment levels are considerably less than that required to maintain a steady state scenario and so the network condition will

inevitably deteriorate. A summary of asset performance against the existing level of service is given in Table 5.4.1.

Table 5.4.1 – Performance Against Existing Level of Service

Level of Service Subcategory	Existing Level of Service
Carriageways - classified	
Condition	SCANNeR surveys show the condition of the Classified network within NPTCBC to be better than that of the Welsh national average.
Investment	A cut in the level of investment would see deterioration in the highway asset and the value would decline. Reactive maintenance costs would increase as a result.
Safety implications	In the absence of increasing reactive maintenance requirements, deterioration would increase the safety risks to road users.
Carriageways - unclassified	
Condition	The in-house visual condition survey results show a steady improvement in the condition of the Unclassified network between 2010 and 2022. The improvement can be attributed to additional investment, such as that from the Council’s Urban Streets Initiative (USI), Welsh Government Local Government Borrowing Initiative (LGBI) and the Road/Highway Refurbishment Grants (RRG/HRG). Also, the carriageway works programme has had a period of greater priority following previous investment in dealing with sub-standard footways.

Table 5.4.1 – Performance Against Existing Level of Service

(cont.)

Level of Service Subcategory	Existing Level of Service
Carriageways – unclassified (cont.)	
Investment	Continuing at base budget levels, without additional funding, would see deterioration in the highway asset and in the asset value.
Safety implications	A decrease in reactive maintenance budgets would bring about an increase in carriageway network deterioration, leading to an increase in the risks to road user safety.
Footways	
Condition	The in-house visual condition survey results show a steady improvement in the condition of footways between 2009 and 2022.
Investment	A rise is anticipated in claim related costs if investment is reduced.
Safety implications	A decrease in reactive maintenance budgets would bring about an increase in footway network deterioration, leading to an increase in the risks to pedestrian safety.
Structures	
Condition	Bridge Condition Index indicates average condition as 88.7 (good). However, 19 sub-standard bridges currently remain in service and are monitored in accordance with CS470.
Investment	Funding limited to historical budget. 70% of the 2,290 structures have maintenance or repair works identified in Structures Work Pool.

Table 5.4.1 – Performance Against Existing Level of Service

(cont.)

Level of Service Subcategory	Existing Level of Service
Structures (cont.)	
Safety implications	Sub-standard bridges require monitoring as a requirement of Management of Highway Structures
Street Lighting	
Condition	The majority is relatively “new stock”.
Investment	Major £21 million infrastructure renewal project funded from Council resources complete (2016). Salix LED upgrade project undertaken 2020-22 replaced 6000+ older lanterns with new energy efficient LED lanterns.
Safety implications	Risk of column and electrical cabling failure has now significantly declined.
Highway Signs	
Condition	‘Reasonable’, with the life of 363 signs expired (out of 12,669).
Investment	Essential renewals currently ongoing.
Safety implications	Any missing mandatory signs in particular are a safety concern.
Traffic Signals	
Condition	‘Reasonable’, with some equipment life expired.
Investment	Essential renewals currently ongoing.
Safety implications	Fault repair system operated.

Table 5.4.1 – Performance Against Existing Level of Service

(cont.)

Level of Service Subcategory	Existing Level of Service
Safety Barriers	
Condition	Some repairs and upgrades were carried out following a 2018 Principal inspection (Report received 2019). Any concerns due to further deterioration will be considered and priority repairs will be arranged as necessary within available resources.
Investment	Annual Works Programme.
Safety implications	Specific locations where the road edge requires engineering works before the barrier can be renewed will need special consideration. A reduction in investment increases risk to the road user.
Drainage	
Condition	Ongoing surveys have highlighted that the drainage infrastructure is an ageing asset, and some locations are in urgent need of repair.
Investment	Both proactive and reactive maintenance undertaken. It is very likely that additional investment will be required as condition surveys progress.
Safety implications	In addition to the obvious safety implications associated with surface water and freezing water on the highway during winter months, there are safety issues surrounding the sudden collapse of embankments, culverts and indeed the pavement structure itself.

5.5 Target Levels of Service

Initial target levels of service are given below. However, these may need to be revised once the Council's latest Forward Financial Plan has been finalised and its full impact evaluated.

Table 5.5.1 – Initial Target Level of Service

Main Asset Groups	Initial Target Level of Service
Carriageways - Classified	Steady State – with aspirations to move to a prescribed service level of no more than 3% of individual road classification requiring reconstruction/partial reconstruction very soon.
Carriageways - Unclassified	Steady State – with aspirations to move to a prescribed service level of no more than 1.5% requiring reconstruction/partial reconstruction very soon.
Footways	Steady State – with aspirations to move to a requested service level of no more than 0.3% of the footway network requiring reconstruction/partial reconstruction very soon.
Structures	Steady State.
Street Lighting	Steady State.
Highway Signs	Steady State – with aspiration to move to a requested service level where less than 2% of signs are missing or badly damaged.
Traffic Signals	Steady State.
Drainage	Steady State.
Safety Barriers	Steady State.

6 Lifecycle Planning

6.1 Purpose and Importance of Lifecycle Planning

As part of this plan's development, we will create lifecycle plans to consider each of the main asset groups. Each lifecycle plan will consider:-

- Inventory (amount of asset)
- Condition and trends
- Maintenance options / Service levels / Risk Management and Minimum requirement
- Establishing maintenance strategies / service standards

6.2 Output from Lifecycle Planning

The output from the lifecycle planning process should provide 20 year financial and other projections linked to target levels of service, to inform the Council's highway maintenance proposals.

Lifecycle plans are important to Highway Asset Management Planning to provide the long-term context within which to consider asset management practices, investment, performance, and risk management consistently across all asset groups.

6.3 Lifecycle Plan Contents

Lifecycle plans are intended to be working documents, updated periodically as information is gathered and analysed on each asset group. When fully populated, each Lifecycle Plan will contain the following information:-

Section	Answers	Contains
The Asset	What assets do the Council maintain?	<ul style="list-style-type: none"> • Inventory details (number, type, size, etc) • Asset growth statistics
Service Expectations	What is each asset group required to do?	<ul style="list-style-type: none"> • Customer expectations • Council objectives for transport • Specific user requirements • Safety considerations • 3rd party use • Environmental requirements • Network availability • Amenity considerations
Management Practices	How is this asset group managed?	<ul style="list-style-type: none"> • Policies • Inspection Regime • Condition Assessment • Asset Acquisition standards • Routine Maintenance standards • Operational/Cyclic Maintenance • Planned Maintenance standards • Disposal standards
Investment	How much is being spent and should be spent over the longer term on this asset group?	<ul style="list-style-type: none"> • Historical Investment • Output from historical investment • Forecast Financial Needs • Valuation: GRC, DRC & ADC
Strategies	What strategies are there for the future management of this asset group?	<ul style="list-style-type: none"> • Relevant Strategy Information SOR, HAMP, FRMP

Section	Answers	Contains
Service Improvement actions	What improvement would enhance council management of this asset group?	<ul style="list-style-type: none"> • Asset specific improvement actions
Works Programme	How are works programmed for this asset group?	<ul style="list-style-type: none"> • Existing forward works programme • Works programme coordination • Option Appraisal: treatment selection <ul style="list-style-type: none"> - at a project level - at a budget category level? • Public input/consultation via Members Surgeries
Risk	What are the risks associated with this asset group?	<ul style="list-style-type: none"> • Risk identification • Major asset risks
Works and Service Delivery	How are works delivered or procured on this asset group?	<ul style="list-style-type: none"> • Approved processes
Performance Measurement	How is the performance of this asset group measured and managed?	<ul style="list-style-type: none"> • Performance indicators • Current performance figures • Target performance figures

6.4 Status of Lifecycle Plans

Periodic updating of the lifecycle plans will enable the latest datasets to be utilised in a timely manner.

6.5 Status and Options Report (for Major Asset Groups)

Status and Options Reports will be produced for each of the major asset groups and updated at the frequency noted in the table below:-

Asset Group	Frequency
Carriageways	Every 2 years
Footways	Every 5 years
Bridges and other highway structures	Periodic
Street Lighting	Periodic
Drainage	Every 3 years
Traffic Signals	Every 3 years
Highway Signs	Periodic
Safety Barriers	Every 3 years

Status and Options Reports will provide an update on the relationship between existing / future budget options and the predicted condition of the asset over a 20-year cycle. Monitoring this relationship will provide data to make more informed decisions going forward.

7 Financial Summary

7.1 Sources of Funding and Budget Allocation

Investment in the Highway Asset is derived from the following funding streams:-

Revenue: Revenue funding is dependent on Council expenditure priorities in the context of available income which is derived from Welsh Government Revenue Support Grant, non-domestic rates, Council Tax and any other specific Grants. The majority of funding is therefore derived from Welsh Government and the total budget allocated to Road Maintenance is split between a number of service headings based, in part, on historical precedence.

Where additional funds are made available to assist with ongoing maintenance and management of road assets, such as Road Maintenance Grants, individual cases are put forward internally within funding guidelines for consideration, following which allocations are made in accordance with Member priorities.

Capital: Capital Investment is generally funded by Welsh Government (WG) who provide a supported borrowing element, which forms the Authority's base capital budget. WG also include an element within the Revenue Support Grant to cover the debt charge repayments on this borrowing.

The capital base budget allocation is further supplemented by:-

- Unsupported borrowing (prudential borrowing)
- Capital Grants & Contributions
- Capital Receipts
- Direct Revenue Financing

Capital Investment Plans are reviewed by relevant Management Teams and approved by relevant Committees within the Council.

Should there be a requirement to fund additional specific projects from Prudential Borrowing, a full Options Appraisal exercise must be undertaken for all major projects. The Appraisal usually considers, amongst other issues, the objectives of the Council, alternative options and the affordability of loan repayments from existing revenue resources.

Grants: The Council submits annual bids for additional funding to the Welsh Government in respect of Transport Grant and Safe Routes to Communities, including Road Safety Schemes and regional transport packages. In addition, the council does, from time to time, receive additional Grants such as Special Road Maintenance Grant which is distributed to local authorities based on road Standard Spending Assessment (SSA) and is governed by strict criteria.

As far as Revenue is concerned, any virement of funds between Service Headings are dealt with at Head of Service level within the Environment & Regeneration Directorate, whilst the corporate Capital Programme Steering Group (CPSG) makes recommendations regarding Capital transfers. Any virement between service headings in excess of £100k is dealt with at Corporate Director level.

8.0 Risk Management

8.1 Corporate Risk Management Policy

The Council is committed to the management of risk in order to:

- Support the delivery of the council's vision, purpose and priorities;
- Ensure statutory obligations are met;
- Ensure effective stewardship of public funds, efficient deployment and use of resources and securing value for money for the public purse;
- Safeguard all stakeholders to whom the council has a duty of care;
- Protect physical and information assets and identify and manage potential liabilities;
- Learn from previous threats, opportunities, successes and failures;
- Preserve promote and protect the reputation of the council; and
- Build a workforce where improvement, innovation and a responsible approach to risk taking is part of its culture.

For the purpose of this policy, strategic risk is defined as:

"...the threat that an event, action or inaction will adversely affect the Council's ability to successfully achieve its vision, purpose and priorities"

Effective risk management is also promoted through:

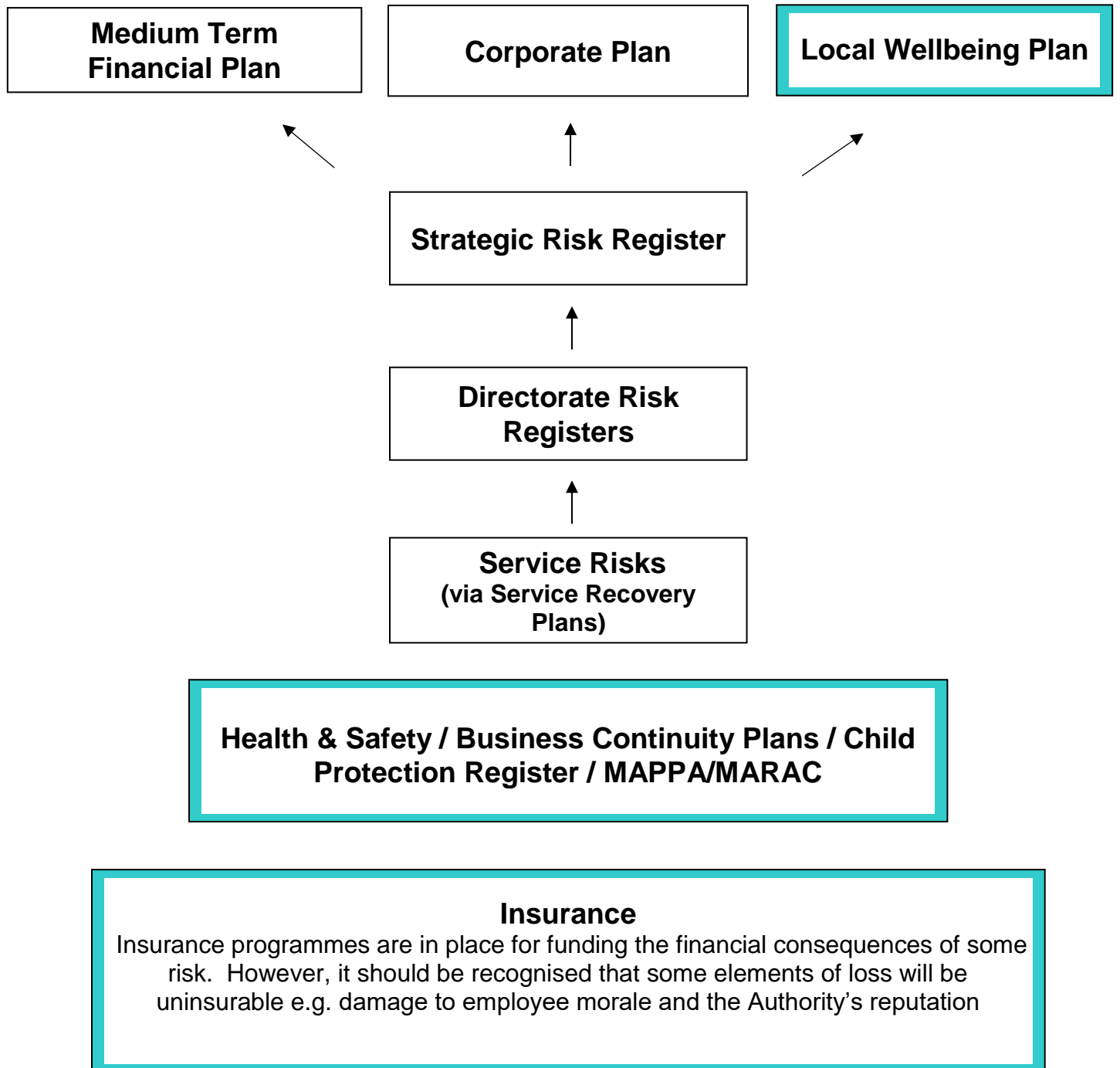
Chartered Institute of Public Finance and Accountancy (CIPFA)/Society of Local Authority Chief Executives (SOLACE) Guidance – In 2012, CIPFA published an addendum to its report “*Delivering Good Governance in Local Governance: Framework*” which urged local authorities to prepare a governance statement in order to report publicly on the extent to which they comply with their own code of governance on an annual basis. This should include how the effectiveness of their governance arrangements in the year have been monitored and evaluated whilst also setting out any planned changes in the next period. The governance statement includes the Council’s risk management policy, processes and their effectiveness.

The Well-being of Future Generations (Wales) Act 2015 - Statutory guidance emphasises the importance of considering long term risks that will affect the delivery of the Council’s services and outcomes for our communities. The sustainable development principle should be used to frame the risks that we have identified in the short, medium and long term and, through the defined steps we intend to implement in order to meet our well-being objectives, we should demonstrate that risks are well managed.

The Council’s Corporate Risk Management Framework (figure 8.1.1) sets out in this policy is designed to ensure risk management is effective. The framework overleaf illustrates how risk will be managed at different levels and how that information will be used to influence the

council’s priorities (Corporate Plan), the allocation of resources (Medium Term Financial Plan) along with sharing of relevant risks with partners (Local Well-being Plan).

Figure 8.1.1 The Corporate Risk Management Framework



8.2 The Corporate Risk Management Process

Step 1 - Risk Identification

The council's established key risk management processes for identifying risk are as follows:

i) The Council's Wellbeing Objectives

Corporate Directors Group actively identify risks associated with the delivery of the vision, purpose, well-being objectives and associated priorities as set out in the council's Corporate Plan. Those risks will be recorded on the Strategic Risk Register.

ii) The Council's wider business

At the Directorate level, a Directorate risk register will be populated by Senior Management Teams with the risks identified via the service recovery planning process and any additional risks requiring inclusion on the Directorate risk register.

Corporate Directors will present their Directorate Risk Registers to Corporate Directors Group (on a six monthly basis – at a minimum) highlighting those risks that have been identified for escalation to the Strategic Risk Register and also to provide assurance to Corporate Directors Group that Directorate and significant service risks are being managed, monitored and reviewed appropriately.

ii) Service Delivery

At the service level, Accountable Managers identify service risks and manage, monitor and review them in their respective Service Recovery Plans. The format of the service level risk register is contained within the Service Recovery Plan template.

iii) Operational Risk Management

In addition to the above there are a number of service / operational risk systems e.g. Child Protection Register / MAPPA/MARAC which should inform the Strategic Risk Register and Directorate Risk Registers.

iv) Business Continuity

Business continuity management is a process which analyses the impact on a business which directly affects the services provided by the council. Its purpose is to identify critical activities and functions that have to continue at a minimum during a disruption of service delivery or when responding to an emergency.

v) Health & Safety

Processes for evaluating the risk arising from a hazard(s), taking into account the adequacy of any existing controls, and deciding whether or not the risk(s) is acceptable, are now well-embedded across the council. External quality assurance of the council's risk management arrangements is in place and there is clear evidence of risk being prioritised, resourced and evaluated at operational, service and corporate levels.

Step 2 – Risk Assessment

i) Assessment

This involves an assessment of the likelihood and impact of the risks that have been identified. This assessment is undertaken utilising the following 5x5 risk evaluation matrix.

Figure 8.2.1 - 5 x 5 Risk Matrix

Key								
Likelihood	Impact*							
1. Very Unlikely 2. Unlikely 3. Likely 4. Very Likely 5. Certainty	1. Low 2. Low/ Medium 3. Medium 4. Medium / High 5. High	Likelihood	5					
			4					
			3					
			2					
			1					
			0					
			1	2	3	4	5	
			Impact					



Low Risk



Medium Risk



High Risk

*The impact of the risk should be assessed on the basis of:

- Reputation
- Finances
- Significant service / operational change

Step 3 – Monitoring, Reviewing and Escalation of Risks

a) Service level risks – Service Recovery Plan

For those risks at the service level Accountable Managers are responsible for managing, monitoring and reviewing those risks. Significant risks should be escalated to Senior Management Teams

for consideration for inclusion on the relevant Directorate Risk Register.

b) Directorate Risk Register

For those risks on the Directorate Risk Register the process of managing, monitoring and reviewing those risks remains the responsibility of Senior Management Teams.

Directorate risk registers should be regularly reviewed and monitored on a quarterly basis (at a minimum).

Reviews shall include evidence so as to accurately determine and measure the Directorate's performance in mitigating / controlling the identified risks.

Typical inputs include the following although this list must not be considered exhaustive:

- the extent to which the risk being controlled / mitigated
- follow-up actions from previous Senior Management Team reviews of the Directorate Risk Register.

Information shall be collated by the Senior Management Team in advance of each review to enable the Team to address the need, if appropriate, for changes to the way in which the Directorate risks are being controlled / mitigated, the resources allocated, whether any risks require escalation to the Strategic Risk

Register, if any risks can be removed from the Register or new risks have been identified to be added to the Register.

Directorate Risk Registers will be reported to Corporate Directors Group on a six monthly basis (at a minimum) to provide assurance to Corporate Directors Group that Directorate Risks and significant service risks are being effectively managed and mitigated and will provide the opportunity for the identification of significant Directorate Risks to be escalated to the Strategic Risk Register.

b) Strategic Risk Register

Once Corporate Directors Group have agreed which risks are to be included on the Strategic Risk Register the process of managing, monitoring and reviewing those risks will be at the corporate level.

The Strategic Risk Register will be reviewed and monitored quarterly (at a minimum) by Corporate Directors Group. The review shall include the production of evidence so as to accurately determine and measure performance in managing the strategic Risk Register. Typical inputs include the following although this list must not be considered exhaustive:

- the extent to which the risk is being controlled / mitigated
- follow – up actions from previous reviews

Information shall be collated by Corporate Directors in advance of each review to enable the Group to address the need, if appropriate for changes to the way in which the strategic risk is being controlled / mitigated, the resources allocated, whether any risks can be removed or given back to the appropriate Directorate Risk Register for monitoring and review or new risks have been identified to be added to the Register.

The Strategic Risk Register will be reported to Cabinet on a 6 monthly basis (at a minimum).

8.3 Major Asset Risks

Table 8.3.1 below gives an indication of what have been/are considered to be NPT’s Major Asset Risks:-

Risk	Current Controls in Place
Carriageways	
Previous Carriageway Lifecycle Plan and Status and Options Reports indicates that, if current expenditure levels are maintained, the condition of the highway asset will deteriorate.	Regular condition surveys (SCANNeR and SCRIM for classified and visual for both classified and unclassified) keep engineers informed. The introduction of preventative treatments into the forward works programme, whilst not stopping deterioration, could help slow it down.

Table 8.3.1 – Major Asset Risks (cont.)

Risk	Current Controls in Place
Safety Fencing	
Condition of barriers throughout the County Borough.	Survey identified main risks throughout the County Borough which were dealt with via a 3-year renewal programme, other than those sites associated with edge deterioration that require special funding which are ongoing.
Structures	
<p>Cymmer Bridge</p> <p>Deficiency in Principal Bridge Inspections.</p> <p>Newbridge Road Bridge</p>	<p>Weight restriction and signal controlled one way working in place. Diversionary route being designed.</p> <p>New regime implemented resulting in a full cycle of principal bridge inspections being undertaken which may identify unplanned maintenance issues.</p> <p>The grade II listed structure has been closed to all users due to the condition of the structure.</p>
Drainage	
<p>Any significant requirements that may arise from the Flood Risk Management Plan.</p> <p>Gap in knowledge on gully carrier drains.</p>	<p>Mitigating factors identified as part of the Plan.</p> <p>Inventory currently being undertaken.</p>
Street Lighting	
Column collapse and electrical system failure.	Problems identified in the 2006/07 Lifecycle Plan led to an options appraisal being undertaken, which resulted in a major infrastructure renewal programme being completed.

9.0 Improvement Plan

9.1 Milestones

Improvement action plans for each asset group are included in the relevant lifecycle plan. Table 9.1.1 indicates improvements to date, together with key milestones identified for implementation as part of this Plan.

Table 9.1.1: Summary of Performance Gaps and Action Plan

Performance Gap	Milestone / Actions	Target Date
General		
Working practice	Transition to new Code of Practice Complete gap analysis of working practices vs new Codes of Practice	Some areas reviewed and completed – analysis ongoing
Carriageways		
Surface condition data gap	Extended carriageway visual condition surveys to all thoroughfares on both the classified and unclassified network	Complete
	Utilise Survey Team to identify condition on scale 1 to 4	Complete
	Update condition survey	Ongoing.
Review management of carriageway with respect to skid resistance.	Review approach and further develop strategy as necessary, making appropriate amendments to the HAMP and Highway Maintenance Plan as required.	Ongoing.

**Table 9.1.1: Summary of Performance Gaps and Action Plan
(cont.)**

Performance Gap	Milestone / Actions	Target Date
Carriageways (cont.)		
Improved methods required for targeting of roads for preventative maintenance	Work nationally to develop 'deterioration modelling' to assist with works programming – since previous HAMP, condition data surveys have provided improved means to inform forward work programmes.	2022 - 2025 Ongoing works in line with the CSSW national asset management framework contract.
Risk assessment and pavement management	Continue to explore potential benefits of the application of risk exposure indices in works programming.	Ongoing
Integrated computerised maintenance system for improved efficiencies	Development of in-house 'system' using GIS.	Ongoing
Detailed overview of potential road schemes with costs, measurements and inventories	Development of a preparation pool to assist with maintenance planning and prioritisation.	Ongoing

Table 9.1.1: Summary of Performance Gaps and Action Plan
(cont.)

Performance Gap	Milestone / Actions	Target Date
Carriageways (cont.)		
Insufficient coordination with utilities for Forward Works Programme	Develop forward works programme to be coordinated where necessary with utilities using Data Map Wales.	Data Map Wales will soon hold most of the utilities' forward works. Works conflicts will then be identified easily.
Further use of innovative, preventative maintenance techniques.	Development of 'fit for purpose' preventative maintenance solutions as cheaper, sustainable and more environmentally friendly alternatives.	Trial areas identified through condition survey and incorporated into HAMP.
Insufficient method of addressing poor surface condition at stress points, such as junctions and reinstatements.	Procurement of 'JCB Pothole Pro' machine.	'JCB Pothole Pro' purchased. Programme of works being created.
Footways		
Update condition of footway network	Utilise Survey Team to identify condition on scale 1 to 4 condition data used in preparation of annual works programme.	Most recent survey completed in 2021. New survey to be completed by August 2023.
Improvement in coordination with utilities for Forward Works Programme	Develop forward works programme to be coordinated where necessary with utilities using Data Map Wales.	Data Map Wales will soon hold most of the utilities' forward works. Works conflicts will then be identified easily.

Table 9.1.1: Summary of Performance Gaps and Action Plan (cont.)

Performance Gap	Milestone / Actions	Target Date
Footways (cont.)		
Risk assessment and works programme management	Continue to explore potential benefits of the application of risk exposure indices in works programming.	Ongoing.
Reduce expensive maintenance costs.	Development of preventative maintenance regime and use of new treatments as cheaper, sustainable and more environmentally friendly alternatives.	Ongoing
Implement Inventory Population Strategy.	Gather bridge element data through biennial general inspection programme.	Ongoing
Structures		
Incomplete Bridge Detail Drawings/ Records	Transfer Survey and Microfilm details into AutoCAD Drawings	Ongoing
Bridge Key performance indicators	Extend KPI register to include for BCI, Availability, Reliability & Work bank	Ongoing

Table 9.1.1: Summary of Performance Gaps and Action Plan
(cont.)

Performance Gap	Milestone / Actions	Target Date
Structures (cont.)		
Retaining wall gaps	Complete survey of retaining walls	Ongoing
Principal inspections on major structures	Principal inspections programmed (52 No.)	Ongoing
Compliance with the UK Bridges Boards Code of Practice for Highway structures	Implementation of the code's recommendations	Ongoing
Formal maintenance selection process	Prioritisation system to be applied to work bank	Ongoing
Drainage		
Planned drainage maintenance on roads with a speed limit of 40mph and over	Implementation of a thorough survey and cleanse of the drainage infrastructure on all roads within this category	Ongoing
Lack of detail for connecting drains forming part of gulley / highway drainage systems.	Instigate inventory of connecting drains forming part of gulley / highway drainage systems.	Ongoing

Table 9.1.1: Summary of Performance Gaps and Action Plan
(Cont.)

Performance Gap	Milestone / Actions	Target Date
Lighting		
Address aged lighting stock	Implement Lighting Renewal Project for street lighting (excludes illuminated signs)	Complete
Gap in data of underground cabling	Complete inventory of authority owned underground cable	Ongoing
Gap in data of controlled crossing infrastructure	Complete inventory & condition survey of controlled crossing infrastructure	Complete
No long-term controller replacement investment profile	Identify investment profile for controller replacement to end of plan period	Complete
No long-term Signal refurbishment investment profile	Identify signal refurbishment investment profile to end of plan period	Complete
Highway Signs		
Signs missing, requiring replacement or needing attention.	Recent GAIST survey identified signs that require replacement/attention. Sign replacement programme being created. Neighbourhood Services to fix signs that need attention.	Ongoing.

Table 9.1.1: Summary of Performance Gaps and Action Plan
(cont.)

Performance Gap	Milestone / Actions	Target Date
Highway Signs (cont.)		
Cleaning Backlog.	Neighbourhood Services to complete cleaning backlog and thereafter continue with cyclical cleaning in accordance with HAMP.	Routine maintenance on-going.
No live updates of inventory.	GAIST survey to be kept live – made particularly important by the major changes occurring due to the 20mph National Rollout.	Continuous inspection/replacement regime in place.
Crash Barriers		
95% of safety barriers data held in inventory. Updated condition survey required.	Procure new condition survey. Complete inventory survey to 100%.	4 th condition survey to be undertaken in 2023/24.
Other Assets		
No maintenance programme for other assets.	Establish maintenance programme e.g., street furniture.	Existing survey data to be rationalised. Development of programme for collection of required asset inventories – ongoing.

10.0 Management & Control of the Plan

10.1 Responsibility for Delivery

The following people are charged with the delivery of this Highway Asset Management Plan. Their roles are as follows:

Post / Position	Name	Role
Directorate Mgt Team	Not applicable	Draft approval of the HAMP
Cabinet Board	Not applicable	Approval of the HAMP
Capital Programme Steering Group	Not applicable	Monitoring of capital financial information relating to the HAMP
Head of Streetcare Services	Mike Roberts	Allocate and prioritise resources to facilitate implementation of asset management strategies and provide a link to corporate strategies in consultation with other sections as necessary.
Highways and Drainage Services Manager	Steve Owen	
Neighbourhood Services Manager	James Davies	
Lighting Services Manager	Dan Rees	
Asset / Traffic & Programme Manager	Aled Jones	Co-ordinate asset management, development and updating of the HAMP and associated documents, monitoring and implementation of various improvement actions.
Highways Asset Management Officer	Warren Hudson	
Senior Assistant (Network Analysis)	Mike Thomas	Holder of the asset inventory and condition data.

Post / Position	Name	Role
Departmental Finance	Sian Davies	Provision of any financial information required in relation to the HAMP.
Network & Programme Manager	Aled Jones	Implement / support development of the HAMP and asset management strategy.
Engineering Manager	Hasan Hasan	Input to updates of HAMP documents and production of integrated works programmes and reactive highway maintenance.
Lighting Services Manager	Dan Rees	
Drainage Manager	Richard Colman	
Street-Scene Manager	Colette Powney	

10.2 Review and Update

The HAMP document will be reviewed on a three-year cycle and the appendices updated periodically as required.

Position	Frequency	Date of Next Update
HAMP	3 yearly	April 2026
Appendices	As required	Not applicable

Impact Assessment - First Stage

1. Details of the initiative

Initiative description and summary: Neath Port Talbot County Borough Council – Highway Asset Management Plan
Service Area: Streetcare
Directorate: Environment

2. Does the initiative affect:

#

	Yes	No
Service users	Y	
Staff	Y	
Wider community	Y	
Internal administrative process only		N

3. Does the initiative impact on people because of their:

	Yes	No	None/ Negligible	Don't Know	Impact H/M/L	Reasons for your decision (including evidence)/How might it impact?
Age		N				The HAMP will have no impact on anyone with protected characteristics.
Disability		N				
Gender Reassignment		N				
Marriage/Civil Partnership		N				
Pregnancy/Maternity		N				
Race		N				
Religion/Belief		N				
Sex		N				
Sexual orientation		N				

4. Does the initiative impact on:

	Yes	No	None/ Negligible	Don't know	Impact H/M/L	Reasons for your decision (including evidence used) / How might it impact?
People's opportunities to use the Welsh language		N				The HAMP will have no impact on people's opportunities to communicate in Welsh.
Treating the Welsh language no less favourably than English		N				The HAMP does not impact on provision to ensure staff can use their first language of choice.

5. Does the initiative impact on biodiversity:

	Yes	No	None/ Negligible	Don't know	Impact H/M/L	Reasons for your decision (including evidence) / How might it impact?
To maintain and enhance biodiversity	Y				M	<p>The HAMP concerns management and maintenance of the highway network. This can impact on biodiversity and ecosystems in a number of ways e.g. management of roadside verges can remove or maintain pollinator habitat / maintenance work on bridges can impact on bat roosts and nesting birds / lighting changes can affect the way that wildlife uses an area e.g. interrupting flight paths of bats.</p> <p>The HAMP recognises and incorporates the Section 6 duty of the Environment (Wales) Act 2016, acknowledging that all decision making within the framework of the HAMP will comply with the S6 duty to maintain and enhance biodiversity. The HAMP also incorporates an objective to implement measures that help to reduce the negative impact across the region on the natural environment, promoting the resilience of ecosystems in the process.</p>
To promote the resilience of ecosystems, i.e. supporting protection of the wider environment, such as air quality, flood alleviation, etc.	Y				M	

6. Does the initiative embrace the sustainable development principle (5 ways of working):

	Yes	No	Details
Long term - how the initiative supports the long term well-being of people	Y		The HAMP will improve well-being, increase efficiency and improve the highway. The road network provides opportunities for people to access their place of work, as well as their leisure & social activities, and is a vital component to the health of a community. Essentially, it is vital in facilitating the safe and effective movement of goods and people.
Integration - how the initiative impacts upon our wellbeing objectives	Y		The Well-being of Future Generations (Wales) Act 2015 and the Equality Act 2010 encourages a more joined up approach to road maintenance and travel. The provision of a well maintained road network plays an important role in supporting the local economy and the overall health and wellbeing of communities.
Involvement - how people have been involved in developing the initiative	Y		People have not been involved in developing the HAMP. The production of the HAMP has brought together practitioners responsible for the different asset groups within the Council and follows the principles established nationally in Wales through the County Surveyors Society.
Collaboration - how we have worked with other services/organisations to find shared sustainable solutions	Y		The HAMP is the result of collaboration between internal sections of the Council. Without such collaborative working, it would not be possible to reach a solution where the well-being of the community is improved to the extent that the initiative will realise.
Prevention - how the initiative will prevent problems occurring or getting worse	Y		The HAMP sets out the Council's objectives, policies and strategy for managing its highway infrastructure assets. It recognises the importance of its highway infrastructure in supporting corporate, national, regional and local objectives and recognises new legislation, such as the Well-being of the Environment (Wales) Act 2016, Future Generations (Wales) Act 2015 and the Equality Act 2010 (Statutory Duties) (Wales) Regulations 2011.

7. Declaration - based on above assessment (tick as appropriate):

A full impact assessment (second stage) is not required	✓
Reasons for this conclusion	
<p>After completing the assessment it has been determined that this proposal does not require a full Impact Assessment (second stage). The HAMP has a positive impact on service users, has no adverse impact on people who share protected characteristics or on people's ability to use the Welsh language.</p> <p>The HAMP embraces the sustainable development principle, by contributing to the Council's well-being objectives. It does so by improving the wellbeing of both children and adults within the community by efficiently maintaining the highway network and providing safe passage for highway users.</p>	

	Name	Position	Date
Completed by	Aled Jones	Network and Programme Manager	12 th May 2023
Signed off by	Mike Roberts	Head of Streetcare	20 th October 2023



Cyngor Castell-nedd Port Talbot
Neath Port Talbot Council

NEATH PORT TALBOT COUNTY BOROUGH COUNCIL

Environment, Regeneration and Street Scene Cabinet Board

14th November 2023

Report of the Head of Streetcare M. Roberts

Matter for Decision

Wards Affected: All Wards

Report Title: Street Lighting Energy

Purpose of the Report:

To seek Member approval for public consultation regarding potential savings strategies in relation to street lighting energy, relating to the dimming of LED lanterns and part night lighting.

Executive Summary:

The cost of energy to the Council has increased significantly and, despite an above inflationary increase in the funding allocation this year, the current street lighting energy budget of £1.4M is predicted to outturn £295K over budget. In addition to this, there is a significant budget gap predicted in the Council's budget next year, which would make any ongoing deficit very difficult to sustain. As such there is a need to consider potential savings strategies to reduce lighting energy costs if required.

This report seeks permission to undertake public consultation on the dimming of high wattage LED lights by 25% throughout the night where present across the County Borough, and/or switching off lighting in the small hours, between 01.00hrs and 05.00 hrs, in appropriate areas.

Background:

The cost of street lighting energy has increased significantly and, despite an above inflationary increase in the funding allocation this year, the current street lighting energy budget of £1.4M is predicted to outturn £295K over budget. In addition to this, there is a significant budget gap predicted in the Council's budget next year, which would make any ongoing deficit very difficult to sustain. As such there is a need to consider potential savings strategies to reduce lighting energy costs, to help inform the Council's emerging Medium Term Financial Plan.

Previous energy saving measures

Between 2012 and 2018, the Council undertook a large scale street lighting renewal project, which as well as replacing life expired columns, cables and lanterns introduced some energy efficiency measures including new fluorescent lanterns in residential areas with electronic switch gear and dimming. Subsequently, in 2020, the Public Lighting Section commenced a further SALIX funded project to replace high wattage sodium oxide and high pressure sodium lanterns with more energy efficient LED lanterns. During this project over 6000 lanterns were replaced with lower energy units. If the SALIX project had not been undertaken then at today's energy rate of 41p per kWh the Council's lighting energy bill would be a further £712,000 above the current energy costs.

In addition to above, in response to the significantly increased costs this year, Officers have already implemented the 'trimming' of 3 watts off the power levels for all lanterns, via the Council's central management system, given trials indicated this would make no discernible difference to lighting levels and would enable some immediate savings to be made to help the budget.

Further potential measures

Aside from switching some lighting off altogether, there are two further potential savings strategies that could be considered:

Increased dimming

There are currently 10,600 LED lanterns installed within the county borough which it is believed may be suitable for dimming up to 25% (i.e. significantly above the current 3 watt power reduction). This could be done all evening or within the small hours.

[The fluorescent lanterns in the borough, some 8500 55W PLL units largely in residential areas, are already under a dimming regime following previous investment and cannot be dimmed further.]

Part Night Lighting

As opposed to increased dimming, lights in many areas could potentially be switched off in the small hours. A proposal in this regard could include switching off up to around 14,000 lanterns during the hours of say 01:00 – 05:00hrs.

This report seeks approval to undertake public consultation on both these potential saving strategies including a list of potential locations for part night lighting as shown in Appendix A.

Financial Impacts:

Whilst any proposals would follow the public consultation, the order of potential savings would be as follows:

Dimming the output of LED Lanterns by 25% all night

An annual saving of up to £115,000.

Part Night Lighting where potentially suitable between 01:00 – 05:00hrs

An annual saving of up to £218,000.

Part Night Lighting where potentially suitable and dimming of LEDs elsewhere

An annual saving of up to £285,000.

[Note: All potential savings are modelled on a current energy cost of 41p/KWH.]

Integrated Impact Assessment:

The proposed consultation is to assist with completing an Integrated Impact Assessment of the potential savings strategies for inclusion with any future decision report.

Valleys Communities Impacts:

There is a potential for valley communities, as elsewhere in the County Borough, to be affected by the indicated potential saving strategies. The proposed consultation would help inform any issues in this regard.

Workforce Impacts:

Employees, as other citizens, may be affected by the savings strategies. The proposed consultation would help inform the potential impact on citizens generally.

Legal Impacts:

Further to guidance issued by the Institution of Lighting Professionals, the Council has a duty, once street lighting has been installed, to ensure such lighting is maintained.

Risk Management Impacts:

Part night lighting in particular could give rise to some increased exposure to potential claims from the public. One reason for conducting a public consultation exercise is to increase the understanding of issues and any areas where the savings strategies might not be suitable.

Any savings strategies which are ultimately implemented would reduce financial risk on the Council with future cost increases.

Crime and Disorder Impacts:

Crime, and fear of crime, are matters of public concern which the consultation would help provide better understanding in relation to potential street lighting saving strategies. The public consultation process would include specific consultation with the emergency services and internal sections in relation to road safety and CCTV.

Counter Terrorism Impacts:

There is not expected to be any impact on counter terrorism arising from the potential savings strategies but this, as with other potential impact areas, would be reviewed in light of consultation findings.

Violence against Women, Domestic Abuse and Sexual Violence Impacts:

Similarly to crime and fear of crime generally, the proposed consultation should help better inform any issues in this regard with respect to the potential street lighting saving strategies.

Consultation:

Public Consultation, to include specific consultation with the emergency services and relevant internal sections, is the subject matter of this report.

The proposed consultation would be undertaken by means of 'Online Polling' and also letter drops in strategic community areas such as libraries and community centres so that feedback can be given by residents who are not online. Furthermore, there would be direct correspondence with the emergency services. Consultation is proposed for 6 weeks.

Previous consultation with undertaken with regards to a dimming regime being implemented were carried out in 2015. These questions were asked to the public following a trial that had been carried out to see if residents had noticed the dimming and if they had any issue with the lighting that was present during these trials.

Such questions asked in the last consultation were:

1. Are you happy with the street lighting in your area?
2. Had you noticed that the lights had been dimmed?

3. Can you remember when the dimming started?

4. Did the dimmed lighting adversely affect you?

If yes – how?

5. In your opinion, as dimming saves money, would similar dimming be acceptable on other major traffic routes?

6. Any other comments?

Some of these questions couldn't be asked again in this instance as there has been no substantial trail carried out throughout the whole authority.

Possible other questions that could be asked in the consultation could be:

- Are you happy with the lighting in your area?
- Should Part Night Lighting be implemented between 01:00 and 05:00 in your areas, would this adversely affect you?
- In your opinion, as dimming lighting saves money, should dimming of LED's be implemented in your area.
- Following previous dimming regimes being implemented, do you think dimming the LED lighting in your area would adversely affect you? – If so how?
- Any other comments?

Note: The questions to be asked in the consultation can all be subject to change and addition of further should you feel it is necessary.

Recommendations:

It is recommended that Members approve that public consultation be undertaken with respect to the potential street lighting energy saving strategies as set out in this report.

Reasons for Proposed Decision:

To help inform any future decision regarding street lighting savings and associated Integrated Impact Assessment.

Implementation of Decision:

The decision is proposed for implementation after the three day call in period

Appendices:

None.

List of Background Papers:

None.

Officer Contact:

Mr. Dan Rees, Lighting & Building Services Manager, Tel: 01639 686442 or email d.rees3@npt.gov.uk

NEATH PORT TALBOT COUNCIL

Environment, Regeneration and Streetscene Services Cabinet Board

14th November 2023

Report of the Head of Property & Regeneration - Simon Brennan

Matter for Information

Wards Affected: All Wards

Zero Emission Vehicle Infrastructure Strategy (ZEVIS)

Purpose of Report

1. To inform Members of the Council's Zero Emission Vehicle Infrastructure Strategy (ZEVIS) and the actions required to increase the uptake of electrical charging and other zero emission vehicle provision throughout the Council.

Executive Summary

2. NPT ZEVIS is a data and evidence led strategy report with a local, regional and national context. The strategy demonstrates NPT Council status position in regard to Council and Public facing Zero Emission Vehicle Infrastructure in relation to National and neighbouring Local Authorities and where the Council needs to be, modelled on low, medium and high level scenarios of ULEV uptake by 2025 and 2030.

This strategy identifies key Priority Focus Areas shown and presents them in a hexagon chart showing how they inter-relate. This strategy suggests which phase each PFA is best placed, this approach increases the duty and purpose of the strategy by alignment and collaboration with others.

The next step actions will be essential for delivering the aims and objectives of the ZEV infrastructure strategy. The next step core strategy delivery areas will consist of:

- Fast track key node programme
- Internal & regional co-ordination
- Implementation action plan programme

Background

3. As directed and outlined by the NPT DARE Strategy, NPTC is committed to becoming a net-zero local authority, in line with declarations by the Welsh Government (WG) for a net-zero public sector by 2030 and UK legislative commitments to becoming net zero carbon by 2050.

One of the largest contributors to carbon emission is the transport sector. In 2022, surface transport accounted for 24% of the total UK emissions, with cars contributing 52% of this. NPT ZEVIS considers battery and plug in electric vehicles, hydrogen fuel cell technology and associated infrastructure for residents, businesses, and the public sector within NPT.

ULEV technology is a proven, viable replacement for traditional fossil-fuel powered vehicles but requires supporting infrastructure. As hydrogen fuel cell and infrastructure technology is still developing, this Strategy focuses mainly on EVs as the EV market is more mature and available now for wide scale adoption.

Local Authorities have an enabling role to assist residents, businesses and visitors to transition from fossil fuel vehicles to ULEV and create an environment that will enable the EV charging sector to become commercially viable.

NPT ZEVIS has identified an overriding matrix of Priority Focus Areas (PFA's) intended to mesh with existing and future work undertaken by other Departments within NPT. (Located in Appendix 1.) This strategic approach will converge different viewpoints and challenges to a common ambition and goal.

NPT ZEVIS is a strategic tool that sets the direction for developing a suitable infrastructure that will encourage and build confidence in the transition to zero emission vehicles that will benefit communities, residents, improve air quality and the economy of Neath Port Talbot.

NPT ZEVIS foundation is based on the following four key objectives:

1. Promote inclusive ZEV uptake across NPT - **Equality**
2. Promote private sector investment in ZEV technologies - **Economy**
3. Continue to deliver NPT net zero transport emissions agenda -

Exemplify

4. Pursue alignment with local and regional innovation projects –

Engage

3.1 Strategy - Overall Findings

The data shows that ULEV uptake is growing in NPT but lies below surrounding council's growth with an increasing year on year gap.

It identifies National and Regional policies that effect Local strategy and action plans.

It identifies the numerous ZEV related funding streams available at the time of writing, to Local Authorities, landlords, homeowners, renters, workplaces and manufacturers.

The report has analysed the current ZEV and Infrastructure market and identifies the Pros and Cons of the main types of On Street Residential EV Charging Infrastructure solutions.

It includes hydrogen and incorporates a fuel hierarchy table with Pros, Cons and emissions.

It recognises that continued development and innovation in ZEV will affect future uptake and usage patterns.

3.2 Strategy - Recommendations

NPT ZEVIS shows the current number of slow, fast and rapid public chargers in NPT and used three scenarios to forecast ULEV uptake and EV charger requirements in NPT:

- **Low** (business as usual, no policy intervention, extrapolating current trend, 15% and 40% of new registrations by 2025 and 2030 respectively))
- **Medium** (Good Practice, in line with DfT Road to Zero 20% and 50% of new registrations by 2025 and 2030)
- **High** (Exemplar, in line with Government ambition for 30% and 70% of new registrations to be plug in vehicles by 2025 and 2030)

(Note - figures for 2022 show a 22.9% of new registrations were plug in vehicles. The figure for August 2023 was 27.8%. There are now 1,500,000 plug in vehicles registered in the UK – approximate split is 950,000 full electric and 550,000 plug in hybrid.)

NPT ZEVIS highlights the significant investment and the number of EV chargers needed to meet the **Page 207** increased uptake.

	2025			2030		
	Low	Medium	High	Low	Medium	High
No of Slow <7 kW chargepoints required	270 - 297	359 - 396	539 - 593	541 - 655	676 - 819	946 – 1,147
No of Fast 7-22 kWh chargepoints required	19 - 21	25 - 28	38 - 42	38 - 46	48 -58	67 - 81
No of Rapid >50 kWh chargepoints required	21	27	41	41	51	72

(Note - at time of writing there were just 8 Fast and 6 Rapid public chargers in NPT)

In order to meet its net zero ambition, the Council needs to fully cost its action plan and ensure that it is aligned with its Medium Term Financial Plan. While costing its action plan, the Council needs to consider the balance between what is needed to achieve net zero by 2030 and what is achievable given available resources, time and funding.

3.3 Strategy - Proposed Action

This strategy identifies key Priority Focus Areas shown in appendix 1 and presents them in a hexagon chart showing how they inter-relate.

The strategy recommends a phased approach:

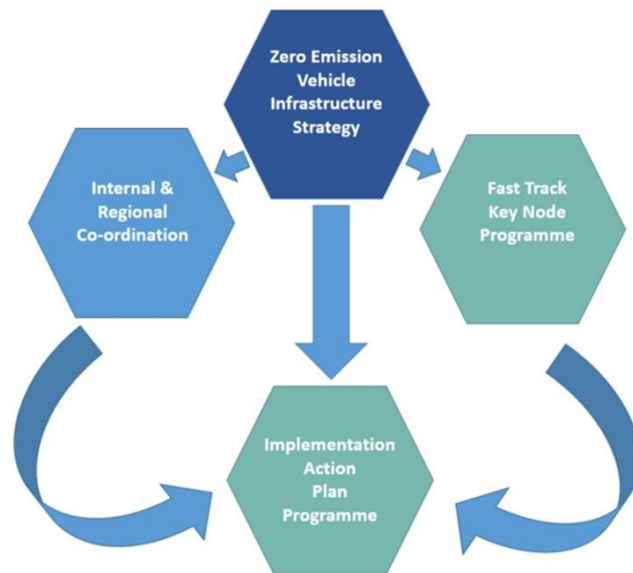
- Phase 0 – Strategy
- Phase 1 – Plan
- Phase 2 – Design
- Phase 3 – Implement
- Phase 4 – Intelligence - Feedback & Review

This strategy suggests which phase each PFA is best placed, this approach increases the duty and purpose of the strategy by alignment and collaboration with others.

It must be understood that for the Council to effectively deliver externally funded zero emission infrastructure projects and work effectively with the commercial sector is going to take high levels of funding, resource, organisational change, structured training, application of new technologies and the need for a holistic approach with responsibility assigned across all directorates, departments and embraced by all staff across the organisational structure of the Council.

3.4 Strategy Implementation - Next Steps

The next step actions will be essential for delivering the aims and objectives of the ZEV infrastructure strategy. The enclosed figure illustrates the next step core actions that the Council needs to undertake to increase the necessary uptake of ZEV infrastructure.



To commence the development and demonstrate progress of the Implementation Action Plan the following shortlist of priority focus areas have been developed:

- Publish Guidance & Tools on NPTC Website
- ZEV Taxi & PHV Study
- Establish Regional EVCI Working Group
- NPTC Workplace Charging Study
- Mobility Hub Study
- Public Site EVCI Feasibility Studies

In conjunction with the develop of the Action Plan Programme, a fast track key charging point node installation programme will be identified and implemented, this fast track programme will identify key core charging hubs within / key travelling routes, Towns, Villages, Communities and Valley Areas, focused on enabling locations such as:

- Council carparks
- Council owned facilities such as schools and community centres
- Key visitor attractions within NPT
- Key retail outlets

Another key action will be a mapping exercise to identify all potential funding sources aligned to the following charging provision:

- Public facing charging provision
- Fleet charging provision
- Community charging provision
- Disadvantaged areas charging provision
- Innovative one-off projects

Regional engagement will also be undertaken to ensure effective coordination with surrounding councils and the councils within southwest Wales.

To ensure internal co-ordination across the council regarding zero emission vehicle infrastructure the Zero Emission Vehicle Infrastructure Officer has set up a working group of key internal stakeholders to identify all relevant existing and proposed initiatives and projects.

Financial Appraisal

4. NPT ZEVIS will enable the Council to set out the Priority Focus Areas and subsequent action and delivery plan to help us to better understand the long and short terms costs.

The Council will maximise external funding sources where possible and when available. Although there will also be the need to utilise its own capital funds to fully enable the capacity to deliver funded projects within the timescale required by Welsh Government.

Integrated Impact Assessment

5. There is no requirement to undertake an Integrated Impact Assessment as this report is for information purposes.

Valleys Communities Impact

6. The strategy will help set out the delivery of electric vehicle infrastructure throughout Neath Port Talbot including our valley communities.

Workforce Impact

7. There are no impacts on the Council's workforce at this stage.

Legal Impact

8. There are no legal impacts associated with this report.

Risk Management

9. There are no risk management impacts associated with this report, however, there will full risk assessments undertaken within the delivery of the ZEV implementation programme.

Consultation

10. There is no requirement for external consultation on this item.

Recommendations

11. For Cabinet to note the NPT Zero Emission Vehicle Infrastructure Strategy and proposed actions.

Reason for Proposed Decision

12. This is a matter for information therefore, no decision is required.

Implementation of Decision

13. This is a matter for information therefore, no decision is required.

Appendices

14. Appendix 1 – NPT ZEVIS Priority Focus Areas
Appendix 2 - Draft - Zero Emission Vehicle and Infrastructure Strategy

List of Background Papers

15. None.

Officer Contact:

Christopher Jones - Energy Manager

Email: c.r.jones1@npt.gov.uk

Nigel Morris - Zero Emission Vehicle Infrastructure Officer

Email: n.morris@npt.gov.uk

16. Appendix 1 – NPT ZEVIS Priority Focus Areas

Legend

Phase 0 - Strategy

Phase 1 - Plan

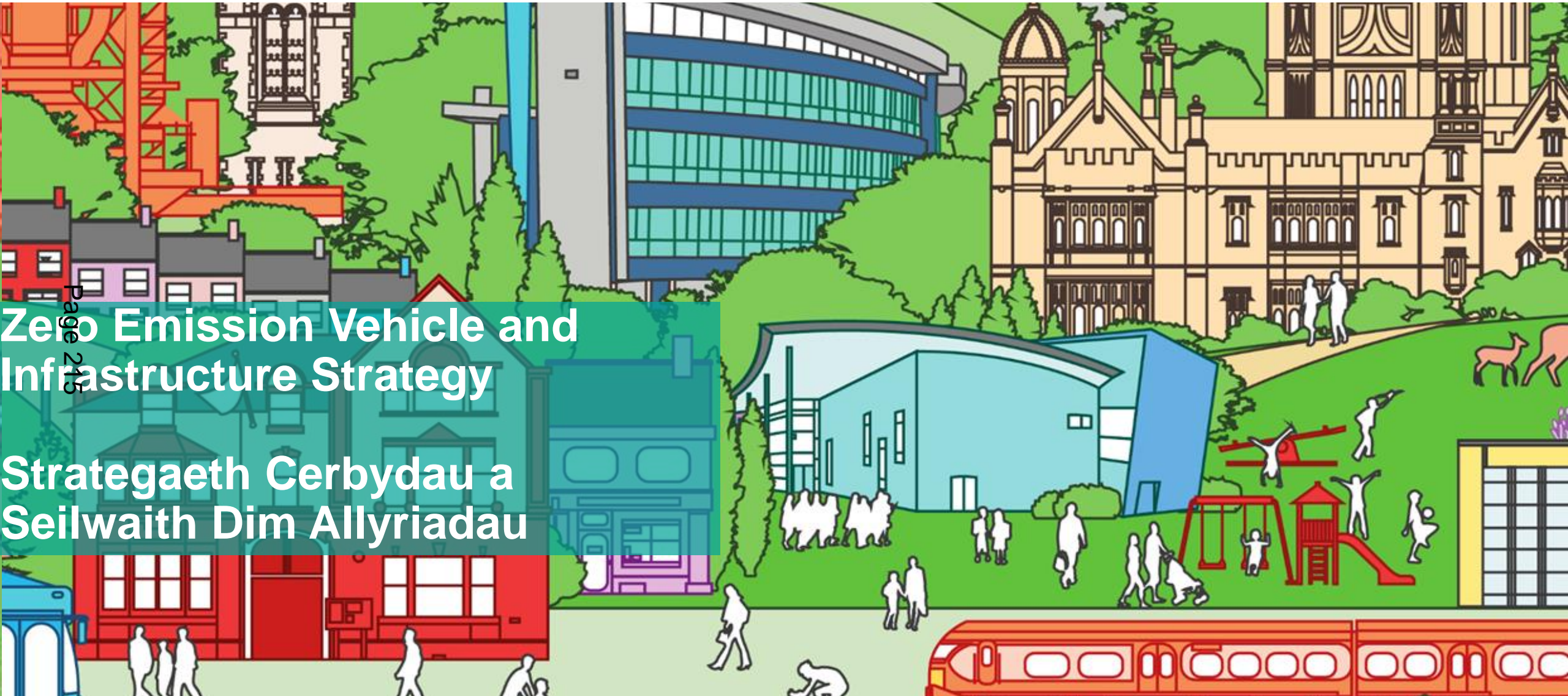
Phase 2 - Design

Phase 3 - Implement

Phase 4 - Intelligence

Underway



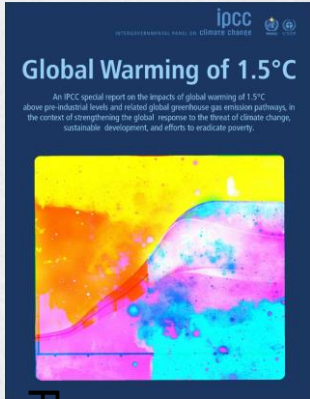


Page 215

Zero Emission Vehicle and Infrastructure Strategy

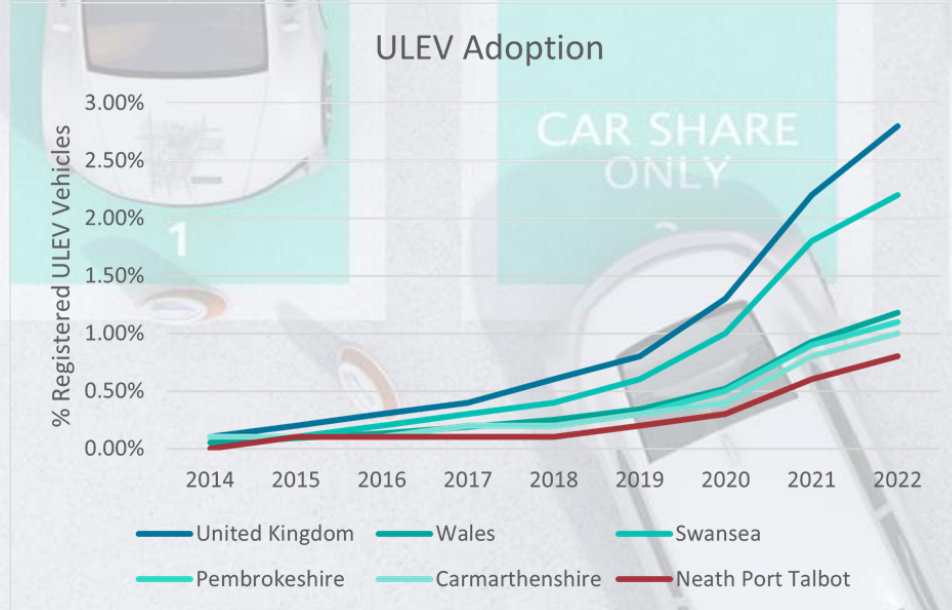
Strategaeth Cerbydau a Seilwaith Dim Allyriadau

CASE FOR CHANGE



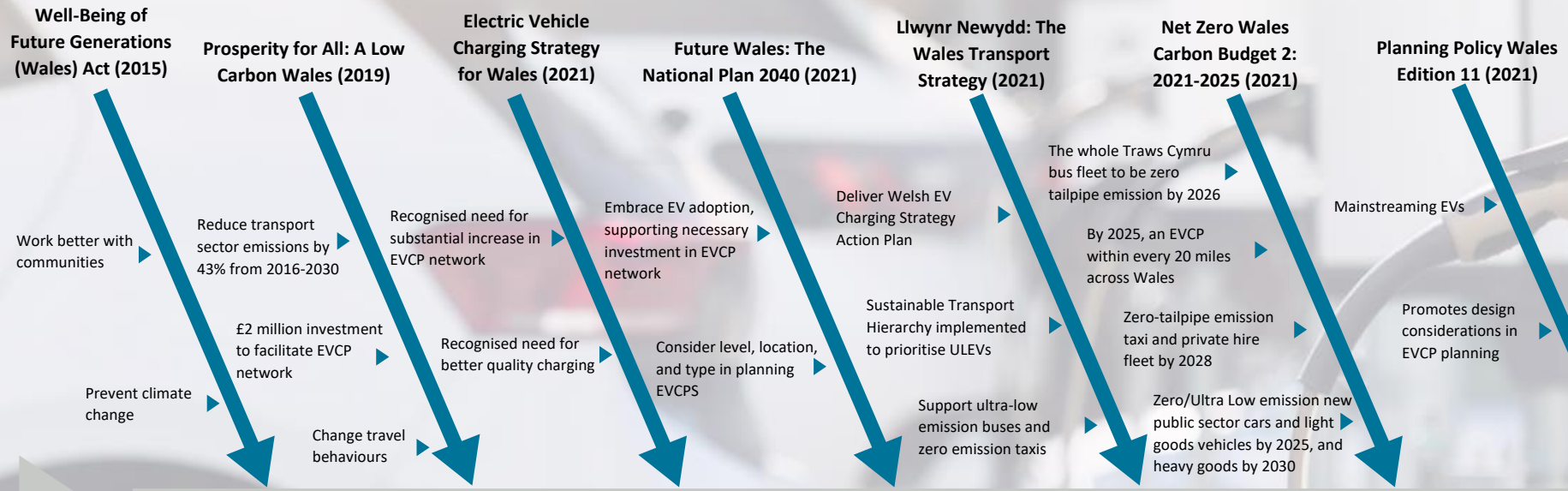
In October 2018, the Intergovernmental Panel on Climate Change (IPCC) published a Special Report on the impacts of global warming, and the devastating effects that inaction could have on our ecosystems. The report concluded, that to avoid catastrophic environmental and societal damage we must avoid temperatures rising by 1.5° C and that this requires achieving net-zero global carbon emissions by 2050. One of the largest contributors to carbon emission is the transport sector. In 2019, surface transport accounted for 27% of the total UK emissions, with cars contributing 60% of this. Furthermore, ULEV technology has already been proven to be a commercially viable replacement for traditional fossil-fuel powered vehicles.

As of 2022, 0.79% of registered vehicles in Neath Port Talbot were ULEVs. ULEV uptake within the study area can be seen to be growing, however, the growth lies significantly below the surrounding councils' growth and the gap appears to be increasing year-on-year.



Estimates published by the WG stated that the NPT public sector fleet, not including any grey fleet, which are vehicles owned and driven by an employee for work purposes, drove at least 2.8million miles and emitted 2,727 tonnes of greenhouse gases in the 2019/20 financial year.

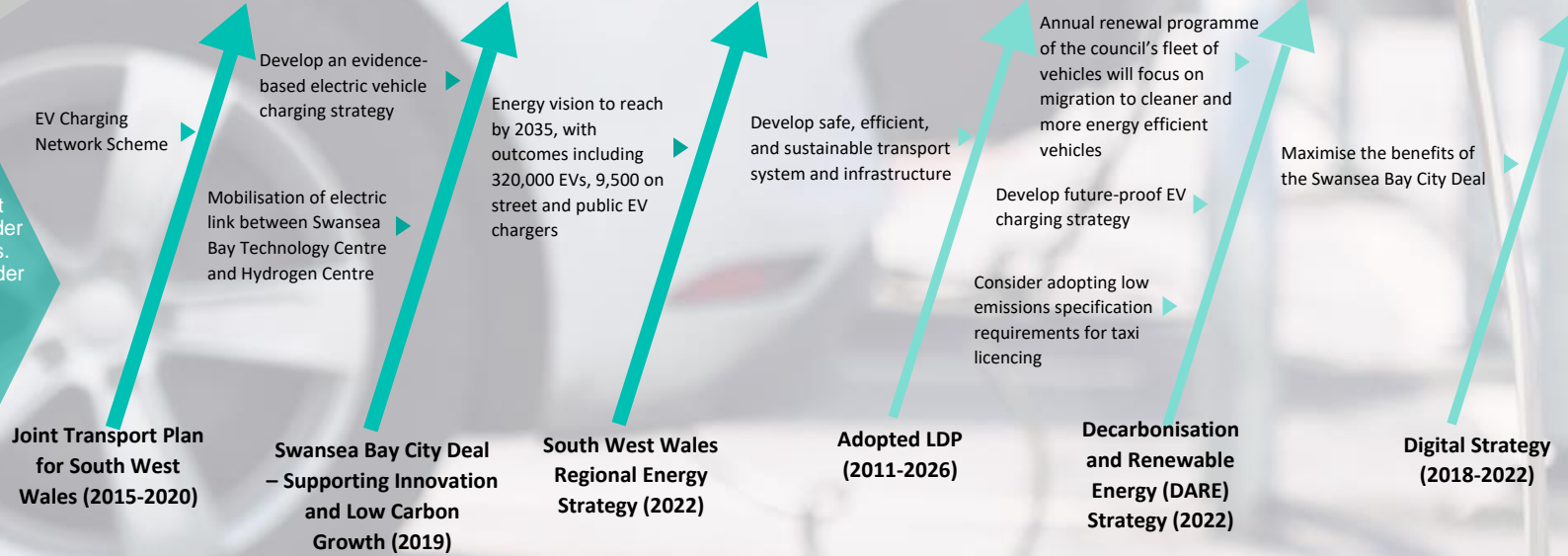
BACKGROUND



National policies aim to remove charging infrastructure as both a perceived, and a real, barrier to the adoption of electric vehicles. The national policies provide support for regional and local areas to plan and deliver ChargePoints with funding and guidance.



Regional strategies set out further SMART targets in order to reach national objectives. These specific targets consider regional challenges and disparities and offer a comprehensive but also digestible approach to EV infrastructure rollout.



Local Authorities (LAs) play a vital role in EV infrastructure rollout. LAs determine ownership and resourcing of the planning and delivery of EV charging infrastructure rollout on public land and on-street. National government suggests that LAs should publish a local EV strategy with a commercial and cross-sector approach that integrates into broader local transport plans

SURROUNDING PROJECT ACTIVITY

Anglesey, **EV Recycling Truck Trial**
(March 2022)

Mid Wales, **Hydrogen Feasibility Study**
(March 2022)

Mid Wales, **TripTo Community Car Club**
(Ongoing)

Denbigh, **NHS Wales EV - HGV Trial**
(July 2022)

Powys, **EV Refuse Collection Vehicle**
(April 2021 - Ongoing)

Powys, **EV Charging Public Consultation**
(September 2022)

Merthyr Tydfil, **EV Scheme**
(March 2022)

Bridgend, **NHS Wales EV - HGV Trial**
(July 2022)

Cwmbran, **NHS Wales EV - HGV Trial**
(July 2022)

Newport, **NHS Wales EV - HGV Trial**
(July 2022)

Cardiff & Newport, **ZEV Bus Fleets**
(Ongoing)

Cardiff City Region, **EVCI Rollout**
(Ongoing)

Cardiff City Region, **CSconnected Cluster**
(Ongoing)

Southwest & Mid Wales, **Electric Nation Western Power Distributions (WPD) Vehicle to Grid (V2G) Trial**
(2020-2022)

Llandysul, **Dolen Teifi Community Transport**
(Ongoing)

Carmarthenshire, **The Gwynedd Community EV Scheme**
(2019-2021)

Metro Region, **Regional Hydrogen Study**
(April 2023)

Metro Region, **Regional LA Depot EVCI Study**
(April 2023)

Milford Haven, **Energy Kingdom**
(Ongoing)

Swansea Bay, **Swansea Bay City Deal**
(Ongoing)

Cardiff City Region, **Management of Renewable Energy at Depots using Digital Twins**
(Proposition)

Cardiff City Region, **Accelerating Transition to Hydrogen**
(Proposition)

Neath Port Talbot, **ZEV Strategy**
(2023)

FUNDING

**DISCLAIMER* There are a range of current potential funding options for scheme delivery, however, it must be noted that the relevance of the funding may change overtime as closing dates for applications will pass and new funding will be introduced.*



Local Authorities

- The **On-Street Residential ChargePoint Scheme (ORCS)** provides local authorities access to up to 60% of funding to install EV infrastructure on-street and in public car parks.

The **EV ChargePoint grant** is open to public authorities and is intended for entities that rent, lease or manage residential properties who want to install EV ChargePoints

- **Plug-in grants** for electric taxis, vans, trucks, motorcycles, mopeds and wheelchair accessible vehicles, reducing ZEV purchase prices for consumers.



Landlords

- The government offers the **EV ChargePoint grant** to landlords for single use, multi-use and commercially let properties that have parking dedicated for staff use or fleet use of the tenant or prospective tenant.

- **Plug-in grants** for electric taxis, vans, trucks, motorcycles, mopeds and wheelchair accessible vehicles, reducing ZEV purchase prices for consumers.



Homeowners

- The **EV ChargePoint grant** is open to homeowners.

- **Plug-in grants** for electric taxis, vans, trucks, motorcycles, mopeds and wheelchair accessible vehicles, reducing ZEV purchase prices for consumers.



Renters

- The **EV ChargePoint grant** is open to people who live in rental accommodation or own a flat

- **Plug-in grants** for electric taxis, vans, trucks, motorcycles, mopeds and wheelchair accessible vehicles, reducing ZEV purchase prices for consumers.



Workplaces

- In September 2022, the **EV infrastructure grant** has also been made available for small and medium size businesses (less than 249 employees) who want to install charging infrastructure in their commercial car parks.

- The **Workplace Charging Scheme (WCS)** provides funding towards the cost of the purchase and installation of EVCPs at workplaces.

- **Plug-in grants** for electric taxis, vans, trucks, motorcycles, mopeds and wheelchair accessible vehicles, reducing ZEV purchase prices for consumers.



Manufacturers

- **Driving the Electric Revolution Challenge**, delivered by UK Research & Innovation (UKRI), provides £80 million to scale-up and unite UK supply chains to deliver fundamental components of EVs and net zero – power electronics, electric motors, generators, and drives (PEMD). Funding is committed to support this initiative until at least 2025

CURRENT EV & EVCP MARKET

Current EV Market

The EV market is constantly evolving with new, more efficient and technological improvements each year. Growing EV adoption is linked to a progressive EV battery size and range increase over time and a steady fall in battery price and associated EV prices.

Technological advancements in battery size and range continues reducing the frequency of recharging and increasing confidence to travel further distances.

Recycling EV Batteries

As EV uptake increases, the importance of recycling and repurposing EV batteries emerges. Second life uses include energy storage systems and backup power sources for the grid.



Recycling Batteries
EV batteries can retain up to two-thirds of their initial energy storage capacities in their second life.

On-street Residential Charging
It is estimated that 48% of all EV charging events in the UK will take place at homes that rely on on-street parking.



Existing EV Charging Technology

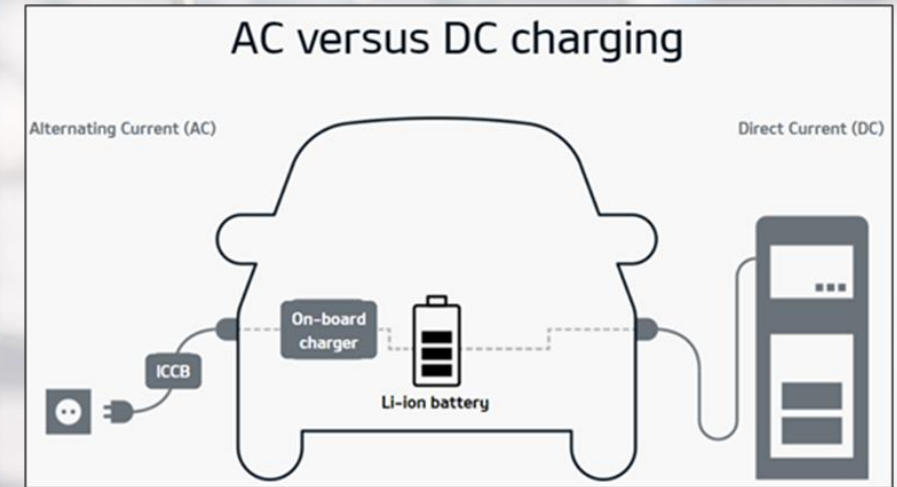
ChargePoint Specification available in the market place are differentiated by their communication protocol, type, and number of charging outlets

There are two types of charging, AC and DC:

- AC Charging – requires power drawn from the grid to be converted within the vehicle itself via an onboard charger.
- DC charging – Has a converter built into the charger which can feed power directly to the EV battery.



Dense on-street parking in Neath



Page 220

Slow
3.6kW AC – 6-12 hours for full charge. £14 full charge*
Use Case: Residential

Fast
7-22kW AC – 3-6 Hours for full charge. £22 full charge*
Use Case: Destination

Rapid
40+kWAC, 50+kW DC – 20 minutes – 1 Hour up to 80% battery.
£27.50 full charge*
Use Case: Destination & SRN




Ultra Rapid
150+kW DC – 10-20 minutes. £32.50 full charge*
Use Case: SRN

*All prices calculated for a 50kWh battery to full charge.





On-Street Residential (Slow) EVCPs

On-street parking is unavoidable as approximately 60% of homes across UK and Wales are terraced houses or apartment buildings with no access to private driveways. In these locations, it is highly unlikely that residents will be able to use home chargers for their EVs. Therefore, public on-street residential (slow) EVCPs will be required across NPT to ensure a fully accessible EVCP network for all in NPT .

ON-STREET RESIDENTIAL EVCPs

Types of EVCPs	Pros	Cons
<p>Lampost Mounted EVCP</p> 	<ul style="list-style-type: none"> • Utilise existing physical and electrical infrastructure – quicker, cheaper, and less embodied carbon. • Avoid challenges surrounding additional street furniture, accessibility, and resident concerns about street clutter. • With several lampposts located across the study area, EVCPs can be planned at short notice and relocated easily if necessary. 	<ul style="list-style-type: none"> • Non-EV users might accidentally park their vehicles within these spaces due to how discrete the signage and charging socket is – however, this can be mitigated through EV parking only bays. • Constrained by the existing power supply to the lamppost while also needing to ensure that capacity remains to power the light itself. • Capacity to power a slow 3.7kW charger which takes 8-10 hours to charge. There's a risk these chargers won't be powerful enough to charge more powerful batteries. • Potential for trailing cable trip hazard if bollard not installed to bring ChargePoint kerbside from lampposts situated at the back of the footway.
<p>Board Chargers</p> 	<ul style="list-style-type: none"> • Newly installed power connections can ensure that EVCPs can supply multiple charging sockets. • Can be future proofed by providing excess capacity to later supply additional or higher power EVCPs for future demand. 	<ul style="list-style-type: none"> • New electrical connections will be required, increasing installation costs and time. • Will require additional civils to install such as trenching, feeder pillars, associated traffic management. • Additional street furniture
<p>Pop Up Columns</p> 	<ul style="list-style-type: none"> • Can reduce costs, visual impact, and embodied carbon • Flush with the surface of the footway. • Newly installed power connections can ensure that EVCPs can supply multiple charging sockets. • Can be future proofed by providing excess capacity to later supply additional or higher power EVCPs for future demand. 	<ul style="list-style-type: none"> • New electrical connections and civils will be required. • Can be harder to locate. • Reduces width of footway when in use, reducing accessibility.

ON-STREET RESIDENTIAL EVCPs

Types of EVCPs	Pros	Cons
<p>Standard ChargePoints Installed on A Build Out</p> 	<ul style="list-style-type: none"> • Does not impact accessibility as the buildout doesn't reduce the size of the footway. • Newly installed power connections can ensure that EVCPs can supply multiple charging sockets and can be future proofed to provide excess capacity to later supply additional or higher power EVCPs. 	<ul style="list-style-type: none"> • New electrical connections will be required. • Will require additional materials and civils to expand footway and install trenching, feeder pillars, associated traffic management, increases environmental impact. • Additional street furniture which also reduces the amount of parking availability.
<p>Community Charging Hub</p>  <p style="writing-mode: vertical-rl; transform: rotate(180deg);">Page 222</p>	<ul style="list-style-type: none"> • Designed for overnight use so makes charging convenient as less likely the vehicle will be in use overnight. • Newly installed power connections can ensure that EVCPs can supply multiple charging sockets. • Indirect benefits to local economy as the hub encourages an economic boost to nearby businesses through greater footfall. 	<ul style="list-style-type: none"> • New electrical connections will be required.. • May be hard to find suitable space within residential areas. • Increasing the amount of car parking spaces increases the chance of uptake of EV vehicles that will stop people from choosing a method of active travel.
<p>Pavement Gully Charging Solution</p> 	<ul style="list-style-type: none"> • Enables homeowner to install a home charge point of their choice. • No trailing cables to act a potential trip hazard on the pavement. • As long as there is a parking space, charging can take place outside the house. • Lower costs for home charging compared to public charging costs as homeowners are charged their home energy rate via their own electricity supplier. • Little maintenance required. • No additional street furniture or additional cabinetry on the pavement is required as no DNO power is required additional to that of the home. 	<ul style="list-style-type: none"> • Access to the charge point is not guaranteed if parking is not available. • If not used in the correct manner, trailing cables and hazards for pavement users could still occur. • Liability, maintenance and ownership responsibility could be confusing and difficult to enforce. • Planning permission is technically required to install a charge point under current legislation (although the LA can allow this through PD). • A section 50 is required for the installation, requiring appropriate accreditation of those undertaking the work.
<p>ChargeBridge (prototype)</p> 	<ul style="list-style-type: none"> • An innovative on-street solution that avoids EV charging cables obstructing footways entirely. • The system can be installed on dense terraced streets using existing lampposts or being connected to properties. • Home, on-street, residential, and workplace charging applications 	<ul style="list-style-type: none"> • The system is in early stages of development and not yet available for commercial roll-out. • The solution is currently untested on a large scale. • The impact of attaching infrastructure to existing street furniture or buildings is untested.

ALTERNATIVE FUELS - HYDROGEN

**DISCLAIMER* As a rapidly developing industry, technological advancements in alternative fuels and hydrogen are constant. Therefore, it must be noted that sources used may become dated as new information emerges.*

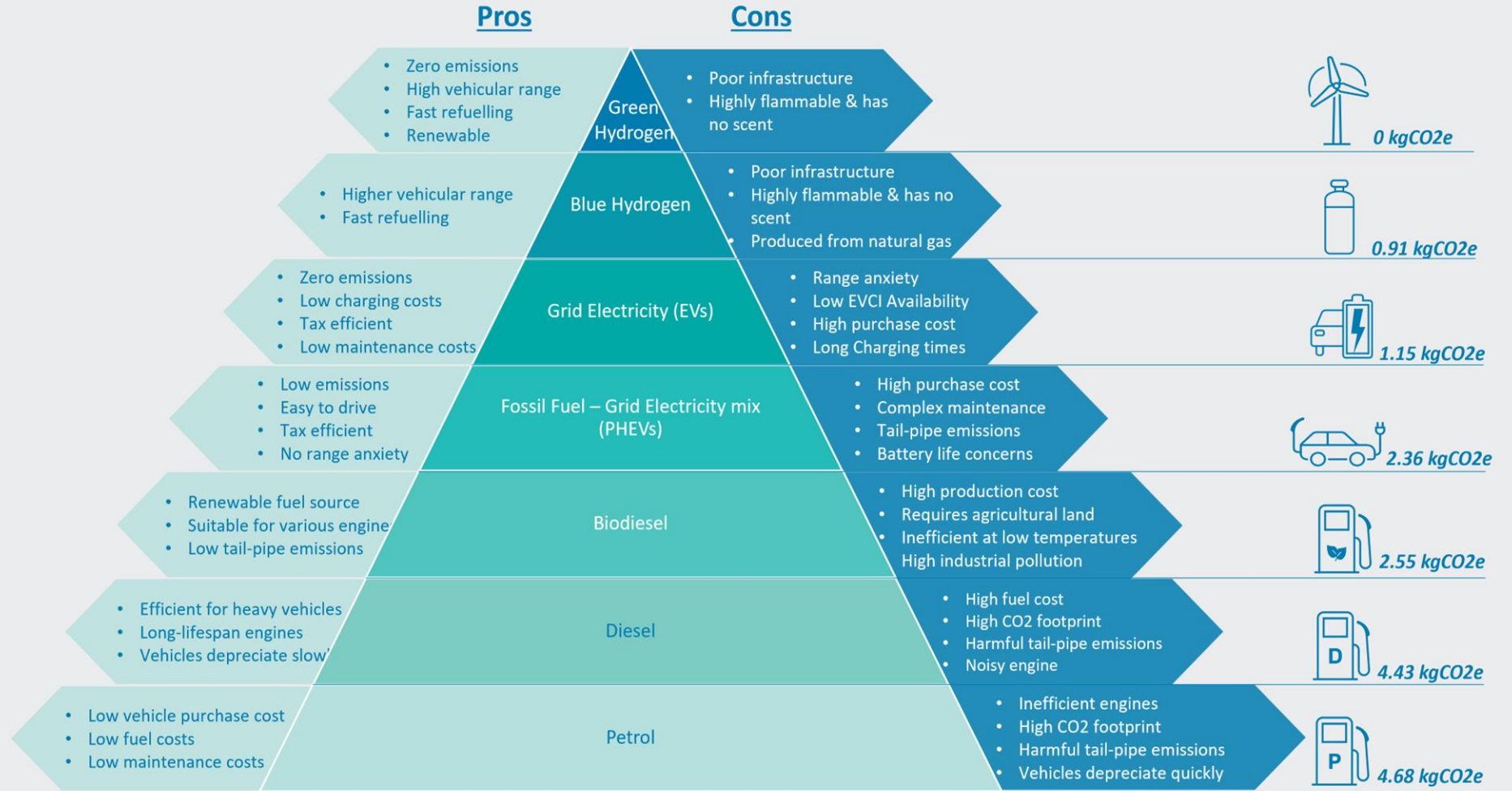
The transition towards hydrogen is critical to create sustainable transportation. Within a hierarchy pyramid based on their carbon footprint, blue and green hydrogen cover the top.

Progress has been made towards hydrogen, specifically around buses and large vehicles, though several challenges must first be addressed.

Green hydrogen: This technology is still in its early days of application and is currently cost prohibitive to support large-scale industry

Blue Hydrogen: Although not a net-zero fuel source, blue hydrogen is considered a necessary stepping stone for facilitating wider green hydrogen use.

In the UK, a blue-green hydrogen mix is being considered as a method of balancing sustainability with economic feasibility.



Emissions (kgCO₂e) from an average trip in NPT using different fuel types

Diesel:
4.43

**Fossil Fuel –
Grid Electricity
mix (PHEVs):**
2.36

Petrol:
4.68

Biodiesel:
2.55

**Blue
Hydrogen:**
0.91

**Grid
Electricity
(EVs):**
1.15

**Green
Hydrogen:** 0

**Renewable
Electric
(EVs):** 0

FUTURE TECHNOLOGY

It is uncertain what further technological developments in EV range, battery size and charging speeds will entail in the future, though innovations and technologies currently under development have the potential to be adopted as vehicle and charging technology continues to evolve.

Smart Regenerative Braking

An energy recovery mechanism that slows down a moving vehicle by converting its otherwise wasted kinetic energy into a form to be stored. Leads to a more fuel efficient braking and thereby also increasing EV range.

Solid State Batteries

In EV vehicles they offer more range, shorter recharging times and lower fire risk by removing the gel and liquid electrolyte found in batteries.

Graphene Batteries

These enable faster charging speeds due to its high electrical conductivity, high charge carrier mobility and is highly stable.

Hyper Charging

Voltempo designed Hyper Charging to charge the next generation of EVs in under six minutes, delivering 2.8 times of power than any comparable EV charging system. For the current EV generation it provides 30% faster charging.

Quantum Charging

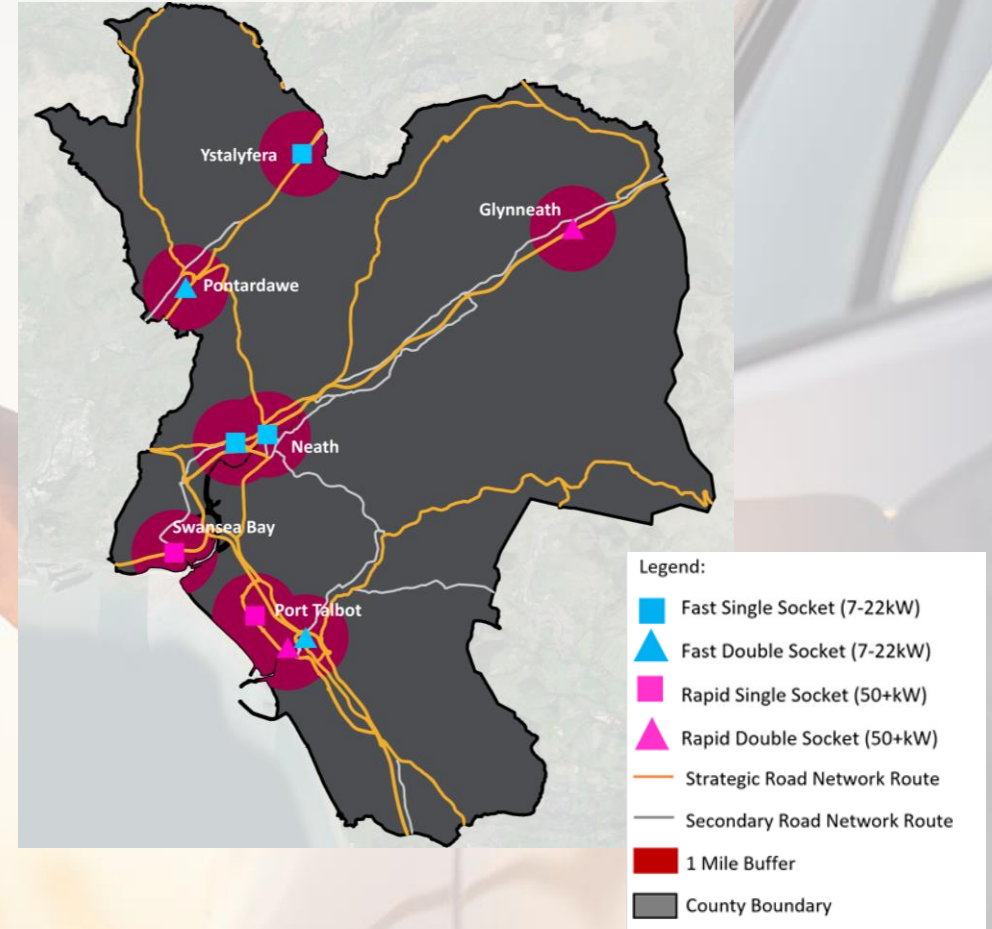
Speed up the charging process by charging all cells within a battery simultaneously not possible in classical batteries. They can achieve quadratic scaling, accelerating charging speeds by 200 times. Employing quantum charging would cut home charging from 10 hours to 3 minutes.

EXISTING EV AND EVCP NETWORK

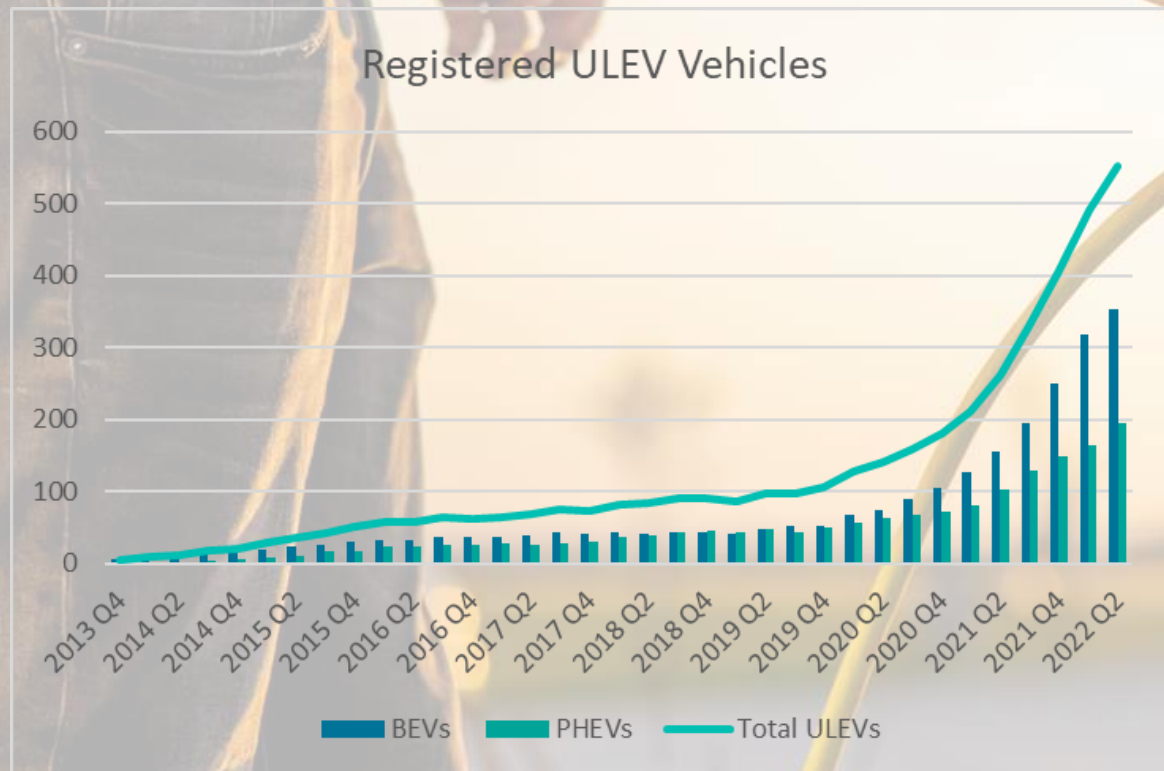
As of 2022, there were **over 550 ULEVs** registered across the region, of which there were 353 BEVs and 196 PHEVs.

As of 2022, there were over **70,253 vehicles registered** within the Neath Port Talbot, of which the percentage of **ULEVs were 0.79%**. ULEV adoption in NPT is lower than its surrounding principal areas, the average value for Wales (~1.25%), and the UK-wide average (~2.7%).

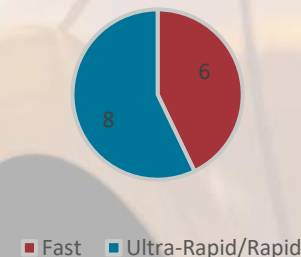
There are currently **14 publicly available EVCPs** in Neath Port Talbot, consisting of 8 fast EVCPs and 6 ultra-rapid/rapid EVCPs.

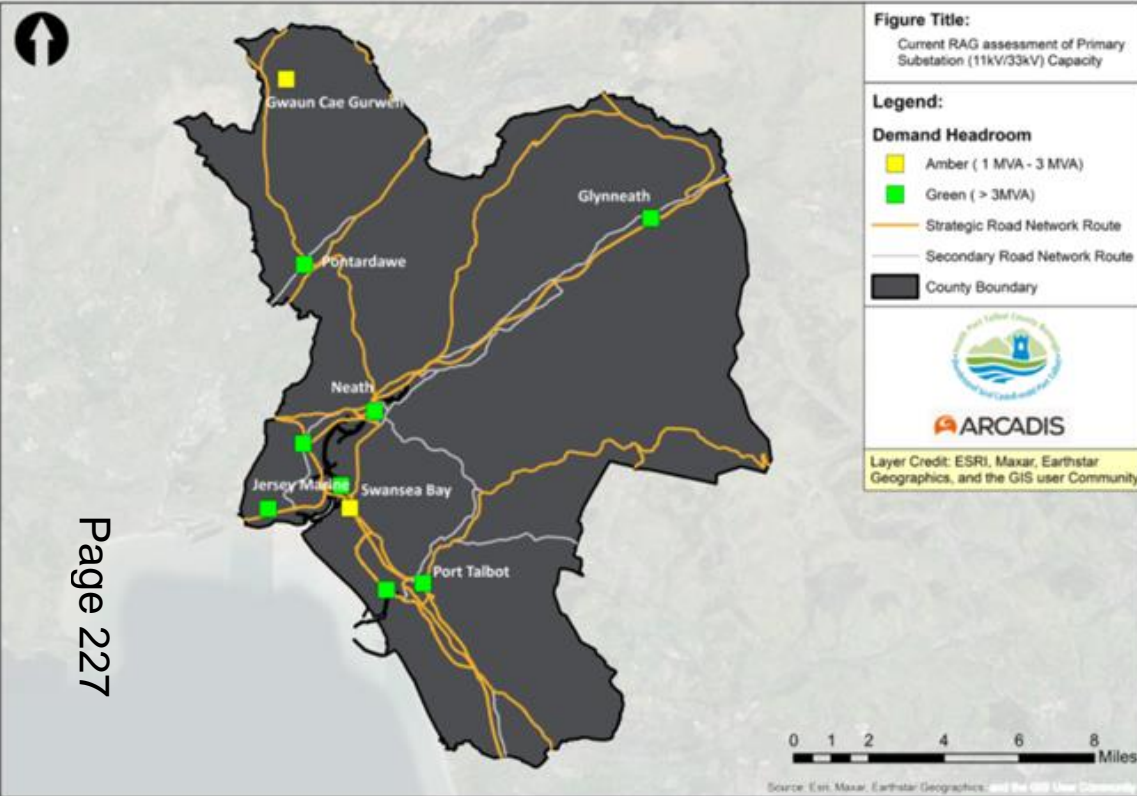


Page 226



Number of EVCPs





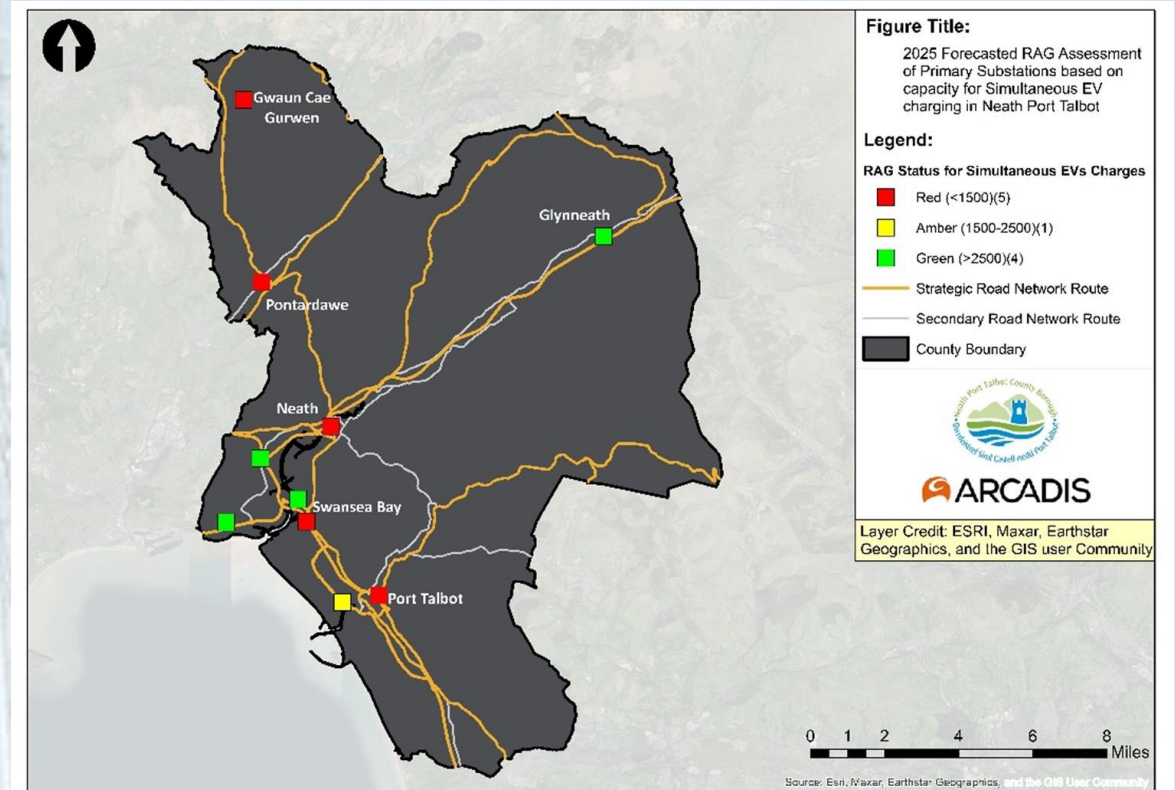
Page 227

Forecasted Grid Capacity

Many substations within NPT will require grid capacity upgrades to cater for the expected EV uptake by 2025. Upgrades must be planned and coordinated in collaboration with WPD. The existing capacity of the primary substations in the study area could provide the required power to **simultaneously charge a maximum of 19,352 EVs.**

Green rated substations appear to be concentrated around the urban centres. Some isolated areas such as north West region, and the Southern region of NPT, that should be the focus of DNO engagement.

It is essential that NPTC work close in collaboration with WPD to assess future demand and map areas in the region where power upgrades should be focussed to accommodate planned EVCP installation.



Current Grid Capacity

Power Availability at specific locations can limit the suitability of a site for installing ECVI.

The majority of primary substations could facilitate the deployment of a significant number of EVCPs.

2 substations require reinforcement to facilitate large-scale future EVCP deployment:

- The Gwan-Cae-Gurwen substation, to the north of the county
- The Briton Ferry substation, south of Neath

There are considerably large areas with no primary substation, these rural areas will instead draw power from smaller, secondary substations.

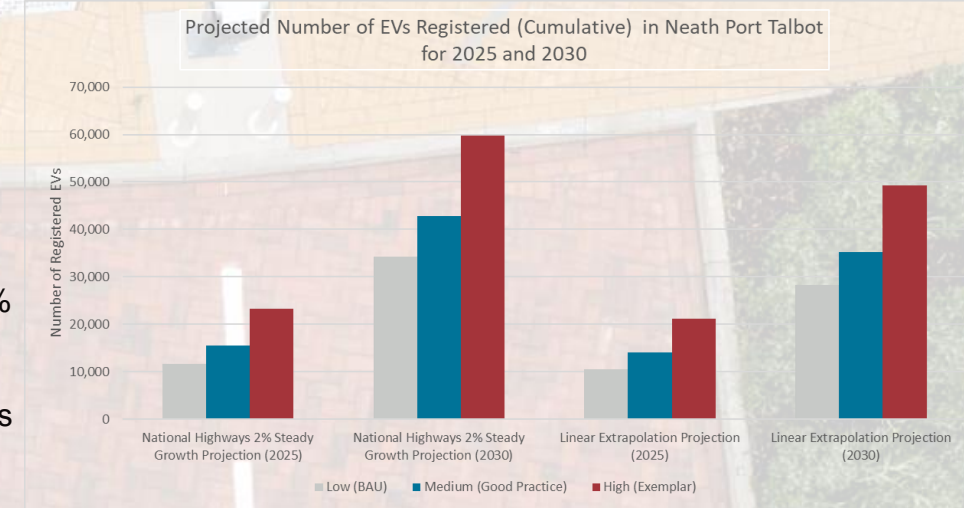
FORECASTING

As the growth in EVs is expected to continue, National Grid (2021)* have predicted the UK could have:

- Between 4 and 13 million EVs registered by 2030
- Approximately 31 million by 2040

To better predict the UK's expected growth of ULEVs, (excluding hybrids), the following scenarios were considered:

- **Low - Business-as-usual:** Assumes no change to policy; forecasts for 2025 and 2030 have been developed through extrapolating current registration trends with the use of DfT's benchmark of 15% (2025) and 40% (2030) of new car sales to be ULEVs respectively
- **Medium - Good practice:** In line with DfT's Road to Zero medium scenario which aims for 20% and 50% of new registrations to be ULEVs by 2025 and 2030 respectively
- **High - Exemplar:** In line with the Government's aim for 30% and 70% of new sales to be plug-in vehicles by 2025 and 2030 respectively.



To facilitate the increased uptake of EVs, significant investment is required to expand the existing EVCP network across Neath port Talbot. It has been forecasted that Neath Port Talbot will require:

	2025			2030		
	Low	Medium	High	Low	Medium	High
Number of Fast (7 kW) Chargepoints Required	270 - 297	359 - 396	539 - 593	541 - 655	676 - 819	946 - 1,147
Number of Fast (22 kW) Chargepoints Required	19 - 21	25 - 28	38 - 42	38 - 46	48 - 58	67 - 81
Number of Rapid (43+kW) Chargepoints Required	21	27	41	41	51	72

*Available at: <https://www.nationalgrideso.com/document/263951/download>

OBJECTIVES



Promote Inclusive ZEV uptake across Neath port Talbot

There are 2 major barriers to ZEV adoption which NPTC can help address. These are provision of charging/refuelling infrastructure and a affordability of ZEVs. EVs are the current focus of this objective but as other alternative fuels develop these barriers must be addressed accordingly. Network Analysis found there are no public, on-street residential EVCPs for people living in terraced and apartment housing and there is no provision in rural areas. Operators are also able to impose higher tariffs on electricity due to lack of competition.



Promote Private Sector investment in ZEV technologies.

Private Sector investment is essential to support NPTC in delivering and maintaining ZEV schemes. Maximising funding from external sources, schemes capture efficiencies through increased purchasing power and economies of sale. This can also come in the form of installation of workplace EVCPs, this can help EVCP provision without public funding. Encouraging investment can also be in the form of subsidies towards incentives or training courses to promote ZEV technologies or upskilling workforces in the automotive sector.



Continue to deliver NPTC's net-zero transport emissions agenda

To achieve NPTC's net-zero commitments by 2030, the council must replace an average of 58 public sector vehicles with ZEVs each year. An estimated 200 fast/rapid EVCPs at depots and other council owned sites will be required to support a ZEV fleet. NPTC will need to work with WPD to assess depot suitability, incorporate demand mitigation technologies and plan future power grid reinforcements.



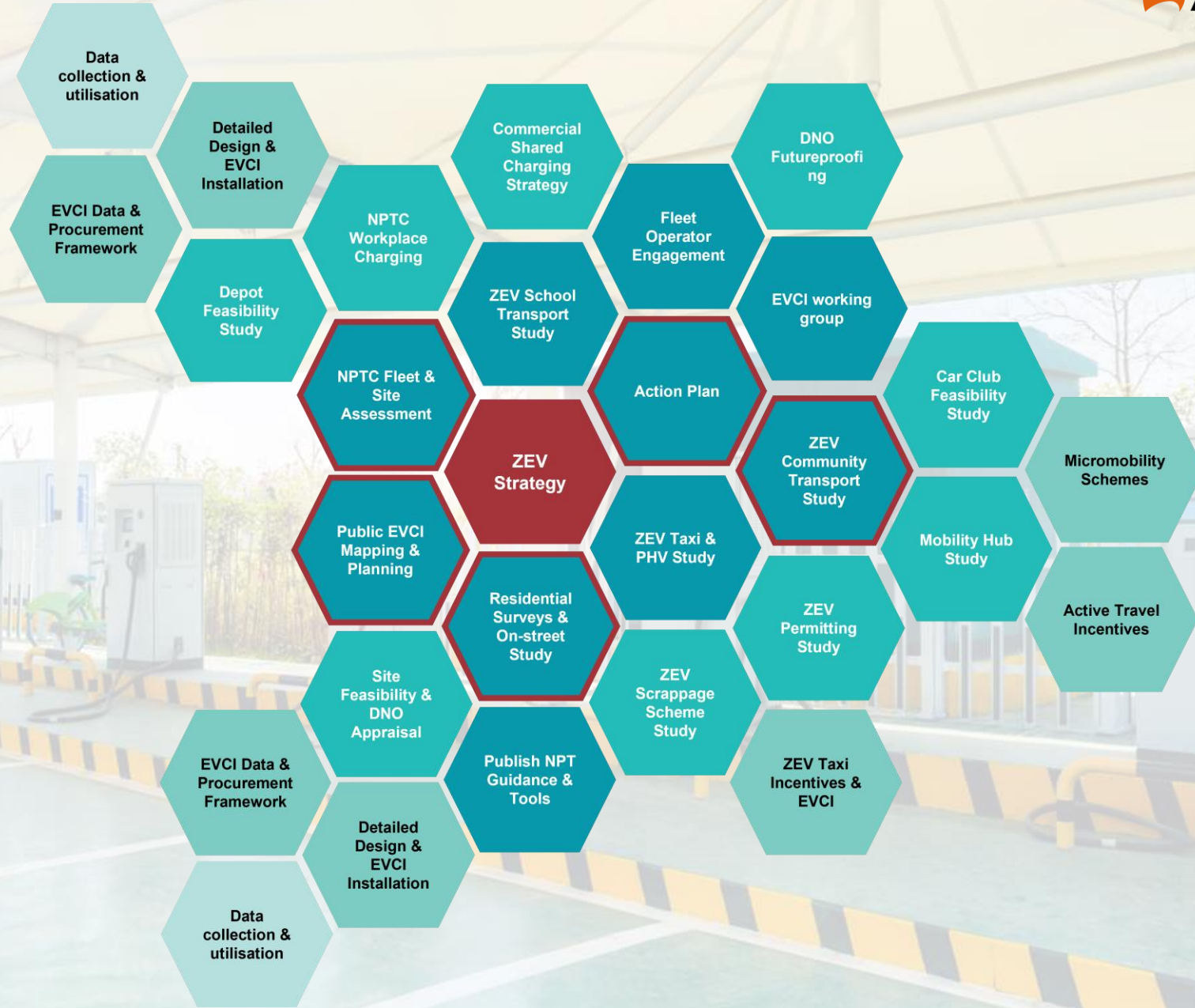
Pursue alignment with ongoing innovation projects in and around Neath port Talbot

Aligning closely with schemes gives NPTC the opportunity to: Gain access to additional pots of public and private funding; Explore new and emerging ZEV technologies; Utilise findings and lessons learned from other local authorities. NPTC should pursue schemes as part of a joint approach with other public and private organisations.















A PHASED APPROACH

Legend

-  Phase 0 - Strategy
-  Phase 1 - Plan
-  Phase 2 - Design
-  Phase 3 - Implement
-  Phase 4 - Intelligence
-  Underway



PRIORITY FOCUS AREAS

Priority Focus Area	Description	Why it is important	Objective Met	
Public Charging Refuelling Infrastructure Page 231	Public EVCI Mapping and Site Selection	NPTC will continue to explore how geospatial data can be utilised to assess potential sites for EVCI based on a series of parameters. Identification of specific communities and areas that are without access to private EVCI and therefore reliant on public provision is required.	To enable NPTC to develop a spatial plan and roadmap for long-term EVCP rollout across the region.	  
	Residential Surveys and On-Site mapping	This PFA is closely aligned with <i>Public EVCI Mapping & Site Selection</i> , however with a specific focus on On-street Residential EVCPs. Across the UK it is estimated that 40% of all homes do not have private driveways and therefore rely on on-street parking for 75% of their charging events. Provision of adequate on-street EVCPs is therefore essential in enabling inclusive adopting of EVs across NPT.	To identify what barriers exist for NPT residents wanting to switch to EVs and to map where demand for public EVCPs already exists and where it could be generated.	 
	Public Site Feasibility Studies & Power Assessments	Assessments can include: <ul style="list-style-type: none"> Formal applications for installing EVCPs, which will include analysis into exact power requirements, availability and costs of associated works Alternative substations/connection methods to access additional power sources needed to supply EVCPs On-site renewable energy generation to provide a source of power to reduce power grid demand Battery Energy Storage Systems (BESS). The effects are similar to onsite renewable generation, however, rather than producing additional power the batteries are charged during periods when demand is low, and discharged when demand is high 	A fundamental step required to install public EVCPs in NPT. Well developed feasibility studies ensure that risks and opportunities are captured early, installations are well designed, and additional costs and delays are minimal.	  
	EVCI Data and Procurement Framework	NPTC will look to develop a robust and comprehensive framework surrounding the procurement of EVCI-related goods and services. NPTC will also look into the value of collecting EVCP usage data to observe user behaviour and inform future decision making working with EVCP operators to ensure data is regularly collected and shared in consistent format with NPTC.	To ensure the delivery of a high-quality network of private and public EVCPs and to support the efficient use of data to inform policy decisions by NPTC.	
	EVCI Detailed Design and Installation	NPTC will continue to explore opportunities to utilise existing Welsh Government funding to support installation costs. NPTC will also look into innovative business models to enable investment from private EVCP installation companies minimising the financial investment for capital required by NPTC.	This will enable NPTC to maximise their contribution in delivering and operating a high-quality EVCP network within the constraints of the public budget.	   
	EVCP Data Usage Data Collection and Analyses	EVCP utilisation is a useful indicator to assess: <ul style="list-style-type: none"> User Charging behaviour Trends in frequency and no. of EV users Whether EVCPs are well placed Whether more EVCPs are required at certain locations 	Use of this data can ensure high-confidence in decision making. NPTC will also explore developing a consistent, automated approach to collecting and visualising this data to minimise the labour required by the council	

NPTC Fleet and Site Assessment

To accurately quantify the exact requirement for the number and location of EVCPs across NPTC sites, the council will continue to study the behaviour of public sector fleets

This is a pivotal first step in the electrification of the public sector fleet in NPT by understanding demand and constraints of the EVCP at depots and NPTC offices.



ZEV School Transport Study

NPTC will explore the benefits of commissioning a study to assess feasibility of current and emerging ZEV technologies in the context of decarbonising school transportation across NPT. Such a study would analyse the current school transportation fleet, and facilities where charging/refuelling would take place to reveal operational requirements of a ZEV fleet and power availability at school sites.

School transportation presents particular challenges within the public sector fleet and should be focus of a bespoke study. This will identify particular risks and opportunities and will inform applications for public and private investments and funding.



NPTC Depot Feasibility Studies and Site Survey

NPTC will look into conducting, more in-depth studies, in collaboration with WPD, to investigate options for alleviating these constraints and increasing the number of EVCPs that can be installed at NPTC sites. The process will follow that of the *Public Site Feasibility Studies & Power Assessments*, however may also include monitoring the site to obtain high-quality power consumption and supply data that will inform EVCP decision making.

This is essential to facilitate the installation of EVCP at NPTC sites. Effective planning will ensure maximum utilisation of available power while minimising costs associated with installation and operation.



Fleet Operator Engagement

Fleet operators can benefit significantly from ZEV adoption through reduced fuel costs, lower maintenance requirements and improved working conditions for employees. However, many are currently either unable or unwilling to adopt ZEVs within their fleet due to:

- High initial capital costs of vehicles and infrastructure
- Lack of publicly available infrastructure
- Concerns and doubt over the commercial viability of ZEV technology

Engaging directly with private fleet operators will reveal key barriers inform the development of incentives and support programmes by NPTC. Schemes planned in collaboration with these parties have a higher chance of being successful.



Shared Commercial Charging Study

Shared commercial charging is an agreement between multiple parties to share use of the same charging/refuelling infrastructure. To facilitate this, it is essential that both fleets have similar charging requirements and compatible operational cycles

There are many benefits to this kind of arrangement, including:

- Organisations can share the costs of installing and maintaining infrastructure
- Maximum utilisation of EVCPs resulting in higher returns on investment
- Having shared access to multiple networks increases resilience in the event of malfunctions or power supply issues



NPTC Workplace Charging Scheme

NPT will continue to promote workplace charging schemes, whereby business owners install private charging/refuelling infrastructure for use by employees, visitors, or fleet vehicles on a regular basis. This scheme is closely aligned with the findings of the *Shared Commercial Charging Study*, as there may be scope for NPTC sites to facilitate charging and refuelling of private fleet vehicles

Provision of a high-quality workplace charging network will reduce the demand on the public network and generate investment from the private sector and additional government funding.



<p>Taxi and Private Hire Vehicles (PHV) Study</p>	<p>NPTC will explore their role in incentivising and promoting ZEVs for these drivers including:</p> <ul style="list-style-type: none"> • Provision of designated refuelling/recharging infrastructure in town centres and destinations • Funding scrappage schemes to replace older more polluting vehicles with ZEVs • Permit schemes to enable free parking / charging for ZEV taxis and PHVs • The role of the private sector, taking inspiration from national and international examples. 	<p>Taxis and PHVs form a large proportion of urban traffic and have specific operational requirements, meaning they often require bespoke EVCP installations. As such, there is additional government and private funding opportunities available to explore and develop potential solutions.</p>
---	---	---



<p>Zero Emission Community Transport Study</p>	<p>Community transport vehicles have unique and varied operational patterns and are often available to be used by any registered member of a community. As such, these vehicles do not fit into the typical ZEV fleet studies and require a specific study. NPT will assess the benefits of a specific study looking into ongoing community services in NPT and what the impact would be of incorporating ZEVs into these fleets.</p>	<p>Such a study may include engaging directly with community transport organisations as a key stakeholder and using best practice examples from similar ongoing and completed projects across the UK and internationally to identify key challenges and lessons learned.</p>
--	---	--



<p>ZEV Car Club Study</p>	<p>Car clubs allow users to access a vehicle when they need without owning one and thereby offer a flexible and convenient alternative to private car ownership or leasing. Car clubs are a socially inclusive and sustainable alternative transport, especially if ZEVs are incorporated into the club. NPT will assess the feasibility of an NPT car club.</p>	<p>Car clubs are growing in popularity in the UK as a means of:</p> <ul style="list-style-type: none"> • Plugging gaps in rural transport network • Reducing road traffic congestion • Improving connectivity for those without a car
---------------------------	--	--



<p>Mobility Hubs Study</p>	<p>Mobility hubs are accessible spaces where public, shared, and active travel modes are co-located. Mobility hubs can be designed to fit the constraints of an area and the populations needs. NPTC will explore mobility hubs within the context of NPT, where they may be located, and what considerations must be taken to deploy them would be the first step in their adoption across the region.</p>	<p>Mobility hubs can enhance areas for pedestrians, and make travelling with alternative mobility modes more efficient and convenient.</p>
----------------------------	---	--



<p>Micro-Mobility Study</p>	<p>Micro-mobility modes, including e-bikes and e-scooters, have already been deployed across much of Europe, Asia, and Northern America. However, they are only slowly being adopted onto towns and cities within the UK. NPTC will explore how and where these technologies would be most effectively adopted with NPT.</p>	<p>A study as such will allow for understanding into where these technologies will be beneficial and help support future government funding applications.</p>
-----------------------------	--	---



<p>Active Travel Incentives</p>	<p>Promoting active travel (e.g., walking and cycling) modes to replace private car trips creates equivalent benefits to that of many ZEVs schemes.</p>	<p>By incentivising Active Travel, NPTC hopes to:</p> <ul style="list-style-type: none"> • Reduce NPT's Transport Sector GHG emissions • Improve air quality within NPT's urban areas • Create an inclusive transport network, benefitting all who live and work in NPT
---------------------------------	---	--



Develop EV Library & Guidance on NPTC Website

NPTC will explore the benefits of publishing a single source of truth on the councils existing platforms to show useful information surrounding ZEVs, debunk myths and offer guidance for residents/businesses wishing to transition to ZEVs. This could be expanded into the future to include cost-calculator tools and maps of EVCPs

A cost-effective method for NPTC to provide guidance for businesses and residents surrounding ZEVs as a means of promoting adoption.



Subsidised Training Courses

NPTC will look into subsidising accredited training courses to improve understanding of ZEV technologies, support the upskilling of the NPT workforce in innovative ZEV technologies through improved access to higher qualifications, and ensure a high skilled workforce in preparation for widespread uptake of these technologies, To achieve this, NPTC will investigate the availability of public funds to either part-subsidise existing courses, or explore the development of a ZEV Centre of Excellence in NPT, in close collaboration with surrounding engineering schools and colleges

This will benefit the industry in NPT itself but also the surrounding communities by upskilling the population.



Scrappage schemes have been shown to incentivise businesses and residents to trade in their old fossil-fuelled powered vehicle in exchange for a ZEV. Important factors to consider in such a scheme include:

- Identifying suitable replacement ZEVs
- Identifying sources of funding
- Undertaking cost-benefit analysis of different proposal
- Ensuring the scheme supports inclusive ZEV uptake

NPTC will explore what an NPT ZEV scrappage scheme could look like using successful examples of similar schemes across the UK and internationally

This study will be used to as the basis for developing adequate business cases that can be used to acquire government funding to deliver such a scheme.





Cyngor Castell-nedd Port Talbot
Neath Port Talbot Council

Strategaeth Cerbydau a Seilwaith Dim Allyriadau Zero Emission Vehicle and Infrastructure

Strategaeth Cerbydau a Seilwaith Dim Allyriadau
Zero Emission Vehicle and Infrastructure Strategy

www.npt.gov.uk

Contents

Acronyms and Abbreviations.....	5
Executive Summary.....	7
1 Introduction.....	9
1.1 Strategy Purpose and Scope.....	9
1.2 Study Area.....	9
1.3 Strategy Vision, Aims & Objectives – Council’s Ambition	12
1.4 This Document.....	15
2 Legislation, Policy and Background.....	17
2.1 Overview.....	17
2.2 National, Regional and Local Policies.....	17
2.3 Case for Change	19
2.4 Funding.....	21
3 Baseline ZEV Assessment.....	27
3.1 Current ZEV Usage	27
3.2 Existing EVCP Network.....	28
3.3 Grid Capacity Assessment	30
3.4 Surrounding Project Activity	32
4 Forecasting	38
4.1 EV Uptake	38
4.2 EVCP Requirements	47
4.3 Future Grid Assessment	51
5 Technology Review	54
5.1 Current EV Market	54
5.2 Existing EV Charging Technology.....	58
5.3 Alternative Fuels – Hydrogen.....	65
5.4 Future Technology	67
6 Priority Focus Areas.....	73
6.1 Overview.....	73
6.2 Strategic Objectives	73
6.3 A Phased Approach.....	75
6.4 Public Charging/Refuelling Infrastructure	77
6.5 NPTC Staff / Fleet ZEVs.....	79
6.6 Commercial Charging	80
6.7 Taxi and Private Hire Vehicle Charging.....	81
6.8 ZEV Alternative Transport	81

6.9	Community Engagements & ZEV Promotions.....	85
7	Way Forward – Implementation of this Strategy	86
8	Next Steps	87
9	Reference List	90
Appendix A.....		1
	National Policy	1
	UK Policy.....	3
	Regional Policies	4
	Local Policies	5

Tables

Table 1:	NPT ZEV Strategy Objectives	15
Table 2:	Previous ULEVTF Funded Schemes in Wales	24
Table 3:	NPTC Sites and Public Sector Fleet EVCI	29
Table 4:	Estimated energy requirements for an all-electric fleet.....	29
Table 5:	RAG Key for Primary Substations.....	30
Table 6:	Surrounding Project Activity	32
Table 7:	Desktop Research on EV/ULEV Forecasts.....	38
Table 8:	Total EV Uptake Projection Scenarios.....	39
Table 9:	Expected Total Number of Vehicles to be registered in NPT in 2025 and 2030	42
Table 10:	Total Distances Travelled Projections	43
Table 11:	Daily Car Trips and Average Daily Trip Length According to National Highways Steady 2% Growth	44
Table 12:	Daily Car Trips and Average Daily Trip Length According to Linear Extrapolation	44
Table 13:	Average CO ₂ and N ₂ O emissions for ICE vehicles and EVs.....	45
Table 14:	Average Day and Overnight Tourist Trips to NPT	48
Table 15:	Forecasted Daily EV Tourist Trips and Mileage in NPT	48
Table 16:	Forecasted Future EV Battery Performance	50
Table 17:	Forecasted EVCP Requirements	51
Table 18:	Future Assessment of Primary Substations	51
Table 19:	Forecasted EVs supplied in 2025.....	52
Table 20:	Overview of different EVCP types	58
Table 21:	Pros and cons of on-street EVCP types	61
Table 22:	Strategic Objectives of the NPT ZEV Strategy.....	73
Table 23:	UK Mobility Hub Schemes	83

Figures

Figure 1: Study Area.....	9
Figure 2: Swansea Bay Waterfront and Western Valleys	10
Figure 3 - NPT ZEVIS Vision Statement.....	12
Figure 4 - NPT ZEV Core Aims	12
Figure 5 - NPT ZEVIS Objectives.....	13
Figure 6: South West Wales CJC 2021 Boundary Lines.....	17
Figure 7: Key Commitments of National, Regional and Local Policies	18
<i>Figure 8: NPTC Fleet Analysis (2019-2021)</i>	20
Figure 9: Registered ULEV vehicles in NPT	27
<i>Figure 10: ULEV Adoption as a proportion of total registrations</i>	28
Figure 11: RAG Assessment of the Neath Port Talbot Power Grid.....	31
Figure 12: Strengths and Weaknesses of National Highways 2% Steady Growth Forecasts	41
<i>Figure 13: Strengths and Weaknesses of DfT Linear Extrapolation Forecasts</i>	41
Figure 14: Assumptions made to forecast EV registrations within Neath Port Talbot	41
Figure 15: Licensed Cars at the End of the Year in NPT Between 2009-2022	42
<i>Figure 16: Projected Number of EVs Registered in NPT by 2025 and 2030</i>	43
Figure 17: National Highways 2% Steady Growth Predictions on CO ₂ and N ₂ O Savings by EV Uptake Scenarios in 2025 and 2030.....	46
Figure 18: Linear Extrapolation Predictions on CO ₂ and N ₂ O Savings by EV Uptake Scenarios in 2025 and 2030	46
Figure 19: Power Output of EVCPs.....	49
Figure 20: Charging Behaviour Based on Element Energy EV Behaviour Study (2019)	50
Figure 21: Mapped Capacity of Primary Substations by 2025	52
Figure 22: A market price comparison of EVs.....	55
<i>Figure 23: EV Battery Capacity Market Comparison</i>	55
<i>Figure 24: Range comparison of EVs</i>	56
<i>Figure 25: Fast charging time comparison of electric vehicles</i>	57
<i>Figure 26: Comparison of Renault Zoe (R110) between 2018 and 2021</i>	57
<i>Figure 27: AC vs DC EV Charging</i>	59
Figure 28: Fuel hierarchy pyramid and CO ₂ emissions for an average trip in NPT (14.2 miles)	66
<i>Figure 29: Phased Delivery of Priority Focus Areas</i>	76
Figure 30: UK Mobility Hub Trials	82
Figure 31 - Next Step Actions.....	87
Figure 32: Roadmap of ZEV commitments made by private and public sector organisations.....	89

Appendices

Appendix A

National Policy

UK Policy

Regional Policies

Local Policies

Acronyms and Abbreviations

Acronym	Meaning
AC	<i>Alternating Current</i>
BAU	<i>Business As Usual</i>
BESS	<i>Battery Energy Storage System</i>
BEV	<i>Battery Electric Vehicle</i>
CCS	<i>Combined Charging System</i>
CJC	<i>Corporate Joint Committees</i>
CO ₂	<i>Carbon Dioxide</i>
DC	<i>Direct Current</i>
DEFRA	<i>Department for Environment, Food and Rural Affairs</i>
DfT	<i>Department for Transport</i>
DH	<i>Demand Headroom</i>
DNO	<i>Distribution Network Operator</i>
EV	<i>Electric Vehicle</i>
EVCI	<i>Electric Vehicle Charging Infrastructure</i>
EVCP	<i>Electric Vehicle Charging Point</i>
EVHS	<i>The Electric Vehicle Home charge Scheme</i>
FC	<i>Firm Capacity</i>
GHG	<i>Greenhouse Gas</i>
ICE	<i>Internal Combustion Engine</i>
IPCC	<i>Intergovernmental Panel on Climate Change</i>
LA	<i>Local Authority</i>
LTDS	<i>Long-Term Development Statement</i>
N ₂ O	<i>Nitrous Oxide</i>

<i>NPT</i>	<i>Neath Port Talbot</i>
<i>NPTC</i>	<i>Neath Port Talbot Council</i>
<i>OEM</i>	<i>Original Equipment Manufacturer</i>
<i>ORCS</i>	<i>The On-Street Residential Chargepoint Scheme</i>
<i>OZEV</i>	<i>Office for Zero Emission Vehicles</i>
<i>PAH</i>	<i>Polyaromatic Hydrocarbons</i>
<i>PD</i>	<i>Peak Demand</i>
<i>PEMD</i>	<i>Power electronics, Electric Motors, generators, and Drives</i>
<i>PFA</i>	<i>Priority Focus Area</i>
<i>PHV</i>	<i>Private Hire Vehicles</i>
<i>PHEV</i>	<i>Plug-in Hybrid Electric Vehicle</i>
<i>RBS</i>	<i>Regenerative Braking System</i>
<i>SRN</i>	<i>Strategic Road Network</i>
<i>SUV</i>	<i>Sports Utility Vehicle</i>
<i>SWWITCH</i>	<i>South West Wales Integrated Consortium</i>
<i>UK</i>	<i>United Kingdom</i>
<i>UKRI</i>	<i>UK Research & Innovation</i>
<i>ULEV</i>	<i>Ultra-Low Emission Vehicle</i>
<i>ULEVTF</i>	<i>Ultra-Low Emission Vehicle Transformation Fund</i>
<i>WAG</i>	<i>Welsh Assembly Government</i>
<i>WelTAG</i>	<i>Welsh Transport Appraisal Guidance</i>
<i>WCS</i>	<i>Workplace Charging Scheme</i>
<i>WG</i>	<i>Welsh Government</i>
<i>ZEV</i>	<i>Zero Emission Vehicle</i>

Executive Summary

The Neath Port Talbot Zero Emission Vehicle Infrastructure Strategy (NPT ZEVIS) considers Electric Vehicles (EVs), hydrogen fuel cell technology and associated infrastructure among residents, businesses, and the public sector within NPT. As hydrogen fuel cell technology is still developing, this Strategy focusses mainly on EVs as the EV market is more mature and they are available now for wide scale adoption.

As directed by the NPT Council Decarbonisation and Renewable Energy Strategy (DARE), NPTC is committed to supporting ZEV adoption throughout the region to achieve decarbonisation, improve air quality, and protect NPT's natural beauty. This is essential in order to mitigate the global climate crisis and ensure that NPT's tourism sector can continue to grow and prosper. As well as tourist traffic attracted to NPT, the region also experiences significant freight traffic as it is home to the UK's busiest deep-water port and one of the largest steel plants in Europe. Port Talbot is a key site in the recently announced Celtic Seaport which will accelerate significant inward investment in new manufacturing facilities to support the roll-out of floating offshore wind (FLOW) within the Celtic Sea, while providing the backbone for a cleaner future based on the hydrogen economy, sustainable fuels, carbon capture, cleaner steel and low-carbon logistics. Against this backdrop and as UK-wide ZEV adoption continues to rise, NPT can expect to experience a large influx of these vehicles.

NPTC is also committed to supporting local uptake of ZEVs in line with Government targets. Charging infrastructure provision is commonly cited as being one of the greatest barriers to ZEV adoption. Government strategies are focussed on overcoming these challenges with targets, deadlines, and milestones for Electric Vehicle Charge Points (EVCPs). NPT ZEVIS creates an evidence base to support development of a delivery plan with targets that align to national strategies and contribute to the UK's 2030 Net-Zero Agenda.

Although ZEV adoption is growing within NPT, it is still below that of the Welsh and UK averages. There is also currently little provision of public EVCPs, meaning that access to chargers is limited. Furthermore, all public chargers in NPT are currently owned and operated by private organisations with little competition, meaning costs to use these chargers are high. Although NPTC has begun to install EVCPs for fleet vehicles, it is recognised that NPTC must install more public EVCPs.

Future ZEV uptake in NPT will be essential to achieve NPTC's long-term decarbonisation targets and could lead to reductions in greenhouse gas emissions of 34,000 tonnes each year. However, to achieve this will require 10,545 fossil-fuelled vehicles to be replaced with EVs, a vast increase from the 505 EVs currently in operation.

Strategic objectives and aims have been developed for this Strategy to ensure alignment with the commitments of NPTC and designed to create long-term social, environmental and economic benefits for NPT. These are:

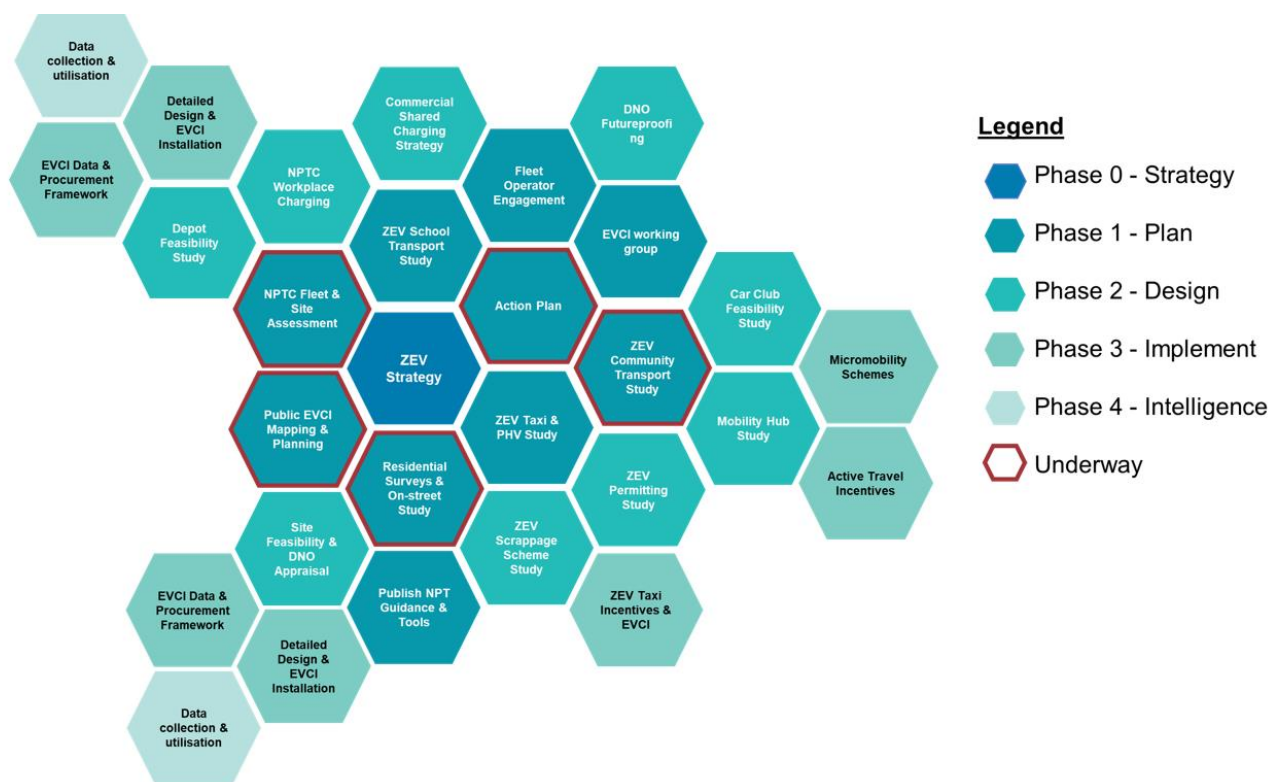
Objectives	Aims
1. Decarbonise transport	1. Establish an implementation plan
2. Improve air quality for all	2. Prioritise work areas
3. Increase inward investment in NPT	3. Highlight resources required
4. Create commercial opportunities	4. Establish a delivery plan
5. Raise awareness / engagement with climate emergency	5. Track technological and social change influences

To support projected EV uptake in NPT as well that of tourists, analysis revealed that a network of 289 Fast (7-22kW) and 21 Rapid (50kW+) EVCPs will be required by 2025. This highlights the significant investment

and planning required to ensure an extensive and diverse EVCP network to serve NPT residents, businesses and visitors. An assessment of the power grid revealed that in order to accommodate increasing EV uptake, several areas of NPT are at risk of reaching capacity and will require close collaboration with National Grid to ensure the network can be reinforced.

As the EV market continues to mature, ZEV uptake is expected to continue increasing as performance and cost reach parity with ICE vehicles. A diverse charging network will be required to ensure ZEV users have the ability and confidence to charge their vehicles. On-street residential EVCPs will be vital for this, however they present particular challenges which must be addressed. To overcome these, this Strategy explores a variety of different EVCP types to meet differing user needs and location constraints.

Priority Focus Areas (PFAs) have been developed to meet the objectives of this NPT ZEV Strategy. These PFAs fall into six themes: 1. Public infrastructure, 2. NPTC fleet, 3. Commercial Charging, 4. Taxis and Private Hire Vehicles, 5. Alternative Transport, and 6. Community Engagements. PFAs are intended to be delivered in phases from planning through to installation and management, as seen in the diagram below.



PFAs will be explored in greater detail and in collaboration with key stakeholders to ensure that they align with relevant projects in the areas bordering NPT and make best use of council funding.

1 Introduction

1.1 Strategy Purpose and Scope

- 1.1.1 As directed by the NPTC DARE Strategy NPTC is committed to becoming a net-zero local authority by 2030, in line with declarations by the Welsh Government (WG) for a net-zero public sector by 2030 and UK legislative commitments to becoming net zero carbon by 2050¹. NPT ZEVIS aims to provide a technical evidence base that supports the transition to ZEVs for residents, businesses, and visitors alike. It comprises elements of Stage 1 Welsh Transport Appraisal Guidance (WelTAG) appraisal reports.
- 1.1.2 NPT ZEVIS considers both Electric Vehicle (EV) and hydrogen fuel cell technology, along with their associated infrastructure requirements. Given commitments to ban the sale of new petrol and diesel vehicles by 2030 in the UK², the Strategy's holistic approach attempts to ensure infrastructure fulfils future demand and the transition is in line with committed timescales.
- 1.1.3 The Priority Focus Areas (PFAs) component of the Strategy includes a range of ZEV use cases, including, but not limited to, public charging, residential charging, staff and fleet charging, and commercial charging. It also considers the benefits of facilitating EV uptake by Taxi and Private Hire Vehicles (PHVs) and promoting EV car share schemes in the local communities.

1.2 Study Area

- 1.1.4 Figure 1 shows the location of NPT within South West Wales. The County Borough of Neath Port Talbot is located on the coast between the City & County of Swansea to the west and the County Borough of Bridgend to the east. NPT also shares boundaries with Carmarthenshire, Powys, Rhondda Cynon Taf and the Brecon Beacons National Park.



Figure 1: Study Area³

¹ HM Government, News Story: UK becomes first major economy to pass net zero emissions law (2019). <https://www.gov.uk/government/news/uk-becomes-first-major-economy-to-pass-net-zero-emissions-law>

² HM Government, News Story: Government takes historic step towards net-zero with end of sale of new petrol and diesel cars by 2030 (2020). <https://www.gov.uk/government/news/government-takes-historic-step-towards-net-zero-with-end-of-sale-of-new-petrol-and-diesel-cars-by-2030>

³ Wikipedia, Wales Neath Port Talbot Locator Map https://en.wikipedia.org/wiki/File:Wales_Neath_Port_Talbot_locator_map.svg

- 1.2.1 NPT has a strong tourism industry owing to its local port services, wildlife, beaches and natural landscapes. The tourism market is continuing to grow with plans for the new £250 million Afan Valley adventure resort, which will begin Spring 2023, including a 50-bed hotel and spa and new biking and walking trails⁴.
- 1.2.2 NPT also attracts tourist through its bike trails. Cognation MTB trails South Wales has invested in mountain biking across South Wales over the past few years. The initiative is led by NPTC, on behalf of partners across South Wales including Natural Resources Wales, Merthyr Tydfil CBC and Caerphilly CBC. The project has invested in new mountain bike trails and visitor centre improvements in Afan Forest Park and a new mountain biking event trail and events area in Margam Country Park⁵. The bike trails offer a unique opportunity to promote ZEV uptake, with Afan Forest Park Visitor Centre being ahead of the curve, providing EV charging points to visitors⁶. A map of tourist attractions in NPT and across the Swansea Bay Waterfront is shown in Figure 2.

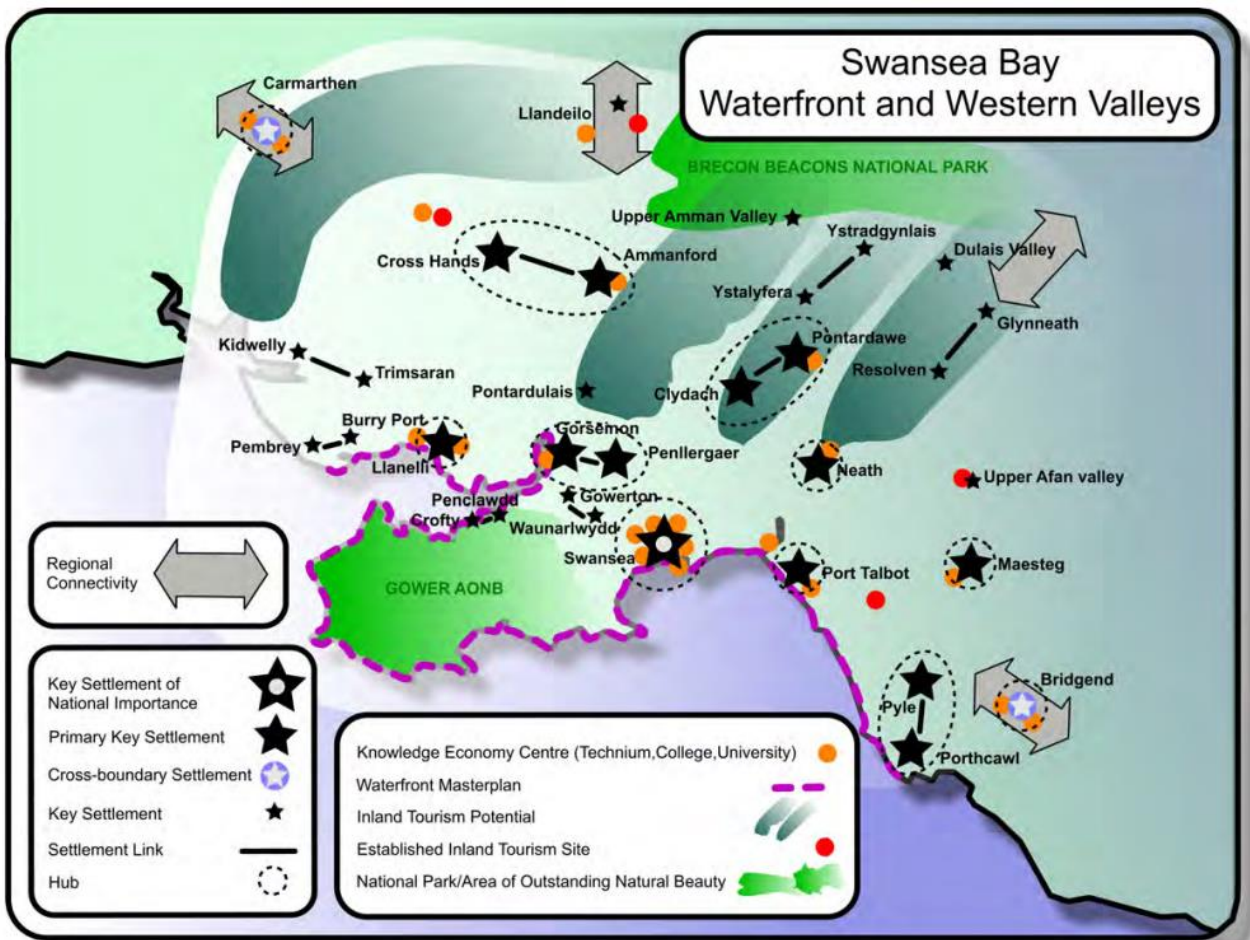


Figure 2: Swansea Bay Waterfront and Western Valleys⁷

- 1.2.3 Port Talbot has advanced manufacturing capabilities with one of the UK's busiest deep-water ports and an Enterprise Zone offering significant capacity for future growth⁸. Port Talbot is also the location of the Tata Steelworks⁹, one of the biggest steel making plants in Europe. The site produces 5 million tonnes of steel each year and employs an estimated 4,000 people¹⁰ however, funding disputes and negotiations on public decarbonisation plans have created uncertainty over its future. It has been reported that Tata Steel could receive up to £300m to electrify the plant's two blast furnaces and lower its carbon emissions¹¹.

⁴ Neath Port Talbot, '£250m Afan Valley adventure resort comes a step closer' (2022). https://www.npt.gov.uk/1410?pr_id=7127

⁵ Neath Port Talbot, Tourism Development. <https://www.npt.gov.uk/4418>

- 1.2.4 Port Talbot is one of two ports in the Celtic Freeport Project which has catalysed major business interest, local communities, trade unions and academia in using Wales' largest industrial base as the launch pad for developing new technologies and renewable energy manufacturing opportunities with the potential to unlock £5.5 billion of private and public investment for Wales and create new training and innovation facilities, factories and expanded green energy ports, as well as new alternative fuel production complexes. This green investment and innovation corridor will support the creation of 16,000 green jobs across Milford Haven, Pembroke Dock, Neath Port Talbot, Bridgend, Carmarthen, Swansea, The Valleys and many other communities across Wales.
- 1.2.5 The coastal corridor along the Swansea Bay, connecting NPT with Swansea holds the main centres of population, employment, and road and rail infrastructure within region. The corridor also provides connections eastwards, via the M4 and rail, to Cardiff and beyond, westwards to Swansea and to the Midlands via the A465 (T) Heads of the Valleys Road¹².
- 1.2.6 Areas not included within the coastal corridor, include the five main valleys, namely the Afan, Amman, Dulais, Neath and Swansea Valleys. While the individual valleys have strong individual characteristics and identities, they share common features and problems. A lack of urban centres and associated transport infrastructure within the valleys restricts growth potential in several economic sectors.
- 1.2.7 Employment is largely concentrated in the manufacturing and public sectors with a relatively low proportion in the service sector. The employment base is predominantly located along the coastal corridor where Tata Steel and the Council are the largest employers. In the valleys, the largest employers relate to the mineral extraction industries with the remainder being employed in small and medium sized enterprises.
- 1.2.8 Significantly more people travel out of the County Borough to access work than those who travel inwards. This work travel pattern reflects the fact that the County Borough is part of the broader Swansea Bay travel to work area. The land bank of industrial land with good access to road, rail and sea performs an important role in the sub-region, as is the Swansea University Campus on Fabian Way and the Coed Darcy Urban Village, which finished development in 2020¹³.

⁶ Neath Port Talbot, 'Investment at Afan Forest Park Visitor Centre creates a new Valleys Regional Park Discovery Gateway' (2022). https://www.npt.gov.uk/1410?pr_id=7082

⁷ Neath Port Talbot County Borough Council's Local Development Plan, (2021-2026). https://www.npt.gov.uk/media/7321/ldp_written_statement_jan16.pdf?v=20170727124344

⁸ Regional Economic Framework For South West Wales, (2021). <https://gov.wales/sites/default/files/publications/2021-12/south-west-wales-regional-economic-framework.pdf>

⁹ Tata Steel, Port Talbot. <https://www.tatasteeleurope.com/construction/sustainability/performance-at-our-sites/port-talbot>

¹⁰ WalesOnline, Port Talbot Steelworks to get £300m to decarbonise (2022). <https://www.walesonline.co.uk/news/wales-news/uk-government-plans-give-port-26045545>

¹¹ The Guardian, 'Future Tory PM tasked with Tata talks over demand for £1.5bn in subsidies' (2022).

<https://www.theguardian.com/business/2022/jul/22/tata-needs-15bn-subsidies-keep-port-talbot-steelworks-open-south-wales>

¹² Neath Port Talbot County Borough Council's Local Development Plan, (2021-2026). https://www.npt.gov.uk/media/7321/ldp_written_statement_jan16.pdf?v=20170727124344

¹³ Neath Port Talbot Council, Fabian Way. <https://www.npt.gov.uk/2678>

1.3 Strategy Vision, Aims & Objectives – Council’s Ambition

Vision Statement

The NPT Zero Emission Vehicle Infrastructure Strategy sets the foundation for developing a suitable infrastructure that will encourage and build confidence in the transition to zero emission vehicles to benefit communities, residents, improve air quality and the economy of Neath Port Talbot.

Figure 3 - NPT ZEVIS Vision Statement

Aims

1. Assist decarbonising transport within NPT Council
2. Develop an implementation plan for zero emission vehicle infrastructure
3. Take a proactive approach for the creation of a strong network of publicly accessible zero emission charge points which will be adaptable for meeting future demand
4. Formulate and implement a fast track programme
5. To assist with the improvement of air quality within NPT
6. Raise awareness of the benefits of zero emission vehicles and infrastructure
7. Contribute within the delivery of the Council’s DARE strategy
8. Encourage inward investment and create commercial opportunities

Figure 4 - NPT ZEV Core Aims

Objectives

1. Outline the actions and resource needed to develop an implementation plan for net zero vehicle charging infrastructure for all associated vehicles and users within the Council
2. Identify and prioritise net zero vehicle charging infrastructure work areas
3. Identifying collaborative partners to secure external funding opportunities to initiate and support programme rollout
4. Track technological and social change influences
5. Develop and implement a fast track net zero vehicle charging infrastructure programme
6. Formulate a series of net zero vehicle charging infrastructure business models for funding, deployment, and management
7. Identify all suitable tourism destination site locations for potential zero emission vehicle charging Infrastructure provision
8. Engagement with communities and residents within NPT to raise awareness and establish the most suitable solutions where off road parking and domestic charging is not available
9. Highlight the enabling role NPT holds for the delivery of an effective zero emission vehicle charging infrastructure.

1.3.1 NPT ZEVIS will provide strategic direction to the delivery of:

Slow Charging – supporting WG guidance by ensuring all new homes with an associated parking space are ready for an EV charger.

Fast Charging – through collaboration and partnerships, including workplace charging, destination charging, community centres, community focused solutions to on street charging and charging hubs, to include supporting Community EV car clubs.

Rapid and ultra-rapid charging – through collaboration and partnerships, on trunk roads, supporting EV Taxi transition and at EV charging hubs.

Expanding UK and Welsh Government vision to support user confidence by providing a quality user experience on a platform of accessibility, safety and security, contactless card / app payment, consistent information, reliability, support, alignment with emerging regional and national standards.

Sustainability of energy and transport in the context of decarbonisation by using renewable energy generation, engaging with community energy schemes, unblocking SMART charging opportunities, incentivising off peak charging, co-locating with other modes of transport including public and active travel

Local Community Benefit – increasing dwell times in local business areas, training and reskilling opportunities, community energy and charging schemes, local supply chain opportunities, partnerships and collaboration.





Consultation with local businesses – to understand barriers to uptake, understand future demand and plan for it, meet business community needs, promote adoption of ZEVs.

Successful Outcomes – public and private sector collaboration, resource and skills allocation, targeted funding bids, following best practice and methodologies.

1.4 This Document

- 1.4.1 NPT ZEVIIS adopts an evidence-led approach using available data at a local and regional level. In line with WeITAG requirements, this document includes the following sections:
- 1.4.2 Section 2, Legislation, Policy and Background. This summarises the political context surrounding ZEV adoption on a local, regional, and national scale. Particular attention has been paid to deadlines and targets with which this NPT ZEV Strategy should be aligned to contribute towards.
- 1.4.3 Section 3, Baseline ZEV assessment. Bespoke analysis has been conducted, including grid capacity assessments and current EV chargepoint (EVCP) infrastructure assessment.
- 1.4.4 Section 4, Forecasting. Analysis has been carried out to predict future EV uptake throughout NPT, including EVs driven by tourists entering the region each year. These findings were then used to quantify the number of EVCPs that will be required to meet future demand.
- 1.4.5 Section 5, Technology Review. A review of existing ZEV technologies that are available on the market, and the future technologies that are expected to inform decisions on future schemes in NPT.
- 1.4.6 Section 6, Priority Focus Areas. This section covers the direction of future projects and schemes that NPTC is considering to encourage and enable ZEV adoption among residents, businesses, and the public sector within the region. Schemes will be further developed and progressed in collaboration with key stakeholders across the public and private organisations that operate in NPT.
- 1.4.7 Included at the end of the section are summaries of the key findings of the analysis presented (blue call-out boxes) and their relevance to the four core objectives for this NPT ZEV Strategy (turquoise call-out boxes). The four core objectives are shown in Table 1 below:

Table 1: NPT ZEV Strategy Objectives

<i>Symbol</i>	<i>Objective</i>
	<i>Promote Inclusive ZEV uptake across Neath Port Talbot</i>
	<i>Promote Private Sector investment in ZEV technologies</i>
	<i>Continue to deliver NPTC's net-zero transport emissions agenda</i>
	<i>Pursue alignment with ongoing innovation projects in and around Neath Port Talbot</i>

Informing the NPT ZEV Strategy

Neath Port Talbot Council (NPTC) is committed to supporting ZEV adoption throughout the region to achieve decarbonisation, improve air quality, and protect NPT's natural beauty. This will be essential in order to mitigate the global climate crisis and ensure that NPT's tourism sector can continue to grow and prosper.

As well as tourist traffic attracted to NPT, the region also experiences significant freight traffic as it is home to the UK's busiest deep-water port, a Celtic Freeport and one of the largest steel plants in Europe. Therefore, as UK-wide ZEV adoption continues to rise, NPT can expect to experience a large influx of these vehicle through this traffic.

Continue to deliver NPTC's net-zero transport emissions agenda



Promote Inclusive ZEV uptake across Neath Port Talbot



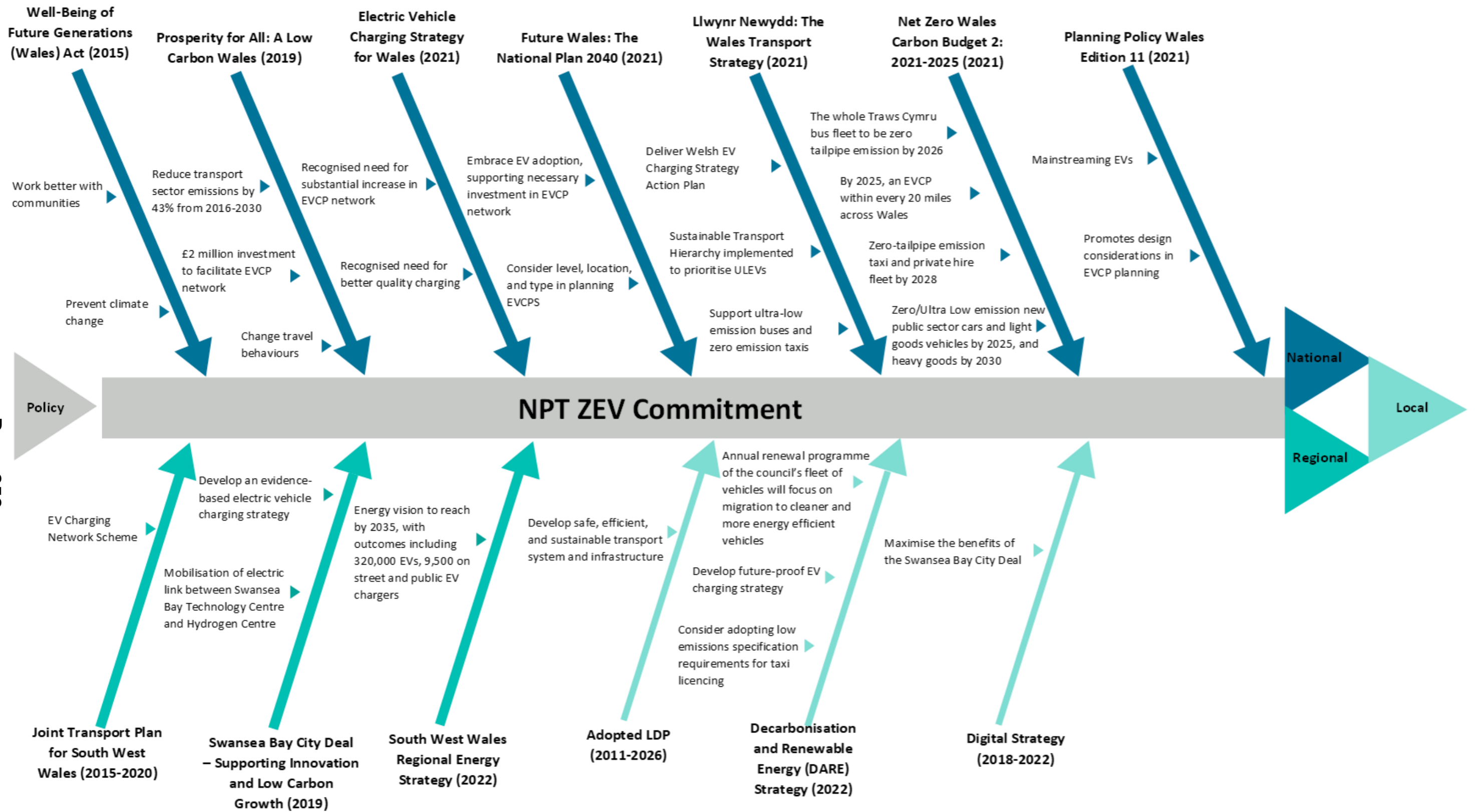


Figure 7: Key Commitments of National, Regional and Local Policies

- 2.2.2 National policies aim to remove charging infrastructure provision being both a perceived, and a real, barrier to EV adoption¹⁵. The national policies provide support for regional and local areas to plan and deliver EVCPs with funding and guidance. With regard to guidance, arguably the largest contribution the national policies provide for EV infrastructure rollout is the phase-out dates which provide SMART (Specific, Measurable, Achievable, Relevant, and Time-bound) targets. For instance, the 'Net Zero Wales Carbon Budget 2: 2021-2025' (2021) sets out that by 2025, an EVCP will be located every 20 miles on the Welsh strategic trunk road. These quantified targets set a goal for regional and local strategies to reach in their approach to EV infrastructure rollout.
- 2.2.3 Regional strategies set further SMART targets in order to reach national objectives. For instance, the 'South West Wales Regional Energy Strategy' (2022) sets an energy vision to reach by 2035, with outcomes including 320,000 EV registrations and 9,500 on-street public EVCPs.
- 2.2.4 LAs play a vital role in EV infrastructure rollout on publicly owned land such as highways and residential streets. LAs determine asset ownership, operation and will be supplying resources to plan and deliver EVCPs. UK government states that LAs are responsible for publishing a local EV strategy with a commercial and cross-sector approach that integrates into broader local transport plans¹⁶.
- 2.2.5 Currently, NPT policies have limited EV infrastructure rollout targets. The adopted Local Development Plan (LDP) (2011-2026) commits to developing a safe, efficient, and sustainable transport system and infrastructure. However, the adopted LDP (2011-2026) lacks reference to explicit EV infrastructure actions. Similarly, the Digital Strategy sets out to maximise the benefits of the Swansea Bay city deal but also lacks reference to specific EV actions.
- 2.2.6 The Decarbonisation and Renewable Energy (DARE) Strategy (2022) does reference EV actions, stating the need to develop a future proofed EV strategy. Reviews of council fleets to migrate to cleaner vehicles and adopting low emission specifications for taxi licensing is also mentioned within the DARE Strategy. However, no SMART targets are provided which stresses the importance of this ZEV study to build on the DARE Strategy and fill the gaps. This ZEV Strategy will set out strategic objectives to initiate the roll-out of EV infrastructure and ensure they align with the clear regional and national targets set.

2.3 Case for Change

- 2.3.1 In October 2018, the Intergovernmental Panel on Climate Change (IPCC) published a Special Report¹⁷ on the impacts of global warming, and the devastating effects that inaction could have on our ecosystems. The report concluded, that to avoid catastrophic environmental and societal damage we must avoid temperatures rising by 1.5°C and that this requires achieving net-zero global carbon emissions by 2050.
- 2.3.2 The IPCC report received near-unanimous agreement across the global scientific community and its findings created a wave of climate emergency declarations across local, national and international governments and organisations.

¹⁵ HM Government 2022 – Taking Charge: The Electric Vehicle Infrastructure Strategy. [Taking charge: the electric vehicle infrastructure strategy \(publishing.service.gov.uk\)](https://publishing.service.gov.uk/government/uploads/attachment_data/file/103222/taking-charge-the-electric-vehicle-infrastructure-strategy.pdf)

¹⁶ HM Government 2022 – Taking Charge: The Electric Vehicle Infrastructure Strategy. [Taking charge: the electric vehicle infrastructure strategy \(publishing.service.gov.uk\)](https://publishing.service.gov.uk/government/uploads/attachment_data/file/103222/taking-charge-the-electric-vehicle-infrastructure-strategy.pdf)

¹⁷ IPCC, Special Report: Global Warming of 1.5°C – Summary for Policymakers (2018) https://www.ipcc.ch/site/assets/uploads/sites/2/2019/05/SR15_SPM_version_report_LR.pdf

- 2.3.3 One of the largest contributors to carbon emission is the transport sector. In 2022, surface transport accounted for 24% of the total UK emissions, with cars contributing 52% of this¹⁸. ULEV technology has already been proven to be a commercially viable replacement for traditional fossil-fuel powered vehicles.
- 2.3.4 For these reasons, the UK government pushed forward its commitment to ban new diesel and petrol vehicles from 2040 to 2030 and to stipulate the full conversion of the public sector fleet to ULEVs by 2027.
- 2.3.5 Estimates published by the WG stated that the NPTC public sector fleet, not including any grey fleet, which are vehicles owned and driven by an employee for work purposes¹⁹, drove at least 2.8million miles and emitted 2,727 tonnes of greenhouse gases in the 2019/20 financial year²⁰
- 2.3.6 Between 2019 and 2021, NPTC public sector fleet consisted of over 2,200 vehicles of which over 1,700 formed part of the council's grey fleet and 462 vehicles were in operation as part of the NPTC fleet. The total annual GHG, Nitrogen Dioxide (NO₂) and Particulate Matter (PM) emissions, as well as the total fuel cost associated with these operations are presented in Figure 8 below.



Figure 8: NPTC Fleet Analysis (2019-2021)

¹⁸ DfT, Transport and environment statistics (2022). <https://www.gov.uk/government/statistics/transport-and-environment-statistics-2022/transport-and-environment-statistics-2022>

¹⁹ Private vehicles owned by NPTC employees and used for business purposes. The operational costs of these vehicles (e.g. maintenance, fuel cost) are typically covered, at least in part, by NPTC.

²⁰ WG, Fleet Review Neath Port Talbot Council (2021). <https://democracy.npt.gov.uk/documents/s72505/DWG%20NPTC%20-%20Fleet%20ULEV%20Transition%20-%20Client%20Draft.pdf>

*Based on NPTC Employee grey fleet mileage claims data²¹

- 2.3.7 Across the entire fleet, 55% of vehicles met Clean Air Zone (CAZ) emission standards, rising slightly to 66% of all grey fleet vehicles. There were three ZEVs and fourteen plug-in hybrid electric vehicles (PHEVs) in operation within the NPTC grey fleet during between 2019 and 2021. During this period there were four battery electric vehicles (BEVs)²² in the NPTC fleet, three cars (Peugeot ION and two Renault Zoe) and one Renault Kangoo van.
- 2.3.8 Analysis of 2021 fleet usage data suggests fleet mileage has fallen by approximately 18% compared to the average annual mileage since 2019. This may be attributed to the impact of the Covid-19 pandemic lockdowns on NPTC services and the absence of mileage data across a large number of council fleet vehicles.
- 2.3.9 The Taibach Margam Air Quality Management Area (AQMA) was declared in 2000 in response to elevated levels of airborne pollutants such as PM, polyaromatic hydrocarbons (PAH) and heavy metals, which can cause serious health consequences if inhaled over long periods of time²³. In 2020's Annual Progress Report²⁴, while it was reported that neither the long-term nor the short-term air quality objectives for PM were breached, the Taibach Margam AQMA will remain in force.

2.4 Funding

- 2.4.1 At this stage of development, there are a range of potential funding options for scheme delivery, dependent on the nature of options progressed. The following section presents potential funding sources, divided into UK-wide sources, Welsh sources and local sources.

UK Funding Sources

- 2.4.2 Recent UK government decarbonisation publications²⁵ provide an update of funding scheme commitments, grants, and incentives available regarding ULEVs, and the associated infrastructure²⁶.

On-Street Charging

- 2.4.3 The On-Street Residential Chargepoint Scheme (ORCS) provides LAs funding for up to 60% of the cost to install EV infrastructure on-street and in public car parks. The government has allocated £20 million of funding for 2022-23.
- 2.4.4 ORCS funding rules changed in April 2022 to provide up to a maximum of 60% (reduced from 75%) of project capital costs. The caveats are that the funding provided cannot exceed £7,500 per EVCP unless electrical connection costs are exceptionally high, in which case up to £13,000 may be provided.

Off-Street Charging

²¹ WGES, Grey Fleet Review, April 2021

²² BEVs are fully powered by an electric motor, while PHEVs are still reliant on fossil fuels in order to operate

²³ DEFRA, Emissions of air pollutant in the UK (2023). <https://www.gov.uk/government/statistics/emissions-of-air-pollutants/emissions-of-air-pollutants-in-the-uk-summary#:~:text=Main%20sources%20of%20emissions%20of%20air%20pollutants%20in%202021,-Emissions%20of%20particulate&text=5%20and%2012%20per%20cent,cent%20of%20PM10%20in%202021>

²⁴ NPTC, LAQM Annual Progress Report (2020). <https://www.zap-map.com/live/> <https://www.npt.gov.uk/media/15338/npt-aq-progress-report-2020.pdf?v=20210309102532>

²⁵ HM Government, Transitioning to zero emission cars and vans: 2035 delivery plan (2021).

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1005301/transitioning-to-zero-emission-cars-vans-2035-delivery-plan.pdf

²⁶ The 2035 delivery plan states: 'our commitment to transitioning to zero emission vehicles are for the whole of the UK. The grants for plug-in cars and vans, as well as the grants for home, workplace, and on-street chargepoints are all available UK-wide. Where funding is provided for England-only programmes, the devolved administrations will receive additional funding through the Barnett formula'.

- 2.4.5 The Electric Vehicle Home charge Scheme (EVHS) was launched in 2021 for homeowners to provide a 75% contribution towards the cost of the EVCP and the installation. From April 2022, this has now been replaced with the EV chargepoint grant.
- 2.4.6 The EVCP grant is targeted at landlords of single use, multi-use and commercially let properties with dedicated parking facilities. Funding is capped at 75% of the total cost of buying and installing an OZEV approved EVCPs, up to a maximum of £350 per socket, and can be applied across a portfolio of properties. The EVCP grant is also open to people who live in rental accommodation or own a flat. Each year, landlords can claim up to 200 grants for residential properties and 100 grants for commercial properties under this scheme.²⁷
- 2.4.7 The Government has opened the *EV infrastructure* (EVI) grant that covers wider building and installation work that's needed to install multiple EVCPs, covering aspects like wiring and posts. The grant is open to public authorities and is intended for entities that rent, lease or manage residential properties. This is available to multi-unit residential properties with a car park of at least 5 parking spaces. There is a limit of receiving up to 30 grants per year and each grant is available to cover 75% off the cost of the work up to a maximum of £30,000 (limited to 1 grant per building). The grants are for £500 per parking space for charging infrastructure and £350 for an EVCP.
- 2.4.8 In September 2022, the EVI Grant has also been made available for small and medium size businesses (less than 249 employees) who want to install EVCPs in their car parks to supply staff and fleet vehicles. EVCP provision must cover a minimum of 5 parking spaces each with their own EVCP. The grant covers up to 75% of the cost of EVCP installation and that of supporting infrastructure up to a maximum £15,000 per grant²⁸.

Workplace Charging

- 2.4.9 The Workplace Charging Scheme (WCS) provides funding towards the cost of purchase and installation of EVCPs at workplaces. The WCS can be applied for by any eligible business, charity or public sector organisation. The grant covers up to 75% of the total costs of the purchase and installation of EVCPs, capped at a maximum of £350 per socket and 40 sockets across all sites per applicant.²⁹ There is further guidance (published in March 2022) which is for charities and accommodation businesses. The Government will continue to fund the WCS until at least 2024/25

Tax Grants/Tax Incentives

- 2.4.10 The plug-in car grant scheme closed in June 2022 to refocus £300 million in plug-in grants for electric taxis, vans, trucks, motorcycles, mopeds and wheelchair accessible vehicles, reducing ZEV purchase prices for consumers. Details and guidance surrounding these grants is available on the HM Government website³⁰.
- 2.4.11 Vehicles eligible for this funding are:
- Light vans (less than 2.5 tonnes) – 35% of the purchase up to £2,500.
 - Heavy vans (between 2.5-4.25 tonnes) – 35% of the purchase up to £5,000.
 - Wheelchair accessible vehicles – 35% of the purchase price up to £2,500.
 - Motorcycles – 35% of the purchase price up to £500.
 - Mopeds – 35% of the purchase price up to £150.
 - Taxis – 20% of the purchase price, up to £7,500.

²⁷ HM Government, EV Charge Point Grant for Landlords (2022). <https://www.gov.uk/guidance/ev-chargepoint-grant-for-landlords-installer-guidance>

²⁸ HM Government, EV Infrastructure Grant for Staff and Fleets: Customer Guidance (2022). <https://www.gov.uk/guidance/ev-infrastructure-grant-for-staff-and-fleets-customer-guidance>

²⁹ HM Government, Workplace Charging Scheme: Guidance for Applicants (2022). <https://www.gov.uk/guidance/workplace-charging-scheme-guidance-for-applicants>

³⁰ HM Government, Low-emission vehicles eligible for a plug-in grant (2022). <https://www.gov.uk/plug-in-vehicle-grants>

- Small Trucks (N2 Cat, between 4.25-12 tonnes) – 20% of the purchase price, up to £16,000, with a maximum of 10 grants available per organisation.
- Large Trucks (N3 Cat, above 12 tonnes) – 20% of the purchase price, up to £25,000, with a maximum of 10 grants available per organisation.

2.4.12 Favourable company car tax rates are in place for ZEVs up to at least March 2025. Zero emission cars and electric vans will pay no vehicle excise duty until April 2025³¹.

Research and Development

2.4.13 Driving the Electric Revolution Challenge, delivered by UK Research & Innovation (UKRI), provides £80 million to scale-up and unite UK supply chains to deliver fundamental components of EVs. Funding is committed to support this initiative until at least 2025.

2.4.14 Previous funding available was targeted on challenges associated with the transition to zero emission vehicles by supporting UK businesses, including:

- Transitioning towards ZEVs – £7 million towards developing on-vehicle solutions³².
- Infrastructure solutions for ZEVs - £10 million towards developing infrastructure solutions³³

2.4.15 The 'Zero emission road freight battery electric truck demonstration' funding competition was launched by Innovate UK and Department for Transport in 2022. The funding allowed UK registered organisations to apply for a share of up to £140 million to demonstrate battery electric trucks³⁴.

Hydrogen Funding

2.4.16 A commitment to fund the Hydrogen for Transport programme until 2022 is given in the 2035 HM Car and Van Zero Emission Delivery Plan, however, it is unclear whether this is applicable to Welsh authorities for application. The Welsh Hydrogen Strategy (consultation) outlines UKRI funding as a potential source, as well as highlighting the UK hydrogen funding stipulations in the (then forthcoming) 2021 UK Hydrogen Strategy³⁵. The Welsh consultation document also highlighted that 'in November 2020 the Government outlined a Ten Point Plan for a Green Industrial Revolution, which included a target to install 5GW of low carbon hydrogen production capacity in the UK by 2030 and up to £500m of funding to support new production facilities and trials of hydrogen for heat'.

Welsh Funding Sources

Ultra-Low Emission Vehicle Transformation Fund (ULEVTF)

³¹ HM Government, ZEV Vehicle Excise Tax (2022). <https://www.gov.uk/government/publications/introduction-of-vehicle-excise-duty-for-zero-emission-cars-vans-and-motorcycles-from-2025/introduction-of-vehicle-excise-duty-for-zero-emission-cars-vans-and-motorcycles-from-2025>

³² HM Government, Transition towards Zero Emission Vehicles (2021). <https://apply-for-innovation-funding.service.gov.uk/competition/870/overview>

³³ HM Government, Infrastructure solutions for zero emission vehicles (2021). [Competition overview - Infrastructure solutions for zero emission vehicles - Innovation Funding Service \(apply-for-innovation-funding.service.gov.uk\)](https://apply-for-innovation-funding.service.gov.uk/competition/870/overview)

³⁴ HM Government, Zero emission road freight battery electric truck demonstration (2022). [Competition overview - Zero emission road freight battery electric truck demonstration - Innovation Funding Service \(apply-for-innovation-funding.service.gov.uk\)](https://apply-for-innovation-funding.service.gov.uk/competition/870/overview)

³⁵ HM Government, UK Hydrogen Strategy (2021). https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1011283/UK-Hydrogen-Strategy_web.pdf

2.4.17 As identified in the Electric Vehicle Charging Strategy for Wales: Action Plan (2021)³⁶, the ULEV Transformation Fund (TF) is a funding source aiming to deliver charging infrastructure, ‘kick-start initiatives and promote collaboration within delivery’.

2.4.18 Based on the latest guidance for the 2023-2024 period³⁷, the following are the main considerations stated for applications, which had to be submitted by 07 February 2023:

- Applications must follow the WeITAG, and application forms should reflect the WeITAG approach.
- Applications must demonstrate that the proposal maximises the contribution to the Welsh well-being goals and objectives³⁸.
- The schemes should deliver public EVCPs in their areas in line with the objectives of the Electric Vehicle Charging Strategy for Wales³⁹ and its accompanying action plan⁴⁰.
- Applications must demonstrate how the proposal will meet the following grant purpose/objectives:
 - Delivery of destination charging: fast, rapid EVCPs at destination car parks and visitor locations.
 - Delivery of hub charging facilities: provision of rapid and ultra-rapid charging at dedicated sites, often serving multi-modal vehicle demand, sometimes with retail or industrial facilities on-site. Also used for on-route charging.
 - Delivery of on-street charging: for slower public charging, with vehicles often dwelling at the charger overnight. Slow and fast EVCPs often incorporated into street-side lamp posts or installed along the kerb. Local authorities are encouraged to submit applications to the Office for Zero Emission Vehicle (OZEV) for the On-Street Residential Chargepoint Scheme (ORCS),⁴¹ to increase the availability of on-street EVCPs in residential streets where off-street parking is not available, ensuring that on-street parking is not a barrier to realising the benefits of owning an EV and to help prepare for and support the transition towards ZEVs.

2.4.19 Funding for the 2022-2023 period has not been announced at this time. A list of some of the Welsh schemes funded by the ULEV Transformation Fund from 2021-22 is given in Table 2, below⁴²:

Table 2: Previous ULEVTF Funded Schemes in Wales

Local Authority	Scheme	Funding
<i>Bridgend</i>	<i>Destination and Car Park Hubs Package</i>	<i>£352,000</i>
<i>Bridgend</i>	<i>Workplace Charging Hubs Package</i>	<i>£110,000</i>
<i>Cardiff</i>	<i>EV Charging Infrastructure</i>	<i>£168,000</i>
<i>Carmarthenshire</i>	<i>Phase 3 Fast Charging and Future Provision</i>	<i>£254,041</i>
<i>Ceredigion</i>	<i>Electric Vehicle Charging Network</i>	<i>£420,000</i>

³⁶ Welsh Government, Electric Vehicle Charging Strategy for Wales – Action Plan (2021).

<https://gov.wales/sites/default/files/publications/2021-09/electric-vehicle-charging-strategy-for-wales-action-plan.pdf#:~:text=Welsh%20Government%20policy%20and%20regulations%20will%20be%20kept,a%20framework%20for%20strategic%20and%20local%20development%20plans.pdf>

³⁷ Welsh Government, Guidance to Applicants for Local transport fund, Resilient Roads Fund and Ultra Low Emission Vehicle Transformation Fund for 2023 to 2024 (Dec 2022), <https://www.gov.wales/local-transport-fund-resilient-roads-fund-and-ultra-low-emission-vehicle-transformation-fund.html>

³⁸ Welsh Government, The Well-being of Future Generations Act (2015), <https://gov.wales/well-being-of-future-generations-wales>

³⁹ Welsh Government, Electric Vehicle Charging Strategy for Wales (2021). <https://gov.wales/sites/default/files/publications/2021-03/electric-vehicle-charging-strategy-wales.pdf>

⁴⁰ Welsh Government, Electric Vehicle Charging Strategy for Wales: action plan (2021). <https://www.gov.wales/electric-vehicle-charging-strategy-wales-action-plan>

⁴¹ HM Government, On-Street Residential Chargepoint Scheme guidance for local authorities.

<https://www.gov.uk/government/publications/grants-for-local-authorities-to-provide-residential-on-street-chargepoints/grants-to-provide-residential-on-street-chargepoints-for-plug-in-electric-vehicles-guidance-for-local-authorities>

⁴² Welsh Government, Ultra-Low emission vehicle transformation fund: grants awarded 2021 to 2022 (2021). <https://gov.wales/local-transport-fund-grants-awarded-2021-2022.html>

Gwynedd	EVCPs and solar ports	£902,000
Isle of Anglesey	EVCPs	£164,000
Merthyr Tydfil	Regional Transport Authority ULEV Transformation Programme	£4,814,095
Monmouthshire	EV charging strategy and implementation plan	£80,000
Newport	EV development and infrastructure	£690,000

Local Authority	Scheme	Funding
Pembrokeshire	EV charging facilities Phase 4	£420,000
Powys	EV programme	£120,000
Swansea	Swansea Central Charging Hub	£140,000
Swansea	EV charging infrastructure phase 1b	£426,000
Vale of Glamorgan	EV charging for residential properties with no off-street parking	£50,000
Wrexham	Community EV charging points	£35,000

Local Funding Sources

Vattenfall Pen y Cymoedd Wind Farm Community Fund

- 2.4.20 Pen y Cymoedd, the largest onshore wind farm in England and Wales,⁴³ is a £220 million wind energy project to generate electricity in Rhondda Cynon Taf and Neath Port Talbot in South Wales. The project became operational in 2017 with a capacity of 228 MW of electricity through 76 turbines. It can power the equivalent of 188,000 UK homes per year, which is about 15% of Welsh households. Pen y Cymoedd wind farm has a community fund that provides funding support to the local communities in the upper Neath, Afan, Rhondda and Cyon valleys in Wales⁴⁴. The fund prioritizes innovation, skills development, training, community organisations and enterprise⁴⁵.
- 2.4.21 The annual budget of the community fund is £1.8 million until 2043 and £6.9 million of funding has been allocated to date. Overall, the fund has awarded 321 grants, supported 239 community groups and 78 projects, and backed 82 businesses so far. This fund presents a good option for developing local zero emission initiatives such as community car clubs and accompanying electric vehicle charging infrastructure in areas of the Neath valley. As options develop through subsequent WeITAG stages and costs become more robust, further local funding sources may be released and reviewed for suitability.

⁴³ Vattenfall, Pen y Cymoedd. <https://group.vattenfall.com/uk/what-we-do/our-projects/pen-y-cymoedd>

⁴⁴ Pen y Cymoedd Wind Farm Community Fund, Towns and Villages in the area of Benefit (2017). <https://penycymoeddcic.cymru/wp-content/uploads/2017/04/AOB-Towns-and-Villages-PDF-1-1.pdf>

⁴⁵ Vattenfall, Pen y Cymoedd Wind Farm Community Fund. <https://penycymoeddcic.cymru/home/>

Informing the NPT ZEV Strategy

National strategies aim to remove charging infrastructure provision as being barrier to EV adoption, for everyone in the UK. To facilitate this the government has developed specific targets, deadlines, and milestones surrounding EVCPs. This NPT ZEV Strategy will serve to form an evidence base NPTC to develop local targets that align with national strategies and contribute to the UK's 2030 Net-Zero Agenda.

Local Authorities, like NPTC, play a fundamental role in decarbonising transport emissions by incentivising local ZEV uptake and by adopting ZEVs into their own fleet. To help fund these ventures there are numerous of national, and UK-wide grants available to local authorities. Funded schemes have been held in the principal areas surrounding NPT and have ranged from installing EVCPs across residential sites, car parks, local authority depots, and workplaces.

Promote Inclusive ZEV uptake across Neath Port Talbot



Pursue alignment with ongoing projects in and around NPT



Continue to deliver NPTC's net-zero transport emissions agenda



3 Baseline ZEV Assessment

3.1 Current ZEV Usage

3.1.1 To analyse trends in vehicle registrations, quarterly data published by the Department for Transport (DfT) was accessed from their online database⁴⁶. While the DfT data does not report ZEV registrations, it does report on Ultra-Low Emission Vehicles (ULEVs). These are defined as a vehicle with tailpipe emissions of less than 75 grams of CO₂ per kilometre travelled⁴⁷. Figure 9 below shows ULEV registration data in NPT.

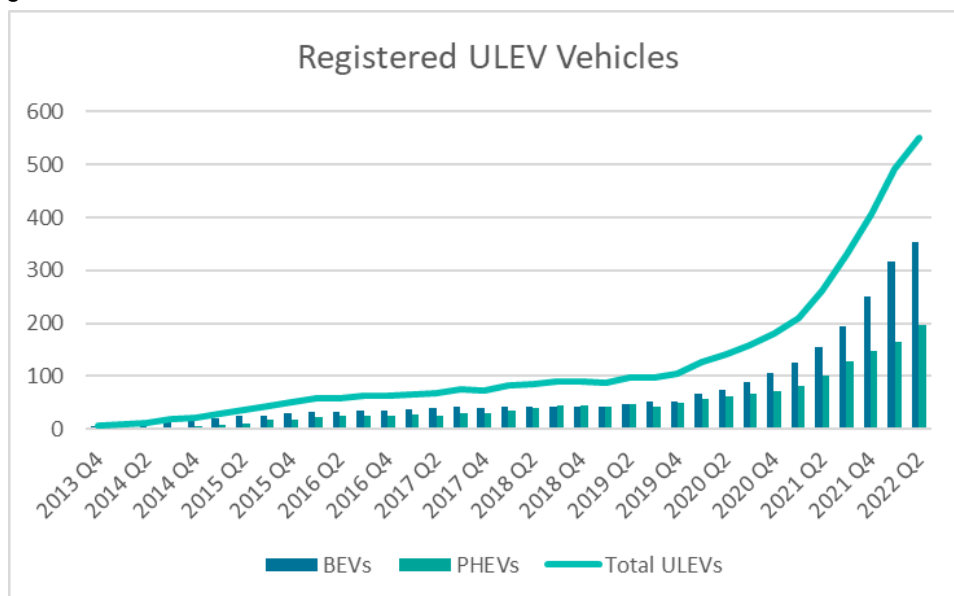


Figure 9: Registered ULEV vehicles in NPT

3.1.2 From the figure, the following trends can be extracted regarding ULEV uptake in the region between 2013 and 2022 (the most recent data provided by DfT):

- ULEV uptake has increased rapidly, particularly since 2020, illustrating the accelerating growth in the usage of these vehicles and the behavioural change that is occurring.
- There are significantly more BEVs⁴⁸ operating in the region than PHEVs⁴⁹.
- BEVs are gaining popularity over PHEVs each year.

3.1.3 As of 2022, there were over **550 ULEVs** registered across the region, of which there were **353 BEVs** and **196 PHEVs**. ULEV registrations as a percentage of the total registered vehicles can also be accessed from the DfT database and is presented in Figure 10, below.

⁴⁶ DfT, Ultra-Low Emission Vehicle Statistics Database (2022). <https://www.gov.uk/government/statistical-data-sets/all-vehicles-veh01#ultra-low-emissions-vehicles-ulevs>

⁴⁷ Vehicle Certification Agency, New Car Fuel Consumption & Emission Figures (2022). <https://www.vehicle-certification-agency.gov.uk/fuel-consumption-co2/fuel-consumption-guide/zero-and-ultra-low-emission-vehicles-ulevs/>

⁴⁸ BEVs are fully EVs with no Internal Combustion Engine (ICE). Electricity is stored within battery packs and the power is used to run the electric motor.

⁴⁹ PHEVs are not fully EVs as they are powered by both an electric motor and an ICE. The motor is typically only used at lower speeds to minimise fuel consumption and enhance efficiency. PHEVs can be charged through regenerative braking or plugged in to an EVCP.

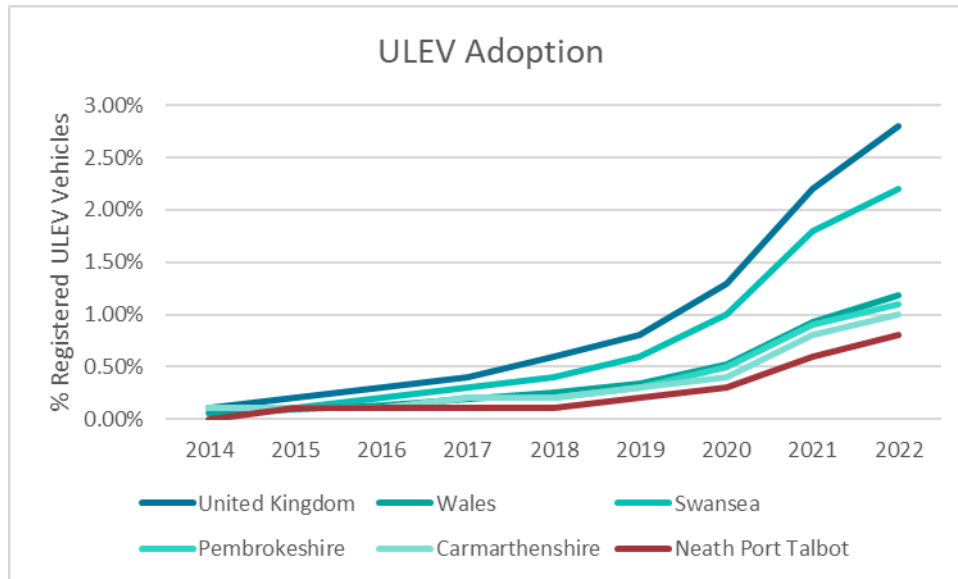


Figure 10: ULEV Adoption as a proportion of total registrations

3.1.4 As of 2022, there were over **70,253 vehicles** registered within the Neath Port Talbot, of which 0.79% were ULEVs. The shape of the six curves shown in Figure 10 illustrates the accelerating growth that ULEV uptake is experiencing across the UK, Wales, and Neath Port Talbot, and surrounding councils.

3.1.5 The figure shows that although ULEV uptake in NPT is growing, the growth lies significantly below the surrounding councils' growth and the gap has been increasing in recent years.

3.2 Existing EVCP Network

Public EVCPs

3.2.1 There are currently 14 publicly available EVCPs in NPT, 8 fast EVCPs and 6 ultra-rapid/rapid EVCPs. The majority of the chargers are located at supermarkets and restaurants, therefore privately owned and operated. These private operators include InstaVolt, GeniePoint, Pod-Point, Shell Recharge, and BP Pulse. Usage data is not available.

3.2.2 A popular metric for assessing the availability of EV charging infrastructure is to use the ratio of BEV registrations to the number of public EVCPs (BEVs:EVCPs). According to the Society of Motor Manufacturers and Traders (SMMT), Britain's BEVs:EVCPs is one of the lowest among the top 10 global EV markets⁵⁰. The International Energy Agency (IEA)⁵¹ has since set a target of 10:1, which can be considered a long-term target for LAs. In NPT, this ratio is currently 25:1, compared to 16:1 in the UK as a whole, highlighting the extent of investment that is needed into the regional EVCP network.

NPT Council EVCPs

3.2.3 At present, there are 12 EVCPs installed at NPTC depots for the purposes of supporting an electrified public sector fleet. The extent of installed EVCI and the number of vehicles that operate at different NPTC sites is presented in Table 3.

⁵⁰ SMMT, Car charging point numbers fall behind as plug in vehicles surge (2021). [Car charging point numbers fall behind as plug-in vehicles surge - SMMT](#)

⁵¹ What Is The "Minimum Acceptable" Ratio Of EVs to Charging Stations? | EVAdoption

Table 3: NPTC Sites and Public Sector Fleet EVCI

NPTC Site	Fleet Vehicles	Installed EVCI	Planned EVCI
The Quays	200	4	22
MREC Crymlyn Burrows	1	0	0
Tregelles Court	49	5	0
Port Talbot Civic Centre	5	2	0
NPT Schools*	35	0	0
Tawe Terrace	7	1	0
Cimla Hillside	2	0	0
Margam Park	1	0	0
SRC Depot	8	0	0
Neath Civic	1	0	0
Total	309	12	22

* Fleet distributed across one or multiple site

- 3.2.4 Most of the NPTC fleet (200 out of 309 vehicles) is based at The Quays, a further 49 at Tregelles Court, 35 in schools around the region, and a further 25 distributed across 7 smaller depots and council sites.
- 3.2.5 Plans are currently underway to install an additional 22 fast EVCPs at The Quays NPTC site. The scheme will deliver a staff car park with 6 dual-socket EVCPs and service vehicle charging hub, with 16 dual-socket EVCPs, a solar panel canopy and a battery storage installation. In total, these installations will enable 48 fleet vehicles to be charged simultaneously.
- 3.2.6 Additionally, the waste fleet based at The Quays may be relocated to the refurbished Material Recovery and Energy Centre (MREC) at Crymlyn Burrows. This site in particular offers desirable locations for EVCP installation, as there is high power availability, owing to the energy produced on-site from the processing of waste material.
- 3.2.7 According to the NPTC EV Charging Infrastructure Report⁵², based on the 2019/20 composition of the fleet, up to 117 rapid chargers will be needed to power the heavy goods vehicles and 195 fast chargers will be needed for the van and car fleets. Table 4 below illustrates the estimated energy requirement of an all-electric fleet.

Table 4: Estimated energy requirements for an all-electric fleet

Fleet	Charger Type	Fleet Size	BEV Demand (kWh/vehicle/day)	Total Fleet Demand (kWh/day)
HCV – Refuse and Recycling Vehicles	Rapid	42	115.3	4,841
HCV – Rigid, Tippers, Gritters, etc.	Rapid	39	45.9	1,791
HCV – Minibuses (9-17 seat)	Rapid	36	14.1	507
LCV – vans up to 3.5 tonnes	Fast	163	18.4	2,999
Fleet Cars – SUV MPV Estate etc.	Fast	32	9.5	303

⁵² Welsh Government Energy Service, Neath Port Talbot Council Electric Vehicles Charging Infrastructure Report (2021)

3.3 Grid Capacity Assessment

- 3.3.1 Power availability at a specific location is often the limiting factor to whether it is suitable as a site for installing EVCPs. Increasing power availability requires interventions by the Distribution Network Operator (DNO), National Grid (formerly Western Power Distribution), to reinforce the existing power supply and install additional electrical infrastructure, as required. Depending on the condition of the surrounding power grid and the power requirements of the desired EVCI, DNO upgrade costs can form the majority of the total project cost and can range from between £75,000 and £2 million⁵³.
- 3.3.2 To this end, an initial assessment of NPT’s power grid was carried out using opensource data published by National Grid. Data was assessed across 18 primary substations that feed the NPT power grid and each were categorised into Red, Amber, Green (RAG) depending on the available demand headroom, and consequently the number of rapid, 43kW, EVCPs that each could supply.
- 3.3.3 Rapid 43kW EVCPs were selected as they provide a realistic middle ground between the power demand of fast EVCPs (7kW-22kW) and rapid to ultra-rapid EVCPs, that the grid network will be subject to in the future.
- 3.3.4 It should be noted that slow EVCPs (typically 3.4kW) have significantly lower power demands and can typically be installed without fear of exceeding grid network capacities. However, installations of multiple slow EVCPs (typical for residential hubs) may have comparable power requirements as the higher-powered EVCPs.
- 3.3.5 The results of this assessment are shown in Table 5 and have been mapped in Figure 11 below.

Table 5: RAG Key for Primary Substations

RAG Status	Available Demand Headroom	# Primary Substations	# Fast Chargers	Details
Green	>3 MVA	8	>70	No upgrades required to install >70 rapid EVCPs
Amber	1 MVA – 3 MVA	2	20-70	Upgrades required to install >70 rapid EVCPs
Red	< 1 MVA	0	<20	Upgrades required to install <20 rapid EVCPs

⁵³ UKPN, 'Getting electric vehicles moving'. [a_guide_for_electric_fleets.pdf](#) (umbraco.io)

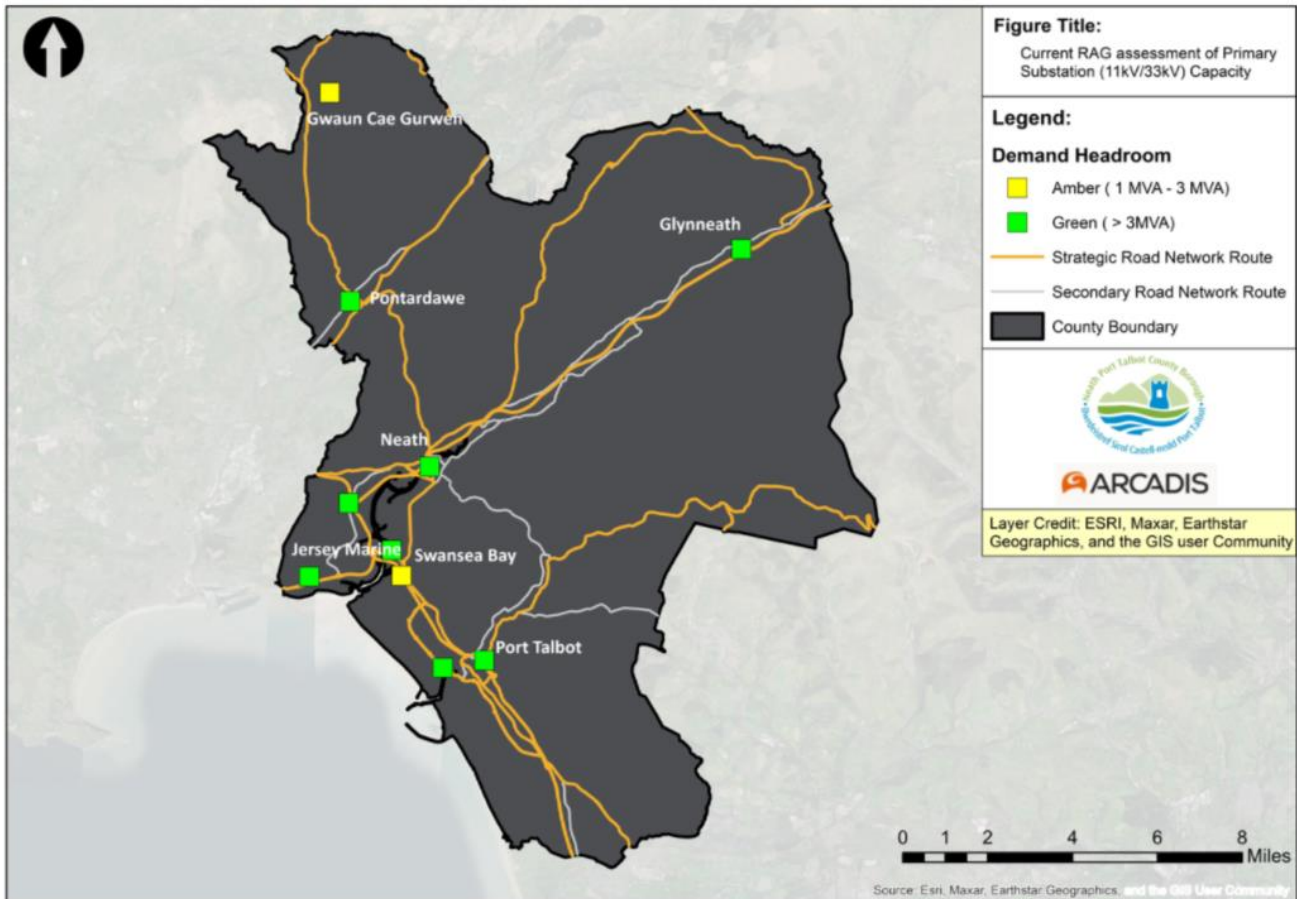


Figure 11: RAG Assessment of the Neath Port Talbot Power Grid

- 3.3.6 Analysis revealed that the majority of primary substation across NPT are in good condition to facilitate the immediate deployment of a significant number of EVCPs.
- 3.3.7 There are 2 substations that will require reinforcement to facilitate large-scale future EVCP deployment:
- The Gwaun-Cae-Gurwen substation
 - The Briton Ferry substation, south of Neath
- 3.3.8 Reinforcement of the power grid follows a lengthy planning procedure and significant lead-times. Therefore, early engagement with DNOs is essential to ensure that the demand headroom at these primary substations can be increased to facilitate the future installation of EVCI in these areas.
- 3.3.9 When referring to Figure 11, there are considerably large areas that appear to be without a primary substation. This is typical for predominantly rural areas, as they will not rely on a single primary substation, but will instead draw power from smaller, secondary substations.
- 3.3.10 Further assessment will be required in collaboration with National Grid to assess the power availability at the distribution, secondary substation, level that feed the exact location of potential sites. Additional parameters that will impact the complexity and cost of EVCI installations including cable availability and surrounding electrical infrastructure will also be assessed at this stage.

3.4 Surrounding Project Activity

Table 6: Surrounding Project Activity

Location	Name	Timeline	Scope
Carmarthenshire	The Gwynedd Community EV Scheme ⁵⁴	2019-2021	The scheme facilitated nearly 200 journeys within isolated rural communities. Gwynedd Council partnered with Co-Wheels, a private operator who provided the EVs and the operational support throughout the scheme. Following completion of the scheme, demand for EVs has increased in the area and the EVCP network has grown.
Powys	EV Refuse Collection Vehicle ⁵⁵	April 2021 - Ongoing	An electric-powered refuse collection vehicle (eRCV) joining Powys Council's fleet is one of only three currently in use in Wales, and the first to be used in such a rural and expansive county. Manufactured and supplied by Dennis Eagle, the vehicle will be used to collect residual waste from households across the county and reduce emission by approximately 25-35 pounds per year.
Southwest & Mid Wales	Electric Nation - National Grid Vehicle to Grid (V2G) Trial ⁵⁶	2020-2022	National Grid, in partnership with Crowdcharge, have launched the next phase of the V2G trail by offering free installation of smart chargers worth £5,500 to domestic Nissan EV drivers. The V2G trail is recruiting 100 people to trial domestic smart charging to help DNOs understand the potential of V2G charging.
Growing Mid Wales	Hydrogen Feasibility Study ⁵⁷	March 2022	Growing Mid Wales, a regional partnership and engagement arrangement, has commissioned Radical Innovations Group (RIG) to undertake a feasibility study on the potential of hydrogen in Wales as a driver for decarbonisation. The feasibility study is exploring opportunities for future industrial-scale investment into green hydrogen production to support decarbonisation.
Anglesey	EV Recycling Truck Trial ⁵⁸	March 2022	Anglesey Council's Waste Management team conducted a trial of electric recycling collection vehicles in March 2022. Findings over the month showed a significant reduction of CO ₂ emissions (414kgs) and fuel savings of £146.34 over a six-day period for the LA. Vehicles were also shown to have sufficient range to complete the longest routes.

⁵⁴ Cowheels, Car share: Co Wheels Car Club. <https://www.co-wheels.org.uk/>

⁵⁵ Powys, Powys welcomes its first electric refuse collection vehicle to the county's waste and recycling fleet (2021). <https://en.powys.gov.uk/article/10912/Powys-welcomes-its-first-electric-refuse-collection-vehicle-to-the-countys-waste-and-recycling-fleet>

⁵⁶ Electric Nation, New electric nation vehicle to grid project launches (2022). <https://electricnation.org.uk/2020/06/03/new-electric-nation-project-launch/>

⁵⁷ Smart Energy, Feasibility study to explore hydrogen's potential for Mid Wales (2022). <https://www.smart-energy.com/renewable-energy/feasibility-study-to-explore-hydrogens-potential-for-mid-wales/>

⁵⁸ Nation Cymru, Trail of electric recycling vehicles 'extremely encouraging' says Council (2022). <https://nation.cymru/news/trial-of-electric-recycling-vehicles-extremely-encouraging-says-council/>

Location	Name	Timeline	Scope
Merthyr Tydfil	EV Scheme ⁵⁹	March 2022	Merthyr Tydfil Borough Council has secured £4.8m in WG funding for the delivery of the schemes, in partnership with a third-party consultant. The schemes cover the provision of Taxi ULEV and public use charging infrastructure, 3 year 'try before you buy scheme' pilot project, a car club, and a decarbonisation of school transport study.
Bridgend, Cwmbran, Denbigh and Newport	NHS Wales EV - HGV Trial ⁶⁰	July 2022	A £3.25m funded trial by the DfT and Innovate UK, comprising 10 zero-emission electric trucks for use by Welsh healthcare system to help with the collection and distribution of laundry at Bridgend, Cwmbran, Denbigh and Newport. The project will look to create a predictive tool to make accurate comparisons for fleet electrification and infrastructure requirements. Magtec will work with data analytics specialist Dynamon to develop software to predict battery state of charge, road performance and grid load.
Powys	EV Charging Public Consultation ⁶¹	September 2022	The aim of this Strategy is to provide direction in the deployment of charging infrastructure across the county. This will enable the adoption of electric vehicles for residents and visitors, whilst ensuring the most efficient deployment of on-street infrastructure.
Metro Region	Regional Hydrogen Study	Ongoing	The study will be delivered by Arcadis in collaboration with the 4 LAs of the SB&WW Metro region. The scope of the project will focus on the feasibility of Hydrogen fuel and exploring its generation and distribution to fuel public-sector fleets.
Metro Region	Regional LA Depot EVCI Study	Ongoing	As above, this study will look specifically at the future roll-out of EVCPs at LA depots to supply an electrified public sector fleet.
Cardiff City Region	EVCI Rollout ⁶²	Ongoing	The Cardiff County Region has funded the installation of 178 dual EVCPs across 146 sites (council-owned car parks and highways). In October 2022, 24 EVCPs are currently installed/underway.

⁵⁹ Cardiff Capital Region Transport Authority, Ultra Low emission vehicles (2022). <https://www.cardiffcapitalregion.wales/wp-content/uploads/2022/02/item-5-ulev.pdf>

⁶⁰ Business Live, NHS Wales to get zero emission trucks as part of multi-million pound electric fleet trail (2022). <https://www.business-live.co.uk/enterprise/nhs-wales-zero-emission-trucks-24364207>

⁶¹ Powys, Business invited to have their say on electric vehicle charging (2022). <https://en.powys.gov.uk/article/13176/Businesses-invited-to-have-their-say-on-electric-vehicle-charging>

⁶² Wales Online, Where all the 24 new electric vehicle charging points in Cardiff will be located (2022). <https://www.walesonline.co.uk/news/wales-news/24-new-electric-vehicle-charging-25171472>

Location	Name	Timeline	Scope
Cardiff City Region	CScnnected cluster ⁶³	Ongoing	A state-of-the-art innovation centre within the campus at Imperial Park, South Wales. This work will directly impact our ability to use more renewable energy and electrify vehicles.
Mid Wales	TripTo - Community Car Club ⁶⁴	Ongoing	TripTo brings together four car clubs, based Llanidloes, Newtown, Machynlleth and Welshpool. They are a non-profit social enterprise run by and for the communities in which they operate. TripTo procure and operate the Car Club fleet, and support in the installation of community EVCPs.
Cardiff & Newport	ZEV Bus Fleets ⁶⁵	Ongoing	Cardiff have procured a fleet of 36 EV Buses in 2022 after a successful bid for DfT Ultra Low Emissions Bus Scheme.
Dolen Teifi	Community Transport ⁶⁶	Ongoing	Dolen Teifi is a non-profit organisation with a goal to provide sustainable and accessible transport. With operations in Llandysul, Pont-Tyweli Ymlaen Cyf, Ceredigion and Carmathenshire, the organisation operates 4 EVs, electrified minibuses, and community EVCPs.
Milford Haven	Milford Haven: Energy Kingdom (MH:EK) ⁶⁷	Ongoing	MH:EK is gathering detailed insight into Milford Haven Waterway energy system, and the potential it has in becoming a global green hydrogen port/hub through Floating Offshore Wind. The Milford Haven Waterway Future Energy Cluster have stated that the waterway will deliver 20% of the UK Government low carbon hydrogen production target by 2030.
Swansea Bay	Swansea Bay City Deal ⁶⁸	Ongoing	The Swansea Bay City Deal is a programme of investment in the Swansea Bay City Region to support innovation and low carbon growth. The programme, developed around the Swansea Bay technology centre, includes hydrogen refuelling centres, a centre of excellence, and a EVCI route map to encourage EV uptake and implement EVCP network. In 2021, the programme aimed to mobilise an electric link between the Swansea Bay technology centre and Hydrogen centre.

⁶³ Department of International Trade, Compound semiconductors and applications in South Wales. <https://www.great.gov.uk/international/content/investment/opportunities/compound-semiconductors-and-applications-in-south-wales/> <https://www.great.gov.uk/international/content/investment/opportunities/compound-semiconductors-and-applications-in-south-wales/>

⁶⁴ TripTo Mid Wales Electric Car Clubs (2022). <https://www.tripto.org.uk/>

⁶⁵ Pelican Yutong, Cardiff Bus place substantial zero-emission bus order (2022). <https://pelicanyutong.co.uk/cardiff-bus-order-zero-emission-buses/>

⁶⁶ Dolen Teifi Community Transport, About Dolen Teifi (2022). <https://www.dolenteifi.org.uk/dolenteifi/about-dolen-teifi>

⁶⁷ Fuel Cell Systems, Refuelling hydrogen vehicles at Milford Haven Marina (2022). <https://www.fuelcellsystems.co.uk/news/milfordhaven>

⁶⁸ Swansea Bay City Deal, Welcome to the Swansea Bay City Deal. (2022) <https://www.swanseabaycitydeal.wales/>

Location	Name	Timeline	Scope
Cardiff City Region	Accelerating Transition to Hydrogen ⁶⁹	Proposition	Wales & West Utilities are committed to transitioning large parts of their network to hydrogen, with recent regulatory price control determinations meaning they can start laying the first hydrogen pipes within the next 5 years. The South Wales Industrial Cluster through its Deployment and Cluster Plan projects led by Costain and CR Plus are developing proposals to produce Blue and Green Hydrogen at scale in various location across South Wales. This work will inform and help deliver the hydrogen transition across the Cardiff City Region (CCR).
Cardiff City Region	Management of Renewable Energy at Depots using Digital Twins ⁷⁰	Proposition	Innovate UK is supporting CCR, and 10 other local authorities in the region, look for innovative deployment technology to enable zero emission council fleets. Specific focus is being paid to Council Digital twins for managing large-scale renewable energy next to depots and employing data driven approaches for deploying ZEV and charging/refuelling infrastructure.
Cardiff City Region	Optimisation of on-site renewable energy for EV fleet charging at council depots ⁷¹	Proposition	This innovation scheme is focussed on identifying suppliers of technologies that can enable the adoption of ZEVs and can support the decarbonisation of council fleets. Any solutions should be scalable and be applicable to other Local Authorities in the region.
Cardiff City Region	Zero emission auxiliary energy supplies for utility and community vehicles ⁷²	Proposition	This innovation scheme is focussed on identifying integrated energy solutions to enhance the energy capacity of ZEVs to allow auxiliary energy usage.

⁶⁹ Cardiff Capital Region, Accelerating Transition to Hydrogen and a Commercial Property Energy Refit Programme (2022). <https://www.cardiffcapitalregion.wales/investment-ops/accelerating-transition-to-hydrogen-and-a-commercial-property-energy-refit-programme/>

⁷⁰ InnovateUK, Digital twins for large scale renewable energy next to depot (2022). <https://ktn-uk.org/opportunities/digital-twin-for-management-of-large-scale-renewable-energy-next-to-depot/>

⁷¹ InnovateUK, On-site renewable energy for EV fleet charging at council depots. <https://ktn-uk.org/opportunities/optimisation-of-on-site-renewable-energy-for-ev-fleet-charging-at-council-depots/>

⁷² InnovateUK, Zero emission auxiliary energy supplies for utility and community vehicles (2022). <https://ktn-uk.org/opportunities/zero-emission-auxiliary-energy-supplies-for-utility-and-community-vehicles/>

- 3.4.1 Table 6 summarises a range of projects in adjacent regions which are working towards similar objectives as this ZEV Strategy. NPTC would benefit from complementing these projects as they provide support towards the successful options in ZEV implementation.
- 3.4.2 Several of these projects relate to hydrogen transition. Hydrogen vehicles have the potential to offer greater range, faster refuelling times, and less emissions⁷³ than EVs and are particularly well suited for large vehicles and plant infrastructure. The benefits of alternative fuels and the role they play in meeting net-zero carbon are covered in Section 5.3.
- 3.4.3 The high concentration of hydrogen projects suggests that NPT and the surrounding area could be an ideal location within Wales for hydrogen generation and distribution. Furthermore, by aligning within these projects, NPTC has the opportunity to leverage existing research, infrastructure and knowledge of best practice to capture efficiencies.
- 3.4.4 Surrounding area projects also focus on the electrification of large fleet vehicles. Currently, the EV market for large, specialist vehicles (e.g. refuse collection vehicles) is still relatively immature and present their own unique challenges. Therefore, NPTC can take advantage of expertise from completed projects and align with ongoing initiatives.
- 3.4.5 Car clubs and community transport projects are popular within the surrounding area. Investment into car clubs is becoming increasingly popular for local authorities with the aim of taking cars off the road and changing mobility patterns away from private car usage. Car clubs also provide residents, visitors or employees access to a vehicle without being tied to ownership. NPTC should consider engaging with these regions to get insight into how LAs selected operating models and how stakeholder engagement was carried out to ensure successful uptake by the local community.
- 3.4.6 NPTC is developing similar projects, for instance, a new community car scheme covering Neath East and Briton Ferry. The council are also committed to producing:
- An energy use (MWh) assessment covering all road transport.
 - A GHG footprint covering all road transport including grey fleet and plant.
 - A Fleet Profile covering all road vehicles: Age, carbon intensity, fuel type, emission standard, Clean Air Zone compliance.
 - Consideration of alternative net zero fuels where electrification is not viable.
 - Whole life cost models covering the replacement of cars, vans and trucks with ULEVs.
 - Estimated charging/refuelling requirement including site models for main offices and depots.
 - Proposals for EVCI and for supporting photovoltaic and battery storage systems.
 - Supporting business case where required for ULEV procurement.
 - Suggestions for dealing with grey fleet mileage and transitioning it to ULEV vehicles.
- 3.4.7 With large overlaps in projects between NPTC commitments and existing surrounding project activities shown in Table 6 there is great opportunity for NPTC to form partnerships with councils and echo existing successes in surrounding projects.

⁷³ US Department of Energy, 'Alternative Fuels Data Center: Fuel Cell Electric Vehicles' https://afdc.energy.gov/vehicles/fuel_cell.html

Informing the NPT ZEV Strategy

Although ZEV adoption is growing within NPT, it is still well below that of neighbouring LAs as well as the Welsh and UK averages. There is also currently little provision of public EVCPs, meaning that access to chargers is limited, these are exclusively privately owned, and the charging costs are high due to lack of competition. While NPTC has begun to install EVCPs for council fleet vehicles, recent WGES have revealed more planned EVCPs are needed in order to meet net-zero fleet targets by 2030. A high-level assessment of NPT's power grid revealed no areas of high risk, where power constraints would hamper EVCP installation.

There are a variety of ZEV-related projects planned or underway surrounding NPT. There is an opportunity for NPTC to leverage the knowledge and expertise picked up by local authorities and align with future projects further the NPT ZEV agenda.

Continue to deliver NPTC's net-zero transport emissions agenda



Pursue alignment with ongoing projects in and around NPT



Promote Inclusive ZEV uptake across Neath Port Talbot



Promote Private Sector investment in ZEV technologies



4 Forecasting

4.1 EV Uptake

4.1.1 It is estimated that the UK could see between 4 and 13 million EVs registered by 2030, and as many as 31 million by 2040⁷⁴. However, there is a level of uncertainty with all EV forecasts and modelling given the rapidly changing market. The forecasting assumptions made in this section have been compared with comparative studies and are broadly aligned with them.

4.1.2 To create a range of EV uptake forecasts, analysis was carried out across published research from private and public sector bodies. The findings of this analysis are shown in Table 7.

Table 7: Desktop Research on EV/ULEV Forecasts

Source	Year	Low %	Medium %	High %	Comment
<i>Road to Zero % (2018)</i> ⁷⁵	2025	15%	20%	30%	% New Car Sales - ULEVs
	2030	40%	50%	70%	
<i>Transitioning to Zero Emission (2022)</i>	2025	25%	34%	42%	% New Car Sales – ULEVs
	2030	60%	80%	100%	
	2025	8%	18%	28%	% New Van Sales – ULEVs
	2030	38%	70%	100%	
<i>The UK's Transition to Electric Vehicles (2020)</i> ⁷⁶	2032		55%		% Total Car and Vans - ULEVs
	2050		100%		
<i>The Sixth Carbon Budget Surface Transport (2020)</i> ⁷⁷	2030	27%	-	37%	% Total cars and vans - BEVs
<i>National Grid's Future Energy Scenario</i> ⁷⁸	2030	11%	-	36%	% Total cars and vans - BEVs
	2025	9%	-	21%	

⁷⁴ National Grid Future Energy Scenarios (2021) <https://www.nationalgrideso.com/document/199871/download>

⁷⁵ HM Government, DfT: The Road to Zero (2018). CD:A7

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/739460/road-to-zero.pdf

⁷⁶ Climate Change Committee, Transition to EVs (2020). <https://www.theccc.org.uk/wp-content/uploads/2020/12/The-UKs-transition-to-electric-vehicles.pdf>

⁷⁷ Climate Change Committee, Surface Transport Summary (2020). <https://www.theccc.org.uk/wp-content/uploads/2020/12/Sector-summary-Surface-transport.pdf>

⁷⁸ National Grid, Future Energy Scenarios (2022). <https://www.nationalgrideso.com/future-energy/future-energy-scenarios>

<i>London's 2030 EVCI Strategy (2020)</i> ⁷⁹	2030	34%	-	49%	% Total cars and vans - BEVs
Source	Year	Low %	Medium %	High %	Comment
<i>GIPA</i> ⁸⁰	2025	19%	-	21%	% Total cars - ULEVs
<i>AutoTrader</i> ⁸¹	2025		18%		% Total cars and vans - ULEVs
	2030		40%		
Average	2025	15%	18%	20%	
	2030	28%	40%	41%	

4.1.3 From this analysis the following scenarios were developed to forecast total EV registrations in NPT in 2025 and 2030 according to the values shown in Table 8:

- **Low - Business-as-usual (BAU):** Assumes no policies or incentives are put in place before 2030 to encourage EV adoption. This goes against the accelerating growth in EV uptake and the political plans towards investing in EV technologies and adoption. Therefore, this scenario, although likely to underestimate the future number of EV registrations, offers a good baseline to illustrate the scale of increase that will be required to achieve the remaining two scenarios.
- **Medium - Good practice:** Developed following the desktop research on EV projections shown in Table 7. EV uptake, as a percentage of total vehicles in NPT, put forward in this scenario is aligned to the DfT Road to Zero uptake figures and closely resembles the industry average figures. Therefore, it is likely that this scenario provides the most realistic forecasts.
- **High - Exemplar:** Assumes that the perfect conditions exist to enable mass adoption of EVs between now and 2030. This would require substantial investment from the private and public sector to remove real (economic, supply chain, lack of infrastructure, energy) and perceived (range anxiety, mistrust of the technology) barriers that currently limit EV adoption. The EV uptake associated with this scenario is greater than the percentages observed in Table 8 and have been included to show an upper limit and inform future-proofing the NPT EV infrastructure network.

Table 8: Total EV Uptake Projection Scenarios

Uptake Scenarios (% of total vehicle registered that are EVs)

Forecast Year	Low (Business as Usual)	Medium (Good Practice)	High (Exemplar)
2025	15%	20%	30%
2030	40%	50%	70%

4.1.4 Two forecasting growth models were applied to the baseline vehicle registration data, covered in Section 3, to project future vehicle registrations:

- National Highways 2% steady growth model – applying a constant growth factor of 2% for vehicle registration is common for EV forecasting and provides a reliable ‘worst-case’ scenario.
- Mathematical linear extrapolation of historic registration data.

⁷⁹ TfL, London 2030 EV Infrastructure Strategy (2021). <https://lruc.content.tfl.gov.uk/london-2030-electric-vehicle-infrastructure-strategy-executive-summary-december-2021.pdf>

⁸⁰ IAAF, UK EV Forecasts (2021). <https://www.iaaf.co.uk/news/gipa-uk-forecasts-electrified-vehicles-will-represent-20-of-the-passenger-car-parc-by-2025/>

⁸¹ Autotrader, EV Demand News (2022). <https://plc.autotrader.co.uk/press-centre/news-hub/demand-for-electric-cars-drops-for-first-time-since-pandemic/>

4.1.5 Each projection has its strengths and weaknesses as presented in Figure 12 and Figure 13. Both projections have been presented to ensure a holistic picture of EV forecasts based on total vehicle ownership in NPT. The variation in these projections methods is explored in the next section. Figure 14, sets out the assumptions that have been made as part of the EV forecasting methodology.

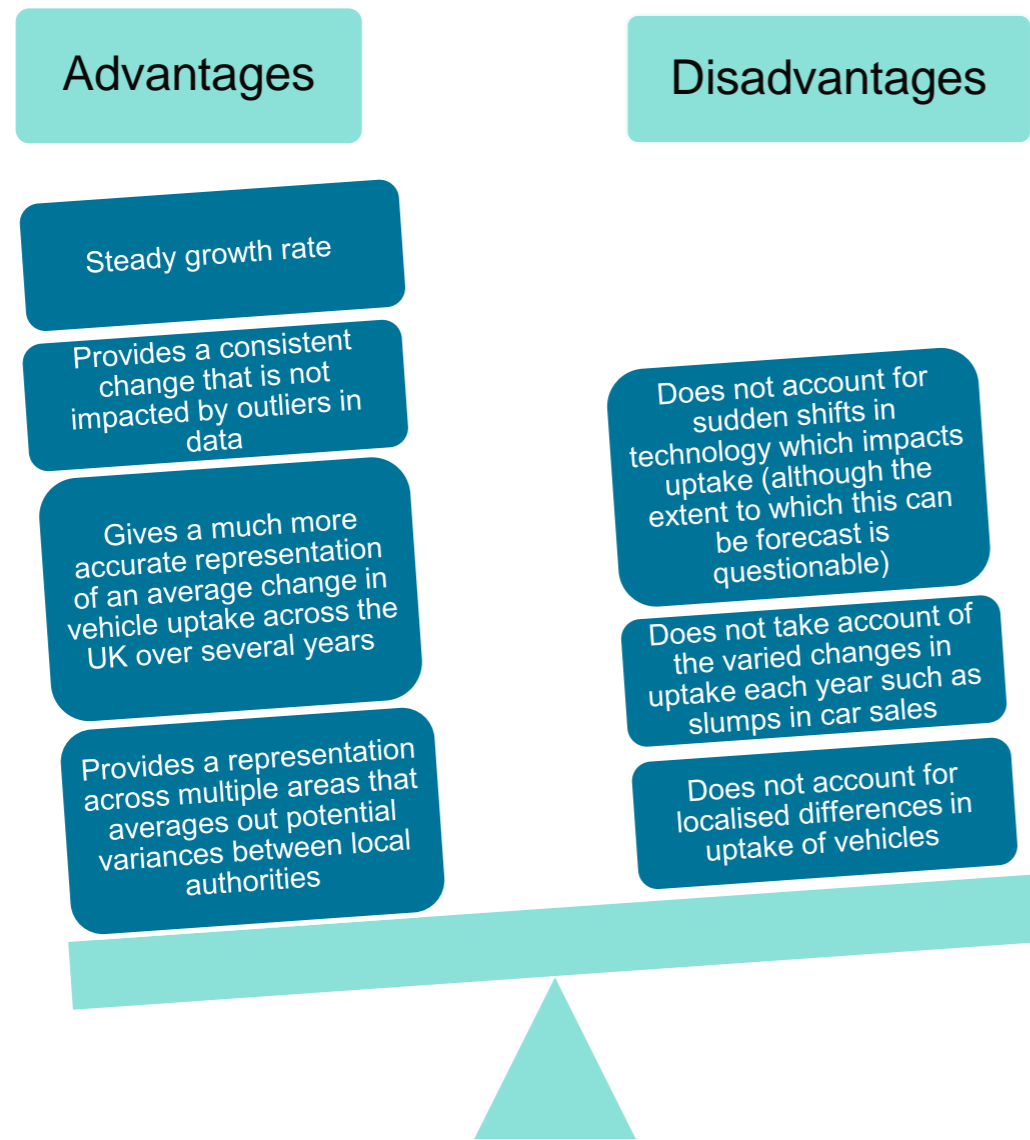


Figure 12: Strengths and Weaknesses of National Highways 2% Steady Growth Forecasts

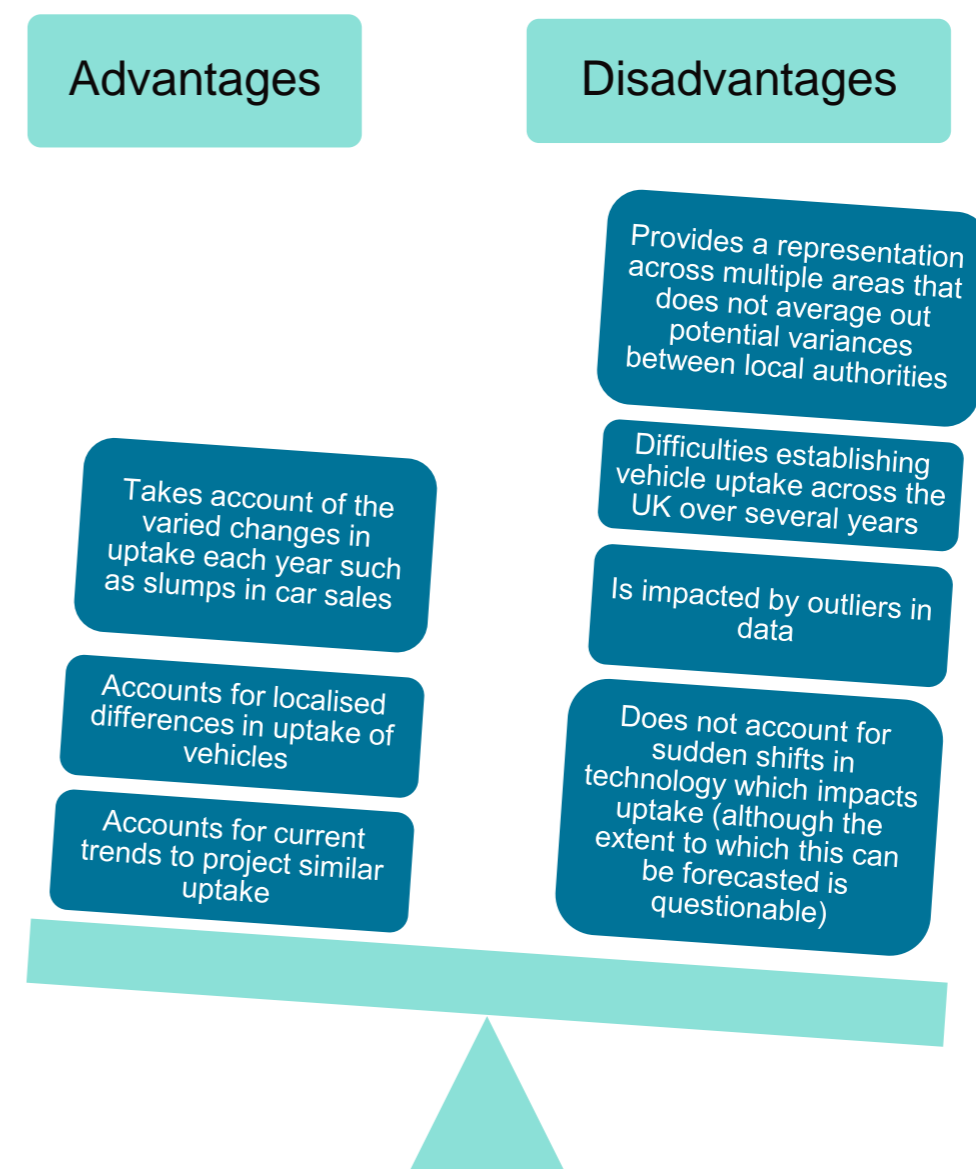


Figure 13: Strengths and Weaknesses of DfT Linear Extrapolation Forecasts

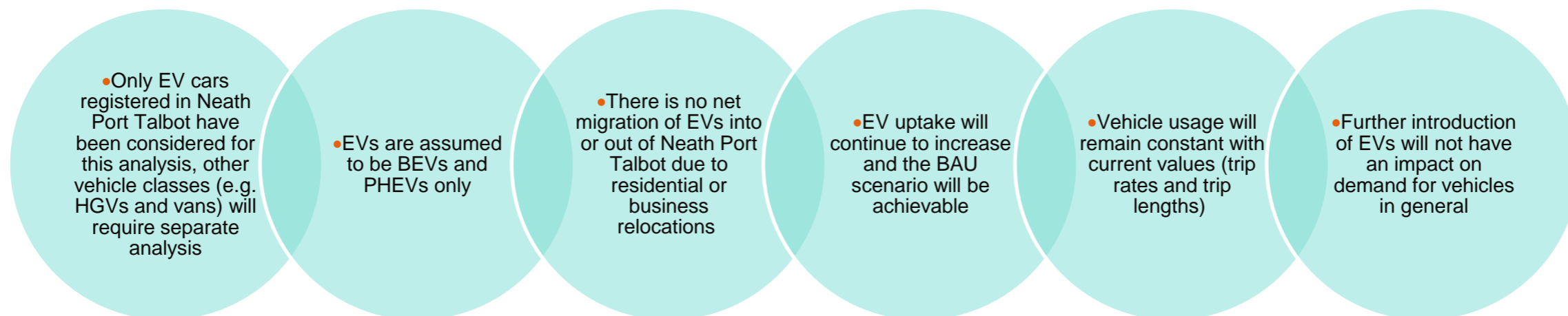


Figure 14: Assumptions made to forecast EV registrations within Neath Port Talbot

Future EV Uptake in the NPT

4.1.6 Figure 15 shows the historic number of total registered cars at the end of each year, in the NPT area between 2009 and 2020.

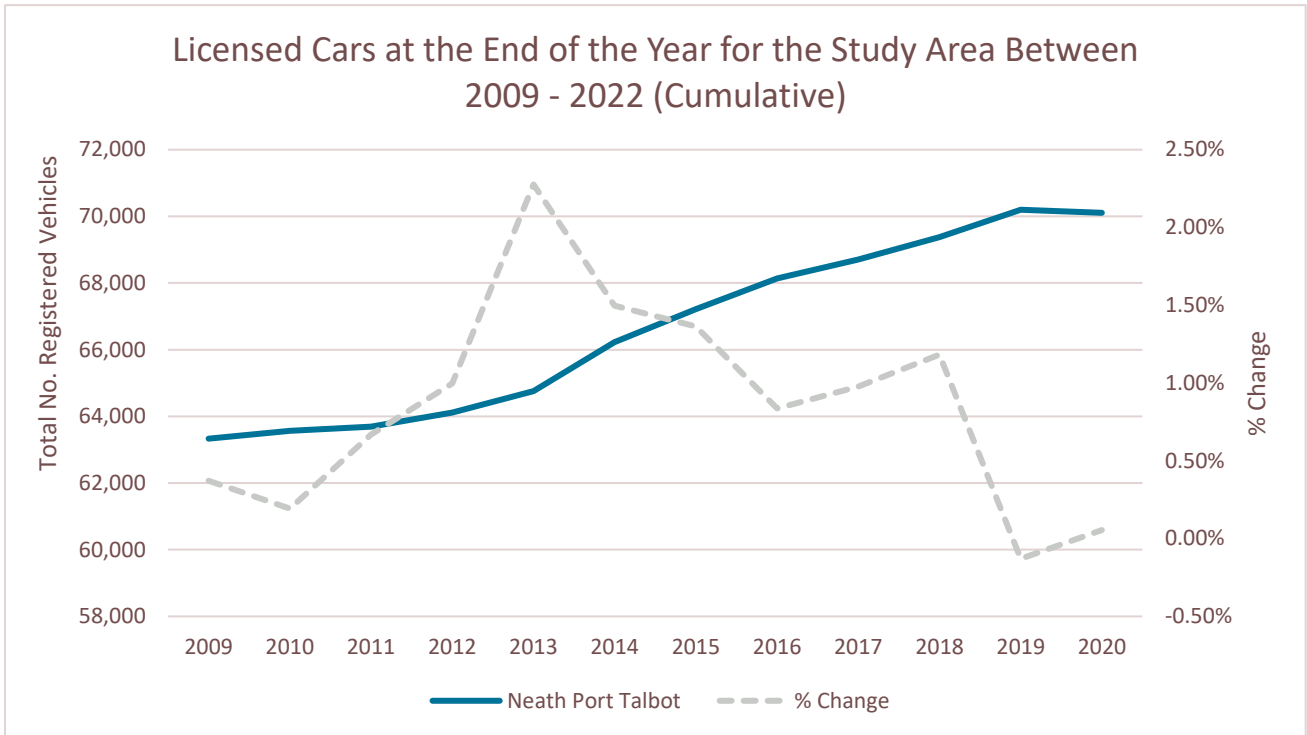


Figure 15: Licensed Cars at the End of the Year in NPT Between 2009-2022

4.1.7 From Figure 15, NPT has seen a relatively steady growth in the number of registered vehicles of all fuel types over the eleven-year period. The only period where registrations decreased was between 2019 and 2020, this is likely a of impact the Covid-19 pandemic on travel. By 2020, there was total of over **70,000 registered vehicles in NPT**. The total number vehicles registered follows a staggered trendline, year-on-year varying from **between just below 0% to 2% growth**.

4.1.8 Table 9 below shows the total numbers of vehicles expected to be registered, in NPT, in 2025 and 2030 for both the National Highways 2% Steady Growth and Linear Extrapolation projections.

Table 9: Expected Total Number of Vehicles to be registered in NPT in 2025 and 2030

Forecast Year	National Highways 2% Steady Growth	Linear Extrapolation
2025	77,404	70,302
2030	85,460	70,497

4.1.9 From Table 9 the variation between the two projections is 7,102 (9.2%) registered vehicles by 2025 and 14,963 (17.5%) by 2030. Given the inherent uncertainty of vehicle forecasting, a difference in projections is acceptable and will be used to form upper and lower limits during the analysis covered in later sections of this report.

4.1.10 Figure 16 shows the projected number of EVs registered in NPT by 2025 and 2030 against both models, and applying the low, medium and high uptake scenarios.

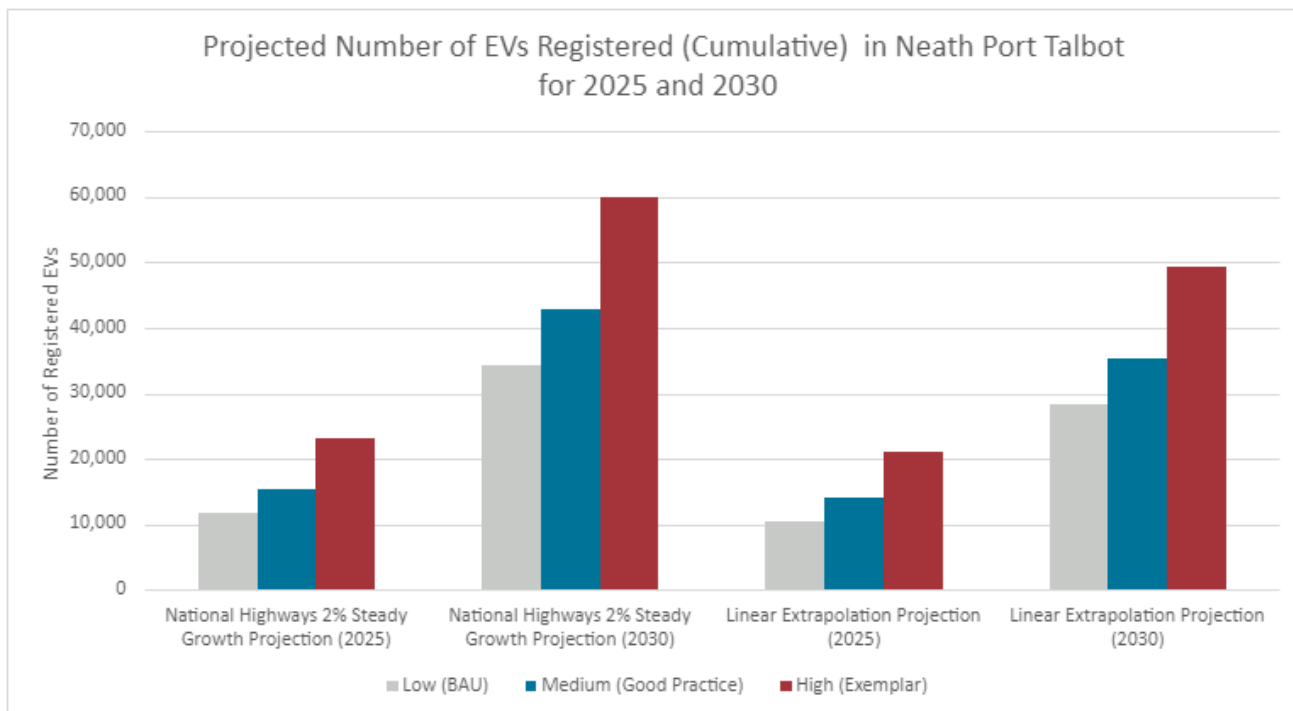


Figure 16: Projected Number of EVs Registered in NPT by 2025 and 2030

4.1.11 From Figure 16, there is forecast to be between **10,500 and 23,000** EVs registered in NPT by 2025 and between **28,000 and 60,000** EVs by 2030.

Vehicle Usage

4.1.12 Vehicle usage has been incorporated into the forecasting model, to calculate the total daily distance travelled by fossil fuelled internal combustion engine (ICE) vehicles and EVs. Through utilising Transport for Wales' Southwest and Mid Wales Transport Model (SWMWTM), the number of trips per day and daily trip lengths were captured for the NPTC study area. From this data, the average daily trip length within NPT was found to be **14.2 miles**.

4.1.13 The Total Distances Travelled for each selected projection and the defined forecasted year has been presented below in Table 10.

Table 10: Total Distances Travelled Projections

Vehicle Usage	SWMWTM Results (Current)	National Highways 2% Steady Growth Projection		Linear Extrapolation Projection	
		2025	2030	2025	2030
No. Daily Trips by Car	277,616	306,340	338,224	278,233	279,005
Total Distance Travelled (miles per day)	3,955,004	4,364,215	4,818,447	3,963,799	3,974,794

4.1.14 Table 11 and Table 12 show the total number of vehicle trips per day by car and the average daily trip length, which was then used to calculate the results for the total travelled distance (miles per day) for EVs and ICE vehicles based on the National Highways steady 2% growth and the Linear Extrapolation, respectively, for each EV uptake scenario: Low (BAU), Medium (Good Practice) and High (Exemplar).

Table 11: Daily Car Trips and Average Daily Trip Length According to National Highways Steady 2% Growth

Vehicle Usage/ EV Uptake Scenarios		Low (BAU) Scenario		Medium (Good Practice) Scenario		High (Exemplar) Scenario	
		ICE	EV	ICE	EV	ICE	EV
No. of Vehicles	2025	65,793	11,611	61,923	15,481	54,183	23,221
	2030	51,276	34,184	42,730	42,730	25,638	59,822
Total miles travelled per day	2025	3,709,584	654,632	3,491,373	872,843	3,054,951	1,309,265
	2030	2,891,068	1,927,379	2,409,224	2,409,224	1,445,534	3,372,913

Table 12: Daily Car Trips and Average Daily Trip Length According to Linear Extrapolation

Vehicle Usage/ EV Uptake Scenarios		Low (BAU) Scenario		Medium (Good Practice) Scenario		High (Exemplar) Scenario	
		ICE	EV	ICE	EV	ICE	EV
No. of Vehicles	2025	59,757	10,545	56,242	14,060	49,211	21,091
	2030	42,298	28,199	35,249	35,249	21,149	49,348
Total miles travelled per day	2025	3,369,229	594,570	3,171,040	792,760	2,774,660	1,189,140
	2030	2,384,876	1,589,918	1,987,397	1,987,397	1,192,438	2,782,356

4.1.15 The total distances travelled by EVs shown in Table 11 and Table 12 have been used to calculate the environmental benefits associated with increased EV uptake.

Environmental Impacts

4.1.16 Department for Environment, Food and Rural Affairs (DEFRA) emissions factors for 2021 were taken from the GHG reporting data and multiplied by the total distance travelled in each vehicle usage scenario to establish an overall level of carbon and Nitrous Oxide (N₂O) emissions for each EV uptake scenario in 2025 and 2030. N₂O is a greenhouse gas approximately 300 times as damaging as CO₂ and is a produce by most catalytic converting systems, making an unavoidable by-product of ICE vehicle use⁸². The DEFRA emissions factors provide the average CO₂ (equivalent) and N₂O emissions in kilograms per km for different types of vehicles including petrol, diesel, PHEV and BEV. Up-stream emissions have also been included, for example the emissions of grid power production to supply electricity for charging PHEVs and BEVs, to show the true environmental impacts for comparison purposes.

⁸² Air Quality Expert Group, Exhaust Emissions from Road Transport (2021). https://uk-air.defra.gov.uk/assets/documents/reports/cat09/2112201614_1272021_Exhaust_Emissions_From_Road_Transport.pdf

4.1.17 A single ICE emission factor has been calculated by averaging petrol and diesel values. Due to the uncertainty surrounding the future adoption BEVs and PHEVs, emission values for both these ULEV types have also been averaged to form a single combined EV emission factor.

4.1.18 Table 13 below highlights the average CO₂e and N₂O emissions (Kg per mile) for ICE vehicles and EVs which has been used for this forecast.

Table 13: Average CO₂ and N₂O emissions for ICE vehicles and EVs

	ICE (kg CO₂e)	ICE (kg N₂O)	EV (kg CO₂e)	EV (kg N₂O)
<i>Per km</i>	<i>0.1714</i>	<i>0.0011</i>	<i>0.0726</i>	<i>0.0004</i>
<i>Per mile</i>	<i>0.2758</i>	<i>0.0018</i>	<i>0.1168</i>	<i>0.0006</i>

4.1.19 Based on the emissions factors shown in Table 13, total emissions are calculated for each EV uptake scenario (Low (BAU), Medium (Good practice) and High (Exemplar)) for both the National Highways 2% Growth Forecast and the Linear Extrapolation Forecast projections.

4.1.20 Figure 17 and Figure 18, below, compare how CO₂ emissions (tonnes CO₂e per year) and N₂O (tonnes N₂O per year) savings vary, depending on the different projection scenarios for 2025 and 2030.

Figure 17: National Highways 2% Steady Growth Predictions on CO₂ and N₂O Savings by EV Uptake Scenarios in 2025 and 2030

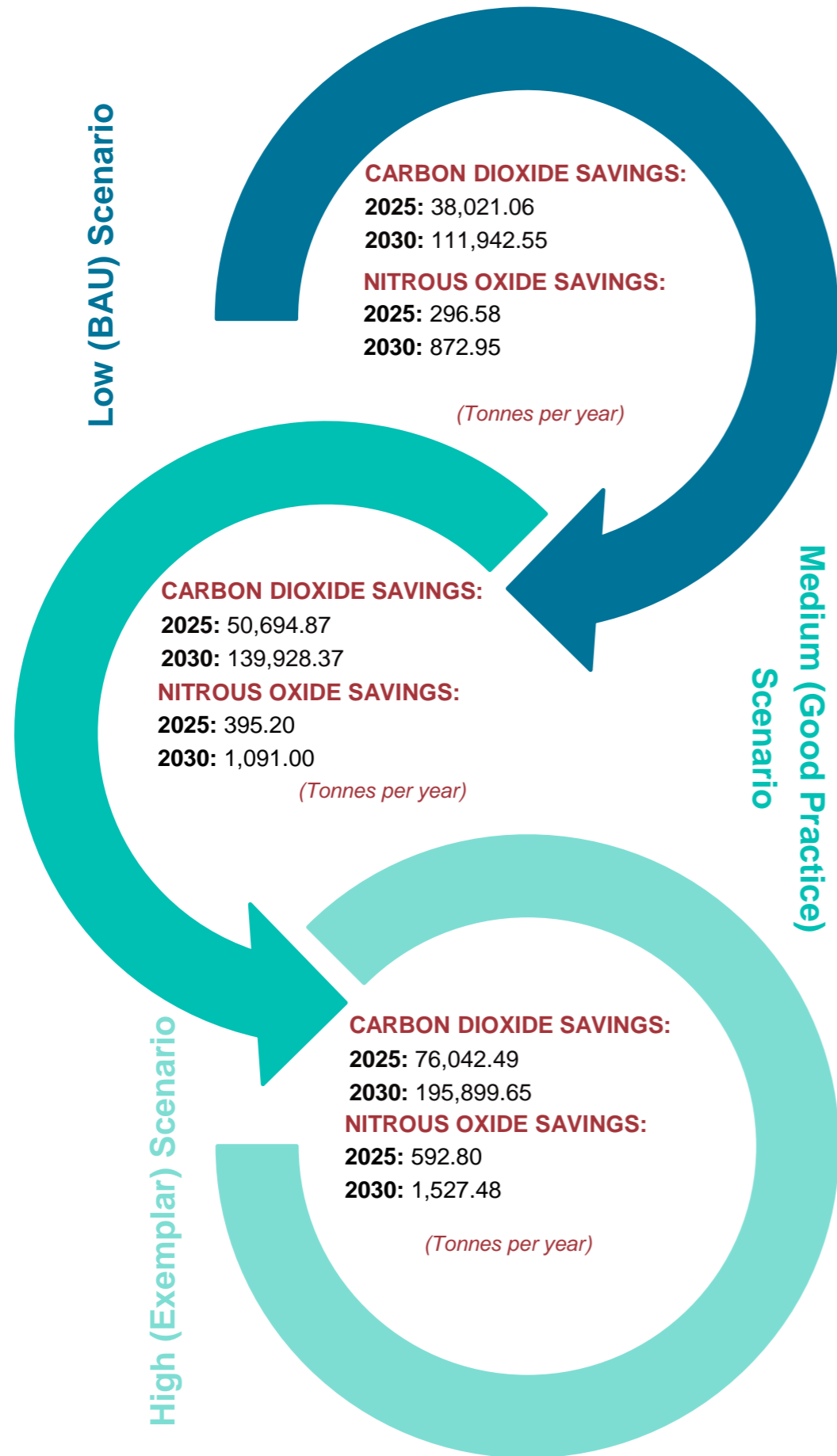
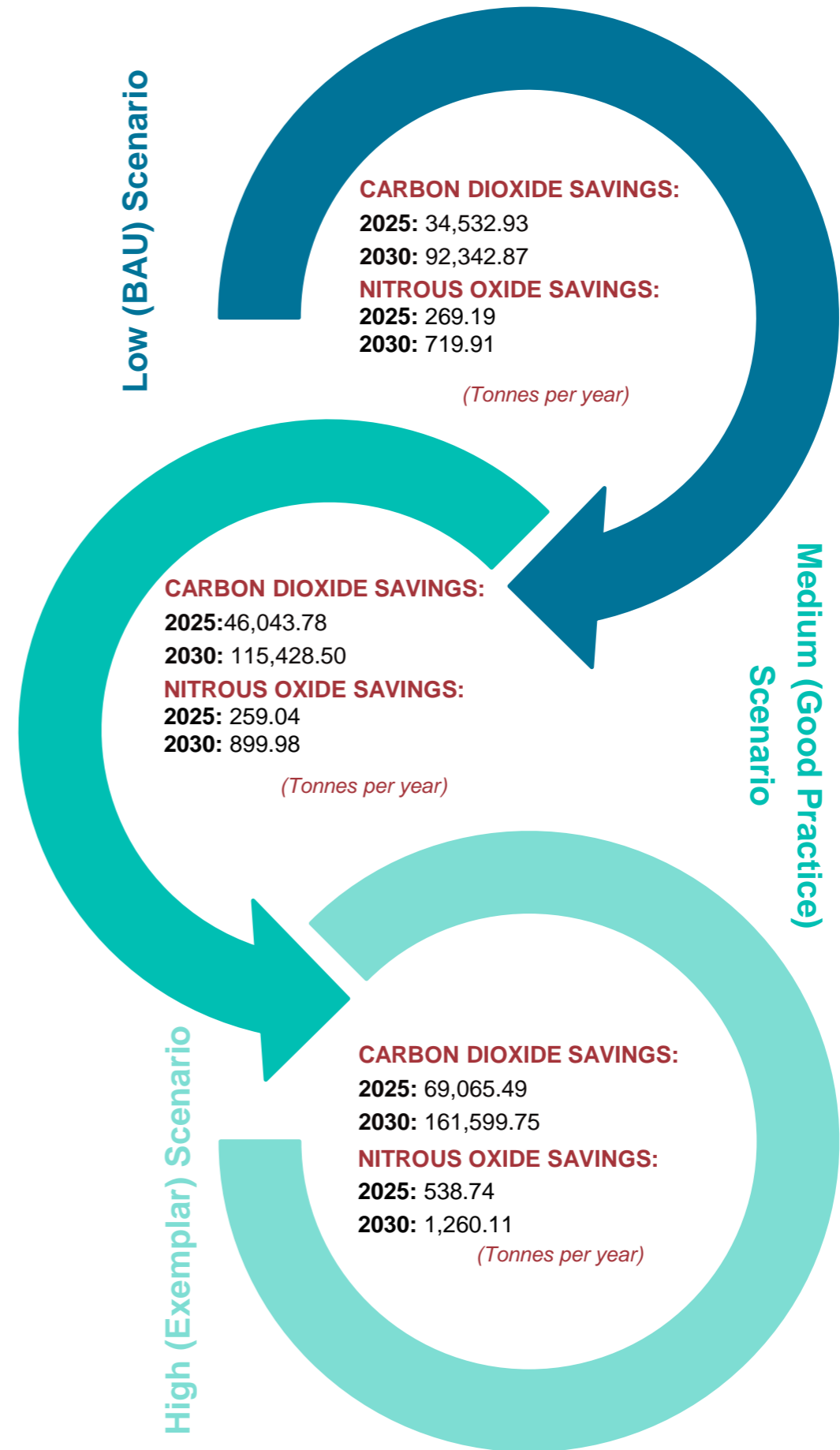


Figure 18: Linear Extrapolation Predictions on CO₂ and N₂O Savings by EV Uptake Scenarios in 2025 and 2030



Summary of Forecasting Model Results

- 4.1.21 A forecasting assessment revealed that EV uptake within NPT has potential to save between **34,532.93 tonnes** and **76,042.49 tonnes of CO₂e per year by 2025**. By 2030, these saving would rise to between **92,342.87 tonnes** and **195,899.65 tonnes** as EV uptake increases.
- 4.1.22 Similarly, there is potential to save anywhere between **269.19 tonnes** and **592.80 tonnes of N₂O per year by 2025** and between **719.91 tonnes** and **1,527.48 tonnes** because of increased EV uptake.
- 4.1.23 Using the Linear Extrapolation forecasting method, the more conservative of the two, for total vehicle registrations up to 2030, **EV uptake in the NPT could save 115,428.50 tonnes of CO₂ emissions and 899.98 tonnes of N₂O each year**, if a Medium (Good Practice) scenario for EV implementation is achieved whereby 50% of all operating vehicles are EVs.
- 4.1.24 However, to achieve this level of benefits will require **35,249 EVs** to be registered in NPT by 2030. This, compared to the current figure of approximately 550 EVs demonstrates the enormous growth needed and the number of EVCPs that will be required to support this demand.

4.2 EVCP Requirements

- 4.2.1 To facilitate the increased uptake of EVs, significant investment will be required to expand the NPT EVCP network. To quantify the extent of this, analysis was carried out using travel patterns, tourist data and EV charging behaviour statistics.

Total Daily Mileage – Commuter and Domestic Trips

- 4.2.2 To calculate the frequency of car trips for different purposes, data from the South West Wales Integrated Consortium (SWWITCH) Regional Transport Plan for Southwest Wales⁸³ was analysed. For this analysis, all trips carried out for 'Work Commuting', 'Education', and 'Work Business' purposes were designated as commuter trips and all of the other purposes, the 'General Domestic' category. These results are summarised below:

- Total Car Trips – **12,168**
- Commuting Trips – **6,274 (52%)**
- General Domestic – **5,894 (48%)**

- 4.2.3 These percentages were then applied to the figures of vehicle usage to give the daily EV mileage for commuting and domestic trips in NPT using the three forecasting Scenarios.

Total Daily Mileage – Tourist Trips

- 4.2.4 Tourist travel data was obtained from The Great Britain Day Visitor 2019 Annual Report⁸⁴, which captured average yearly figures for tourist trips lasting over 3 hours and overnight trips. Of these trips, an estimated 50%⁸⁵ were completed in a car and the average trip length was estimated to be **70 miles**. The results of this analysis are displayed in Table 14.

⁸³ SWWITCH, The Regional Transport Plan for Southwest Wales (2007).

https://democracy.swansea.gov.uk/Data/Council/20090730/Agenda/Email_Only_Appendix_of_RTP_-_Appendices_RTP.pdf

⁸⁴ Visit Britain, The Great Britain Day Visitor 2019 Annual Report (2019). https://www.visitbritain.org/sites/default/files/vb-corporate/gbdvs_2019_annual_report_-_a.pdf

⁸⁵ Welsh Government, Joint Transport Plan Appendices – South West Wales 2015-2020.

https://www.npt.gov.uk/media/4063/ltp_appendices_2015_2020.pdf?v=20170627002133

Table 14: Average Day and Overnight Tourist Trips to NPT

	Average Overnight Tourist Trips to the NPT	Average Day Tourist Trips (3hours+) to the NPT
Annually	56,000	3,966,000
Annually, by car driver	28,167	1,982,994
Daily, by car driver	77	5,433

4.2.5 Using these results, and assuming that tourism is constant, the different uptake scenarios were applied to determine to number of tourists travelling into the NPT in EVs. These results are shown in Table 15 below.

Table 15: Forecasted Daily EV Tourist Trips and Mileage in NPT

	2025			2030		
	Low (BAU)	Medium	High	Low (BAU)	Medium	High
Daily Trips	827	1,102	1,653	2,204	2,755	3,857
Daily Mileage	57,855	77,140	115,711	154,281	192,851	269,991

Types of EVCPs

4.2.6 The next stage of analysis was to forecast the future demand on EVCPs, based on the figures of EV uptake presented in the previous section. To do this, different trip types and the appropriate EVCI in each case were considered:

- Commuter Trips – Residential Slow EVCPs:** Research has shown that 75%⁸⁶ of all charging events occur at or near to home. It is estimated that 40%⁸⁷ of households do not have access to off-street parking so rely on on-street parking (i.e., they do not have their own private driveway). Recent statistics revealed that 95% of current EV drivers have access to off-street parking⁸⁸, On-street residential chargers are low powered (7kW) and can provide a full charge (0% to 100%) in around 7-11 hours, depending on battery size, so are typically used overnight. For this reason, they are best suited for EV commuters as they can plug in their vehicle when they return in the evening, and it will be fully ready for the morning commute. It is important to note, given the long duration of charging sessions required, it is likely only a single user will be able to charge their EV per EVCP each day.
- General Domestic Trips – Town Centre Fast EVCPs:** Public Town Centre EVCPs are higher power and are typically used to provide small ‘top-ups’ in charge between the longer residential charging session. They are typically aimed at EV users who go into town for shopping or leisure

⁸⁶ Element Energy, EV Charging Behaviour Study (2019). <http://www.element-energy.co.uk/wordpress/wp-content/uploads/2019/04/20190329-NG-EV-CHARGING-BEHAVIOUR-STUDY-FINAL-REPORT-V1-EXTERNAL.pdf>

⁸⁷ Office for National Statistics, Over half of younger drivers likely to switch to electric in next decade (2021). <https://www.ons.gov.uk/economy/environmentalaccounts/articles/overhalfofyoungerdriverslikelytoswitchtoelectricinnextdecade/2021-10-25>

⁸⁸ Department for Transport, Electric Vehicle Charging Research - Survey with electric vehicle drivers (2022) [Electric Vehicle Charging Research. Survey with electric vehicle drivers. Research report. \(publishing.service.gov.uk\)](https://www.gov.uk/government/research-data-and-analysis/publications/electric-vehicle-charging-research)

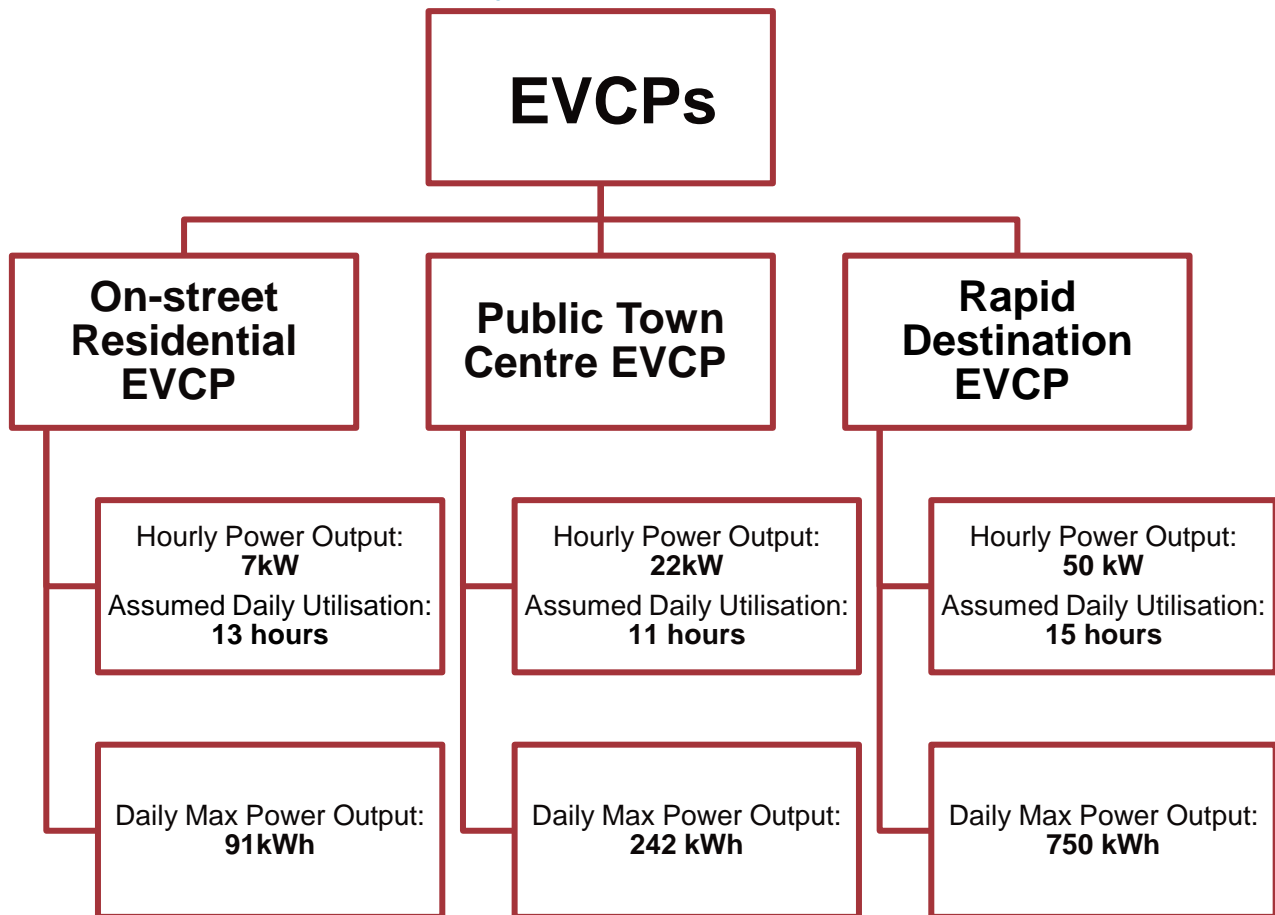
purposes and are therefore only away from their vehicles for a few hours at a time. These EVCPs are typically only used during the day and may be used by multiple users in a single day.

- **Tourist / Leisure Trips – Strategic / Destination Rapid EVCPs:** Rapid destination EVCPs are high power and can provide significant charge (0% to 80%) over very short periods of time. These EVCPs are typically located at tourist destinations, petrol stations and designated EV charging hubs with multiple charge points available facilitating long-haul EV journeys with minimal added time required for charging.

4.2.7 Further details of the different EVCP types are covered in Section 5.2

4.2.8 Given the power supply and the typical use case, the maximum power output of a single On-street EVCP, a single public town centre fast EVCP and of a single rapid destination EVCP, could be calculated, this is presented in Figure 19 below. It should be noted that although destination EVCPs commonly exceed 50kW⁸⁹, the vast majority of EVs currently available have are limited to recharging at a maximum 50kW. Therefore, they would recharge at the same rate at any EVCP rated above 50kW.

Figure 19: Power Output of EVCPs



⁸⁹ With ultra-rapid EVCPs now rated at 150kW and 350kW

Forecasting Future EV Performance

4.2.9 EV technology is constantly developing with batteries becoming more powerful, and EV ranges growing. To model future EVCI requirements, Table 16 outlines the forecasts for future EV performance.

Table 16: Forecasted Future EV Battery Performance

	Range (miles)	Battery Size (kWh)	Battery Efficiency (Wh/mile)	EV Performance (miles/kWh)
Current EV Specifications ⁹⁰ (Renault Zoe ZE50 ⁹¹)	195	52	267	3.8
Forecasted 2030 EV Specifications ⁹²	375	75	200	5

4.2.10 The values for battery efficiency were used to convert the total number of EV miles driven for a particular use case (e.g., commuting) into the total power required to complete those miles.

Charging Behaviour

4.2.11 Element Energy modelling of current EV usage⁹³ estimates the share of charging demand for residents is 75% residential overnight charging, of which 40% is carried out at residences without off-street parking facilities, 5% rapid public charging and 6% fast public charging. The remaining proportions are covered by workplace charging, which are typically privately procured, owned, and operated, and are outside of the responsibility of the LA. The results are shown in Figure 20 below. It is assumed that 100% of tourists who travel within the region will use rapid destination EVCPs.

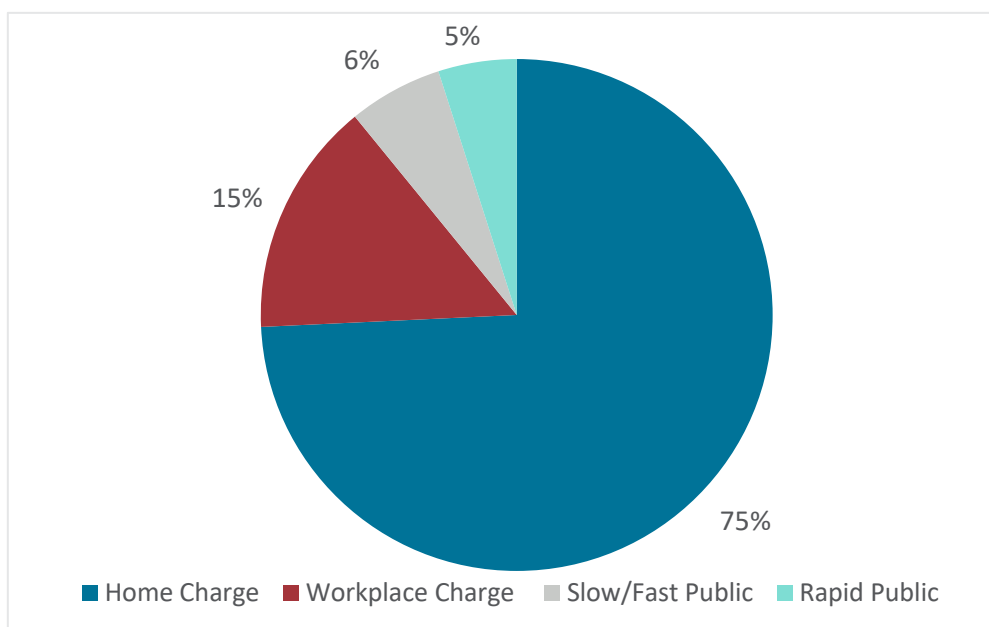


Figure 20: Charging Behaviour Based on Element Energy EV Behaviour Study (2019)

⁹⁰ NimbleFins, Average Electric Car Range in the UK 2021. <https://www.nimblefins.co.uk/average-electric-car-range>

⁹¹ EV Database, Renault Zoe ZE50 R110. <https://ev-database.uk/car/1164/Renault-Zoe-ZE50-R110>

⁹² IEA, Global EV Outlook (2020). <https://www.iea.org/reports/global-ev-outlook-2020>

⁹³ Element Energy, EV Charging Behaviour Study (2019). <http://www.element-energy.co.uk/wordpress/wp-content/uploads/2019/04/20190329-NG-EV-CHARGING-BEHAVIOUR-STUDY-FINAL-REPORT-V1-EXTERNAL.pdf>

EVCI Requirements

4.2.12 Using these findings and the forecasted EV usage data from the previous section, estimates were made on the number of EVCPs required across the region to support future EV usage. The results of these calculations are presented in Table 17 below in numbers of single socket EVCPs required.

Table 17: Forecasted EVCP Requirements

Projection	EVCPs Required	2025			2030		
		Low	Medium	High	Low	Medium	High
National Highways 2% Uptake	Fast (7kW) EVCPs	297	396	593	655	819	1,147
	Fast (22kW) EVCPs	21	28	42	46	58	81
	Rapid (50kW) EVCPs	21	27	41	41	51	72
Linear Extrapolation	Fast (7kW) EVCPs	270	359	539	541	676	946
	Fast (22kW) EVCPs	19	25	38	38	48	67
	Rapid (50kW) EVCPs	21	27	41	41	51	72

4.3 Future Grid Assessment

4.3.1 A grid capacity assessment was conducted to assess the influence of EV charging on the grid network by 2025. The implementation of the 2025 EV uptake figures was used instead of 2030 to maintain relevance to the current state of the grid network, which may be heavily updated by 2030. The usage of current EV technology with respect to range and battery capacity was used for this assessment to maintain consistency.

4.3.2 The forecasted 2025 grid analysis was a combination of both the existing energy baseline along with an average EV demand based on an assumed daily recharge for EV users. The methodology calculated the average daily EV recharge based on current EV technology and regular daily vehicle journey trends. Taking these findings, we inferred the capacity of primary substations in terms of the number of EVs that can be charged simultaneously, based on their daily recharge requirements. These findings have been presented in Table 18 and are mapped in Figure 21, below.

Table 18: Future Assessment of Primary Substations

RAG Status	Maximum #EVs that could be charged simultaneously	# Primary Substations	Details
Green	>2500	4	No upgrades required
Amber	1500 – 2500	1	No Immediate Upgrades Required
Red	< 1500	5	Futureproofing Upgrades Required

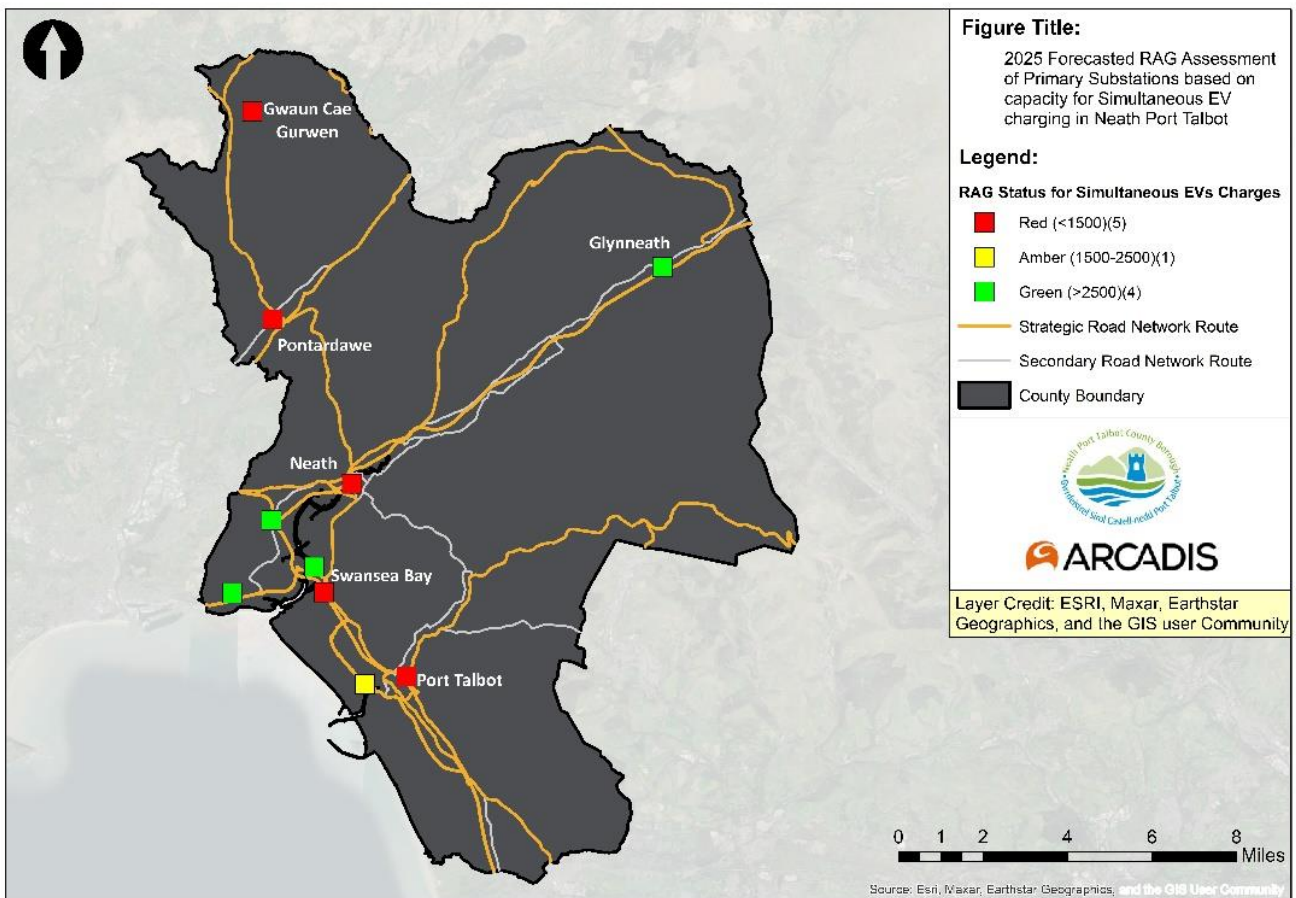


Figure 21: Mapped Capacity of Primary Substations by 2025

4.3.3 As can be seen in Table 18 and Figure 21, 5 substations within NPT will require grid capacity upgrades to cater for the expected EV uptake by 2025. Upgrades must be planned and coordinated in collaboration with National Grid to increase the power supplied to a location and install the required electrical hardware. The existing capacity of the primary substations in the study area could provide the required power to **simultaneously charge a maximum of 19,352 EVs**. How this figure relates to total EV forecasts are presented in Table 19 and described below.

Table 19: Forecasted EVs supplied in 2025

2025	National Highways			Linear Extrapolation		
	Low (BAU) 15%	Medium 20%	High 30%	Low (BAU) 15%	Medium 20%	High 30%
Forecasted EVs	11,611	15,481	23,221	10,545	14,060	21,091
% EVs Supplied	166.7%	125.0%	83.3%	183.5%	137.6%	91.8%

4.3.1 Under the **lowest projected uptake**, there would be capacity for around **183.5% of vehicles to be able to charge simultaneously in 2025**. In the **high scenarios**, **over 83% of all EVs are supplied** for. It is important to note that these results suggest there is ample power supply within NPT, but it **does not account for the difference in spatial distribution** of power demand.

- 4.3.2 An assumption of this analysis is that the average daily mileage of EVs is consistent across each primary substation within NPTC area. In reality, we expect the mileage of rural EV users to be higher than average with a greater daily required EV recharging demand and consequently greater demand at rural substations. It follows that there would be greater demand on rural substations and therefore a lower number of EVs could be simultaneously charged. The opposite would be true for dense urban locations, where fewer and shorter journeys will be completed by cars.
- 4.3.3 From the results of this analysis, green rated substations appear to be concentrated around the urban centres. There are isolated areas, in the north of NPT and between Port Talbot and Neath, that appear to have high concentration of red and amber rated substations and should therefore be the focus of engagement with DNOs.
- 4.3.4 Costs associated with reinforcing the power grid can range from £75,000 - £2 million per site and take over 6 months to plan, design, and carry out the required works⁹⁴. Additionally, even for sites with adequate supply, will require DNO intervention to create a new connection and install the required electrical infrastructure (e.g., high voltage cables and transformers). This can take up to 12 weeks and can cost up to £75,000. These cost and timeframes must be accounted for within budgets and programmes by any local authority planning to install new EVCPs. For this reason, it is essential that NPTC work close in collaboration with National Grid to assess future demand and map areas in the region where power upgrades should be focussed to accommodate planned EVCP installation.

Informing the NPT ZEV Strategy

Future ZEV uptake in NPT will be essential if NPTC is to achieve their long-term decarbonisation targets and the lowest 2025 forecasts project a reduction in annual greenhouse gas emissions of 34,000 tonnes compared to current levels. However, to achieve this will require 10,545 ICE vehicles to be replaced with EVs, a vast increase in the 505 EVs currently in operation. To support this level of EV uptake, and that of tourists entering NPT, will require a network of 289 Fast(7-22kW) and 21 Rapid (50kW+) EVCPs, highlighting the significant investment and planning required to ensure an extensive and diverse EVCP network can serve the entire NPT population. An assessment of the power grid revealed that in order to accommodate increasing EV uptake, several areas of NPT are at risk of reaching capacity and will require close collaboration with National Grid to ensure the network can be reinforced.

Continue to deliver NPTC's net-zero transport emissions agenda



Promote Inclusive ZEV uptake across Neath Port Talbot



⁹⁴ UKPN, 'Getting electric vehicles moving'. https://media.umbraco.io/stage-uk-power-networks/pwwftji5/a_guide_for_electric_fleets.pdf

5 Technology Review

5.1 Current EV Market

- 5.1.1 This section analyses current and future EV market trends, as well as charging solutions. It is noted that recent significant increases in the wholesale price of electricity has flowed through as increasing public charging prices which in term is impacting the EV market⁹⁵. Forecasting future electricity prices and their impact on consumer behaviour is beyond the scope of this Strategy document.
- 5.1.2 The current EV market is ever evolving with new, more efficient, and technologically improved vehicle models being released every year. In this section, a list of luxury cars, family saloon, large family SUVs, supermini cars, small vans and transit vans have been identified to represent different segments in the EV market. By providing a comparison of these sampled vehicles, this section explores the different EV market sectors and over time.

Price

- 5.1.3 The growing trend of EV adoption is linked to a progressive increase in EV battery size and range and a steady fall in battery price and associated reduction in EV purchase prices⁹⁶. If these trends continue, BEVs will become increasingly more competitively priced in comparison with ICE vehicles. This trend has also been driven by a progressive increase in EV battery capacity combined with a significant reduction in charging times within just a few years due to improvements in EV charging technology.
- 5.1.4 The automotive industry is divided as to when exactly price parity between EVs and ICE vehicles may occur. Some estimates claim that the lower operational costs of EVs and the subsidies available mean that they have already achieved price parity⁹⁷. More reserved estimates place price parity to occur sometime before 2030⁹⁸. Factors delaying price parity include increasing costs of raw materials, which make up 80% of the cost of an EV battery, and volatile geopolitical climates⁹⁹.
- 5.1.5 Figure 22 shows that luxury cars have the highest market price. This is followed by medium vans and then, with similar prices, by family saloons and large family SUVs. The small van segment is next, followed closely by the supermini car segment as the most affordable category.

⁹⁵ WhichEV, (2022). <https://www.whichev.net/2022/11/14/public-ev-charging-prices-increase-14-since-june-according-to-zap-map/#:~:text=The%20price%20EV%20drivers%20are,charge%20points%20in%20the%20UK>.

⁹⁶ BloombergNEF, Annual Battery Price Survey (2021). <https://about.bnef.com/blog/battery-pack-prices-fall-to-an-average-of-132-kwh-but-rising-commodity-prices-start-to-bite/>

⁹⁷ Deloitte, Insights: Electric Vehicles (2020). https://www2.deloitte.com/content/dam/insights/us/articles/22869-electric-vehicles/DI_Electric-Vehicles.pdf

⁹⁸ CleanTechnica, EVs and ICE Price Parity (2022). <https://cleantechnica.com/2022/07/07/have-electric-vehicles-reached-parity-with-their-ice-counterparts/>

⁹⁹ Automotive New, Renault doubtful on price parity for EVs and ICEs (2022). <https://europe.autonews.com/automakers/renault-ceo-de-meo-doubtful-ev-and-ice-price-parity>

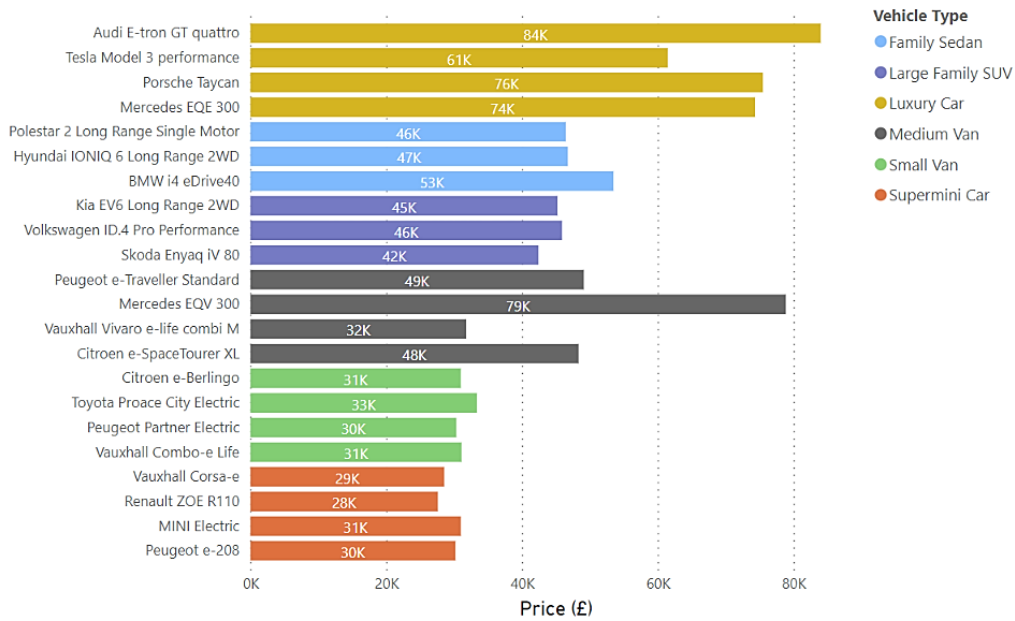


Figure 22: A market price comparison of EVs¹⁰⁰

Battery & Range

5.1.6 In 2020, Castrol published a report suggesting that the ‘tipping point’ for switching to an EV for most motorists in the UK is based on a driving range of 285 miles. The average range of EV models available in the UK in 2020 was 220 miles¹⁰¹, with some high-performance cars exceeding 375 miles. As technological advancements in battery size and range continues, the frequency of needing to recharge reduces, increasing the confidence to travel further distances, but also minimising the level of behaviour change for the average driver. Despite some new vehicles in the market such as the Lucid Air Dream Edition having tested a range of 500+ miles in real world conditions, this range will not rise indefinitely as sheer battery size and associated expense will become a limiting factor. The luxury car sample in Figure 23 have the highest battery capacity on average (with the exception of the Mercedes EQV 300).

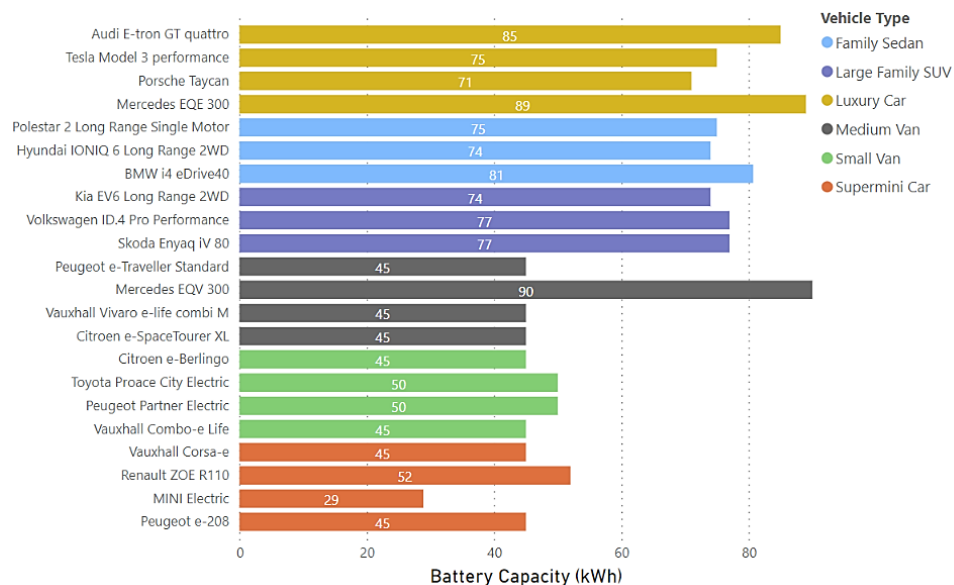


Figure 23: EV Battery Capacity Market Comparison

¹⁰⁰ Electric Vehicle Database. <https://ev-database.org/uk/>

¹⁰¹ IEA, Global EV Outlook (2021). <https://www.iea.org/reports/global-ev-outlook-2021>

5.1.7 As shown in Figure 24, the driving range was between 110 miles and 320 miles for all of the electric vehicles in the sample. Aided by constant development in battery technology and energy efficiency in recent years, the family sedan category was found to have the highest driving range on average. This is matched by the luxury car category that offers similar range but with significantly higher performance, an attribute that contributes to it being the category with the highest market price.

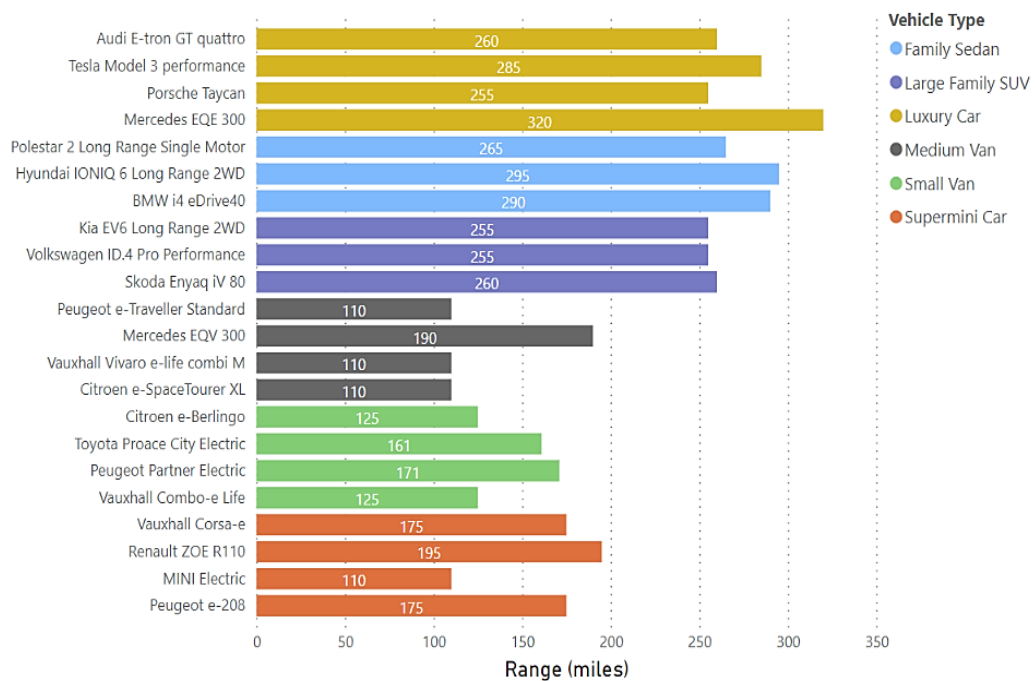


Figure 24: Range comparison of EVs¹⁰²

Charging Speed

5.1.8 The State of Charge (SOC), or percentage of the battery's full charge has a significant effect on the maximum power and hence time to charge. When batteries are below approximately 80% of full charge, maximum charging rate can normally occur. However, above this, the charging rate tails off. While we expect that battery EV charging capability will further improve in the future, our research shows that maximum power levels of up to 150kW are likely to be sufficient for most EV models.

5.1.9 From Figure 25, the charging time comparison showed that fast charging times were fairly similar across categories, ranging from an average of 24 minutes for the luxury car category to 34 minutes for the supermini car category. Any technological innovations leading to faster charging times largely depends on the make and model of vehicle rather than the category. An example of this in Figure 25 is the fast-charging capabilities of the Hyundai IONIQ 6 family sedan and the Kia EV6 SUV which have charging times similar to the much more expensive luxury offerings from Audi and Porsche.

¹⁰² Electric Vehicle Database. <https://ev-database.uk/compare/newest-upcoming-electric-vehicle#sort:path~type~order=.id~number~desc|range-slider-range:prev~next=0~600|range-slider-towweight:prev~next=0~2500|range-slider-acceleration:prev~next=2~23|range-slider-fastcharge:prev~next=0~1100|range-slider-eff:prev~next=150~500|range-slider-top-speed:prev~next=60~260|paging:currentPage=0|paging:number=9>

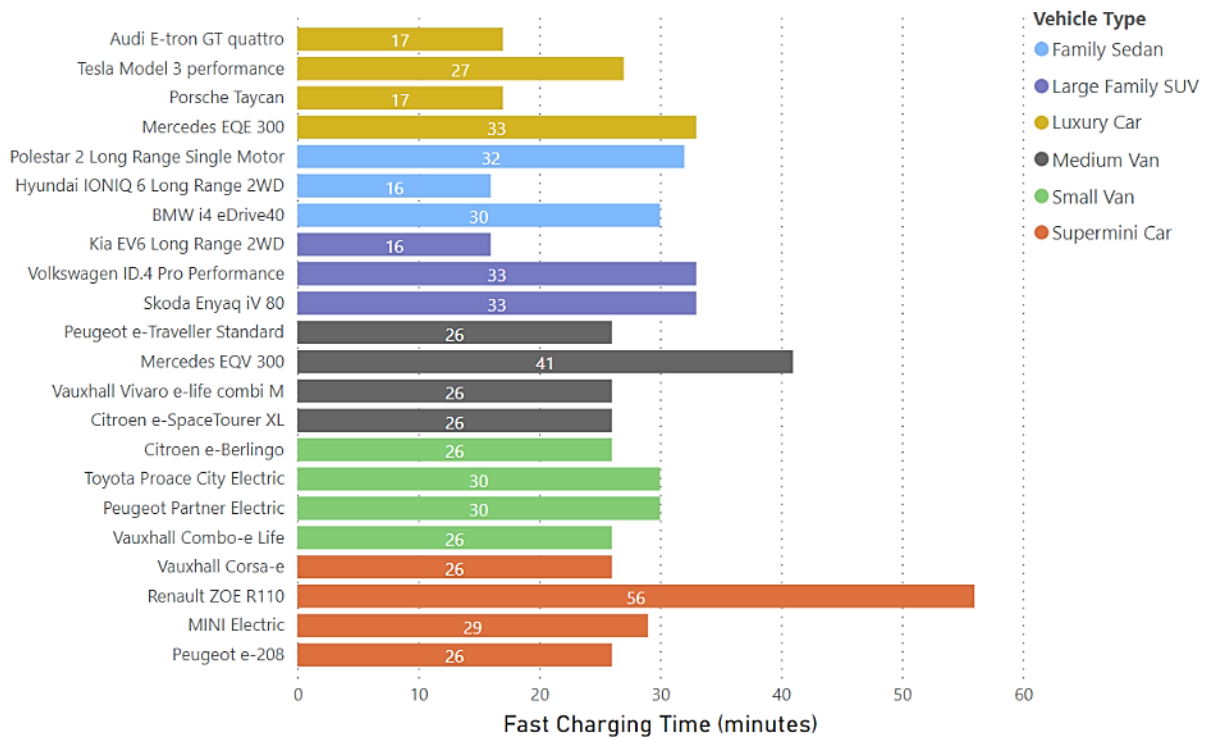


Figure 25: Fast charging time comparison of electric vehicles¹⁰³

5.1.10 Analysis of an EV model (Renault Zoe R110) is presented in Figure 26 to show developments over time as new variants are released.

5.1.11 As evident from Figure 26, the trend shows a progressive increase in EV battery capacity and range over time with a significant reduction in charging times within just a year due to improvements in EV charging technology. The charging time increased from 45 minutes in 2019 to 56 minutes in 2020 due to the increase in battery capacity and not a reduction in charging speed.

5.1.12 Due to economies of scale, as well as battery technology improvements, EV costs are expected to fall in the long-term. However, in the short term, global supply chain issues, and rising commodity costs have led to an increase in EV battery costs for the first time since 2010¹⁰⁴.

5.1.13 Cost of EVs is currently one of the biggest barriers limiting widespread EV uptake, with global supply chain issues cited as the root cause.

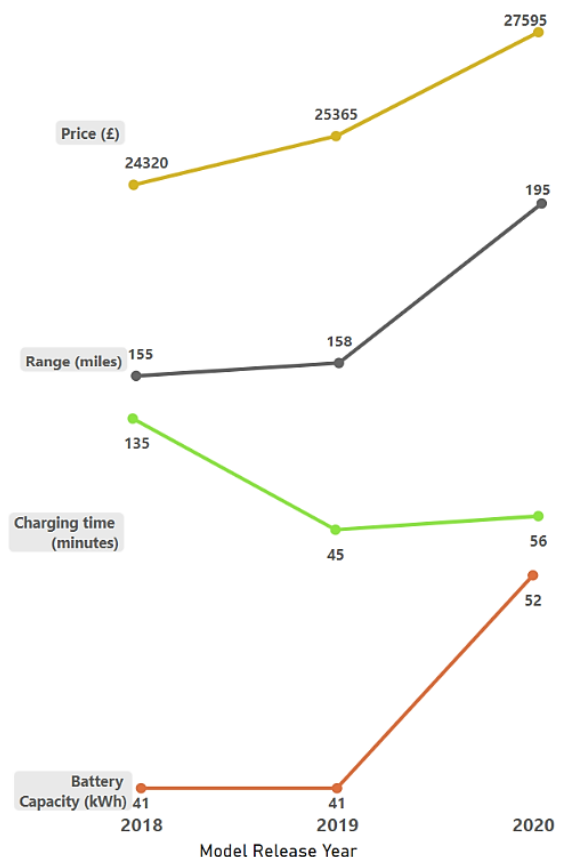


Figure 26: Comparison of Renault Zoe (R110) between 2018 and 2021

¹⁰³ Electric Vehicle Database. <https://ev-database.org/uk>

¹⁰⁴ Statista, EV Battery Prices (2021). <https://www.statista.com/chart/7713/electric-car-battery-prices/>

5.1.14 In 2020, EV sales rose by 43% against 2019¹⁰⁵ and analysts predict a continuation in this trend of increased EV adoption if EV battery prices can continue to fall. However, drivers switching to EVs are waiting on average around eight months before they receive the vehicle¹⁰⁶. These lead times present a challenge as it limits EV uptake due to lack of accessibility and convenience.

Recycling EV Batteries

5.1.15 As EV uptake increases, the importance of recycling and repurposing EV batteries emerges. EVs typically use lithium-ion batteries which can last up to 12 years within EVs. However, these batteries can retain up to two-thirds of their initial energy storage capacities in a ‘second life’ usage¹⁰⁷. Second life uses for EV batteries involve energy storage systems, such as a backup power source for the grid. Nissan uses Leaf EV batteries for behind the meter storage systems¹⁰⁸. However, the disassembly and extraction of the batteries is costly and difficult, therefore the recycling of EV batteries will be dependent on prices of EVs and lithium-ion batteries. A study conducted in 2017 projected that by 2025, 75% of spent EV batteries will be reused in second-life purposes and supply over 100 gigawatt-hours per year by 2030¹⁰⁹.

5.2 Existing EV Charging Technology

5.2.1 The following section describes the EV charging technology currently available on the market that can be utilised for different use cases. The UK promotes the following standard terminology when referring to EVCPs to avoid confusion:

- EVCP/charging unit – a single upstand or wall-mounted structure offering one or more socket outlets or tethered plugs suitable for charging EVs.
- EV charging station – a site with at least one EVCP as well as additional infrastructure including energy supply enclosures, weather shelters, signage, and protection barriers.

5.2.2 EVCPs are available in a range of charging speed and design options. Although EVs can be charged via a UK 3-point plug, dedicated EVCPs are more efficient in terms of charging speed, convenient, and safer. Specifications of EVCPs available in the marketplace are also differentiated by their communication protocol, type, and number of charging outlets. The main types of EVCPs, their typical charging times and use cases are described Table 20.

Table 20: Overview of different EVCP types

EVCP Type	Typical Use Case	Power (kW)	Typical Charging Time	Remarks
<i>Slow</i>	<i>Residential</i>	<i>3.6 AC</i>	<i>6-12 hours</i>	<i>Charging time is for a full charge. Slow charging is equivalent to charging via a mains socket.</i>
<i>Fast</i>	<i>Destination</i>	<i>7– 22 AC</i>	<i>3-6 hours</i>	<i>Charging time is for a full charge.</i>
<i>Rapid</i>	<i>Destination & SRN</i>	<i>43+ AC 50+ DC</i>	<i>20 minutes – 1 hour</i>	<i>Charging up to 80% after which power is reduced to preserve battery life.</i>
<i>Ultra-Rapid</i>	<i>SRN</i>	<i>150+ DC</i>	<i>10 – 20 minutes</i>	<i>Many EVs currently cannot handle such high powers due to the thermal impacts on the battery</i>

¹⁰⁵ EV Volumes: <https://www.ev-volumes.com/>

¹⁰⁶ Electrifying, How to beat the queue for a new electric car (2022). <https://www.electrifying.com/blog/article/waiting-times-for-electric-cars>

¹⁰⁷ Hive Power, ‘Is Repurposing EV Batteries for Grid Energy Storage a Sustainable Plan?’ (2022). <https://www.hivepower.tech/blog/is-recycling-ev-batteries-for-grid-energy-storage-a-sustainable-plan>

¹⁰⁸ GTM, ‘Nissan, Green Charge Networks Turn ‘Second-Life’ EV batteries into Grid Storage Business (2015). <https://www.greentechmedia.com/articles/read/nissan-green-charge-networks-turn-second-life-ev-batteries-into-grid-storage>

¹⁰⁹ McKinsey and Company, Second-life EV batteries: The newest value pool in energy storage. <https://www.mckinsey.com/~media/McKinsey/Industries/Automotive%20and%20Assembly/Our%20Insights/Second%20life%20EV%20batteries%20The%20newest%20value%20pool%20in%20energy%20storage/Second-life-EV-batteries-The-newest-value-pool-in-energy-storage.ashx>

5.2.3 It is important to note that EV batteries are limited by the maximum power they can accept while charging. For example, if an EV is limited to accepting a maximum of 50 kW charging power, then it will charge at the same rate even when connected to an EVCP with a power output higher than 50 kW. Therefore, even though EVCPs with power outputs of 150kW or more have been rolled out, there is still time before most EVs in the market are capable of utilising them.

DC Charging

5.2.4 Direct current (DC) charging is one of the ways industry professionals are looking to reduce charging times and thereby improve the experience of using an EV. Despite DC chargers being larger and more expensive, they can achieve much higher power levels than that of alternating current (AC) charging, therefore achieving a much faster charge time for users.

5.2.5 The difference between AC and DC charging is that AC charging requires power drawn from the grid to be converted within the vehicle itself via an on board charger, since an EV battery itself can only store power as DC. Whereas DC charging has a converter built into the charger itself which can feed power directly to the EV battery. A visual example of both AC and DC charging has been presented in Figure 27, below.

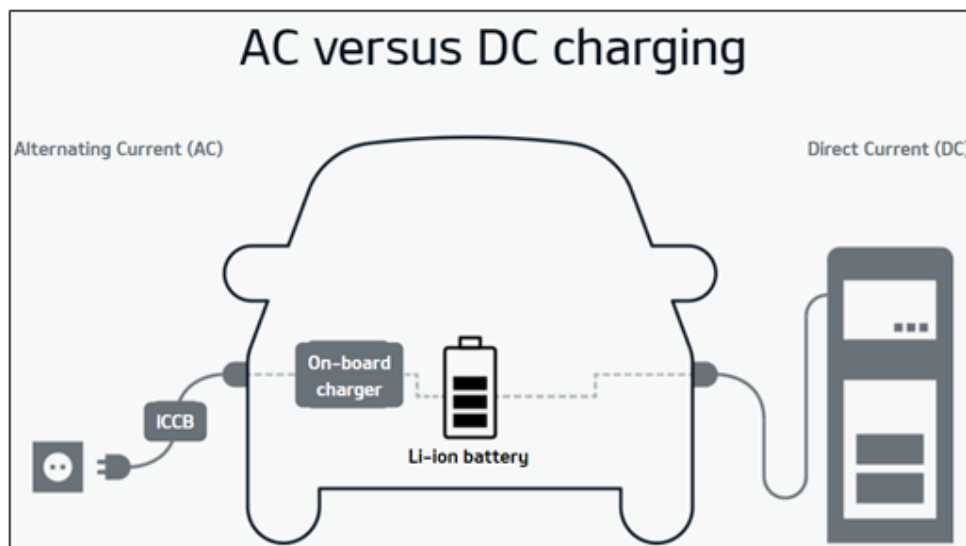


Figure 27: AC vs DC EV Charging

5.2.6 Most new EVs are compatible with combined charging system (CCS) connectors which can provide 50kW DC or more as well as 7-22kW AC depending on the requirement. These are becoming the preferred type of chargers for public EVCPs.

5.2.7 DC charging can also utilise power electronic devices such as voltage boosters to reduce the requirements from the grid whilst achieving high power levels to charge EVs quicker. Such a charging topology is referred to as Ultra-Rapid or Hyper charging where the EVCP can have a power output between 150kW-350kW. Ultra-Rapid chargers present an exciting opportunity to significantly reduce EV charging times.

On Street Charging Solutions

5.2.8 The provision of home-charging solutions is essential to meet the demands of current EV charging behaviour, ensure inclusive provision of EVCI and maximise accessibility across the region. This will ensure that users have the ability and confidence to charge their EVs, which in turn will promote EV adoption.

- 5.2.9 In recent years, public policy and funding opportunities have been focussed on the provision of EVCI for those with access to dedicated off-street parking, such as the OZEV EV Home Charge Scheme which covers up to 75% of the eligible costs of a EVCP and its installation (capped at £500, including VAT).
- 5.2.10 Based on current research, these homes without off-street parking could become the location of 48%¹¹⁰ of all private EV charging events, highlighting the importance of these locations to ensure EVCI inclusivity and maximise EV uptake.
- 5.2.11 On-street parking is unavoidable across much of the UK and Wales due to the number of terraced streets with no private driveways, especially in post-industrial towns, typical of parts of Wales and northern England. The same can be said for Neath Port Talbot where many towns have a high density of terraced housing in their centres, including: Port Talbot, Briton Ferry, Neath, Resolven, Glynneath and Pontardawe.
- 5.2.12 In these locations, it is highly unlikely that residents will be able to use home chargers due to a lack of private driveways. It is also not advised to run a cable to an EV to supply power to charge as loose cables across a footway can be hazardous and severely impact access for residents. To avoid this, gullies can be installed within the footway to house the cables or, preferably public residential EVCPs are provided to meet demand. Installation of EVCI in on-street locations presents the following additional challenges and considerations:
- There are no designated parking locations, therefore exact placement must be selected based on close collaboration between residents and DNO (power requirements)
 - There should be minimal additional street furniture – so called ‘street clutter’ has been shown to be unpopular among residents
 - Pavements must be wide-enough (at least 1.2 meters) so that infrastructure can be installed without impacting accessibility (e.g., wheelchair users)
 - Usage and payment accessibility must be considered for all user groups
 - Infrastructure or design must be robust against vandalism and accidental damage (e.g. bollards).
 - EVCPs should be located within a 3-minute walk from EV users’ homes’ to be used regularly.
- 5.2.13 Table 21 below illustrates the pros and cons of different types of EVCPs.

¹¹⁰ The Energy Saving Trust, Charging Electric Vehicles. <https://energysavingtrust.org.uk/sites/default/files/23465-EST%2BDFT-Charging%20Electric%20Vehicles%20-%20Best%20Practice%20Guide-WEB.pdf>

Table 21: Pros and cons of on-street EVCP types

Type of EVCPs

Pros

Cons

Lamppost Mounted EVCPs¹¹¹



Utilise existing physical and electrical infrastructure – quicker, cheaper, and less embodied carbon.

Avoid challenges surrounding additional street furniture, accessibility, and resident concerns about street clutter.

With several lampposts located across the study area, EVCPs can be planned at short notice and relocated easily if necessary.

Non-EV users might accidentally park their vehicles within these spaces due to how discrete the signage and charging socket is – however, this can be mitigated through EV parking only bays.

Constrained by the existing power supply to the lamppost while also needing to ensure that capacity remains to power the light itself.

Capacity to power a slow 3.7kW charger which takes 8-10 hours to charge. There's a risk these chargers won't be powerful enough to charge more powerful batteries.

Potential for trailing cable trip hazard if bollard not installed to bring EVCPs kerbside from lampposts situated at the back of the footway.

Bollard Chargers¹¹²



Newly installed power connections can ensure that EVCPs can supply multiple charging sockets.

Can be future proofed by providing excess capacity to later supply additional or higher power EVCPs for future demand.

New electrical connections will be required, increasing installation costs and time.

Will require additional civils to install such as trenching, feeder pillars, associated traffic management.

Additional street furniture.

¹¹¹ Air Quality News.Com, 1000 EV charge points installed on London's lamp posts (2019). <http://airqualitynews.com/2019/05/02/1000-ev-charge-points-installed-on-londons-lamp-posts/>

¹¹² Barriers Direct, Security Bollards (2022) https://www.barriersdirect.co.uk/bollards-c1022/?msclkid=f6065c2e8ec71d9c6e7c3f753865b5f8&utm_source=bing&utm_medium=cpc&utm_campaign=Bollards%2520-%2520Types&utm_term=protection%2520bollards&utm_content=Protection%2520Bollards

Type of EVCPs

Pros

Cons

Pop Up Columns¹¹³



Can reduce costs, visual impact, and embodied carbon

Flush with the surface of the footway.

Newly installed power connections can ensure that EVCPs can supply multiple charging sockets.

Can be future proofed by providing excess capacity to later supply additional or higher power EVCPs for future demand.

New electrical connections and civils will be required.

Can be harder to locate.

Reduces width of footway when in use, reducing accessibility.

Standard EVCPs Installed on A Build Out¹¹⁴



Does not impact accessibility as the buildout doesn't reduce the size of the footway.

Newly installed power connections can ensure that EVCPs can supply multiple charging sockets and can be future proofed to provide excess capacity to later supply additional or higher power EVCPs.

New electrical connections will be required.

Will require additional materials and civils to expand footway and install trenching, feeder pillars, associated traffic management, increases environmental impact.

Additional street furniture which also reduces the amount of parking availability.

Type of EVCPs

Pros

Cons

¹¹³ This is Money Oxford installs UK's first pop-up chargers that rise out of the pavement (2019). https://www.thisismoney.co.uk/money/cars/article-7732287/Oxford-installs-UKs-pop-chargers-rise-pavement.html?ns_mchannel=rss&ns_campaign=1490&ito=1490

¹¹⁴ Transport Network, Government's EV charging plans 'won't be enough', report argues (2021). <https://www.transport-network.co.uk/Governments-EV-charging-plans-wont-be-enough-report-argues/17113>

Community Charging Hub



Designed for overnight use so makes charging convenient as less likely the vehicle will be in use overnight.

Newly installed power connections can ensure that EVCPs can supply multiple charging sockets.

Hubs can attract additional customers to local businesses and create economic benefits for the wider community.

New electrical connections will be required.

May be hard to find suitable space within residential areas.

Increasing the amount of car parking spaces increases the chance of uptake of EV vehicles that will stop people from choosing a method of active travel.

Wireless Charging



Provides unmatched charging safety and convenience as its automated and hands-free and doesn't require any specific qualifications or training to use.

Operational through rain, snow, ice, mud, and leaves with no loss in efficiency.

High cost of installation and additional civils to install such as trenching, feeder pillars, associated traffic management.

Technology varies between companies so may be difficult to identify which is most suitable.

Current vehicle technology does not enable wireless charging without adaptation and uncertainty over the ability to retrofit.

ChargeBridge (prototype)



An innovative on-street solution that avoids EV charging cables obstructing footways entirely.

The system can be installed on dense terraced streets using existing lampposts or being connected to properties.

Home, on-street, residential, and workplace charging applications.

The system is in early stages of development and not yet available for commercial roll-out.

The solution is currently untested on a large scale.

The impact of attaching infrastructure to existing street furniture or buildings is untested.

Demand Mitigation Opportunities

- 5.2.14 Opportunities to use innovative technologies that can sustainably aid the charging process and protect the grid should be considered by EVCP suppliers. For example, integrating renewable energy generators such as solar photovoltaics (PVs) can reduce the power demand of a charging hub.
- 5.2.15 Battery energy storage systems (BESS) are another option that can be utilised at EVCPs to mitigate demand on the grid during peak hours when there is also a high demand for EV charging. These systems store power from onsite renewable sources (e.g., PV / wind) or the grid network itself during periods of low demand. Then, when demand on the grid is high, BESS can discharge the stored power to charge the EV. This offsets the total grid power consumption (the total power consumption remains the same) and alleviates pressure on the wider grid network.
- 5.2.16 Smart EV charging systems can dynamically control charger output to help maintaining power network stability whilst maximizing the number of EVs that can be charged simultaneously. This form of charging is referred to as dynamic load management in the power industry. Smart charging thereby optimizes EV charging patterns in line with grid network capacities. Although smart technologies come with higher capital costs, they can result in long-term operational savings and reduce the likelihood of needing to upgrade the power upgrade grid when expanding the EVCP network.

Vehicle to Everything (V2X)

- 5.2.17 An innovative and exciting prospect of EVs is their potential to aid grid load balancing. During periods of high demand on the power grid, when consumption is greater than generation, the energy stored within EV batteries can be discharged to the grid to balance the load and avoid a potential network blackout. Conversely, when generation exceeds consumption, excess power can be diverted to charge the batteries in EVs. As we continue to move towards Net Zero, the decentralization of power systems to solar and wind farms will continue to grow, thus making the issue of grid balancing vital to avoid intermittency and ensure that there is a continuous supply of power when needed. Since BESS technologies currently require a high capital investment for manufacturing and installation, EVs present a more affordable alternative for grid balancing.
- 5.2.18 Vehicle to Grid (V2G) capability also presents an opportunity for EV users and fleet operators to generate revenue from their fleet by taking advantage of varying energy prices across the day. This can be achieved by charging an EV fleet when power is cheaper (e.g., at night), and then discharging this cheaper power when energy is more expensive (e.g., during the day).
- 5.2.19 For operators of large EV fleets, using this cheap power stored within their EVs can be used to offset their existing energy demands and greatly reduce their energy bill. A prime example of this will be a local authority that charges their EV fleet overnight and during the day has offices to power. A trial of this has recently been conducted in the USA, where a public sector fleet of 21 EVs, through V2G, was able to reduce energy costs by over £2,300 per year¹¹⁵.
- 5.2.20 To make two-way charging simpler for domestic customers, a V2G demonstration programme led by Octopus Electric Vehicles called Powerloop¹¹⁶ was developed by Innovate UK. The Powerloop app helped users to charge and discharge intelligently and automatically. The optimisation technology behind the app tells a two-way charger when to charge and discharge to the grid after assessing when the grid needs energy from the vehicle and when it can use the battery to store energy.

¹¹⁵ Smart Cities Worlds, V2B grid pilot demonstrates how EV fleets can reduce municipalities' energy costs (2022).

<https://www.smartcitiesworld.net/news/v2b-grid-pilot-demonstrates-how-ev-fleets-can-reduce-municipalities-energy-costs-7551>

¹¹⁶ UK Research & Innovation, V2G charging can benefit EV Users. <https://www.ukri.org/about-us/how-we-are-doing/research-outcomes-and-impact/innovate-uk/bundled-vehicle-to-grid-v2g-charging-can-benefit-ev-users/>

- 5.2.21 Bidirectional charging allows the user to use the stored power in their EV for something other than driving such as powering their home / appliances, providing power back to the grid, powering other items when remote or charging another EV. Although some vehicles already offer bidirectional charging, they require additional hardware, specific charging stations and software and often come at a high price. For example, a limitation of the V2G enabled Nissan Leaf is that it still uses a CHAdeMO socket, which the industry across North America and Europe has moved away from. The Ford F150 Lightning, also comes with bidirectional charging capability however, requires the purchase of additional technology to convert the power from DC to AC to be able to supply power to a home.
- 5.2.22 Vehicles such as the Hyundai IONIQ, Kia EV6 and Rivian R1T use an integrated inverter to allow users to plug in any standard plug into the vehicle to power appliances (V2L) such as lights, computers, a fridge, etc. Many EV manufacturers such as Volkswagen, GM and Lucid among others are actively working to adopt vehicle-to-everything (V2X) capability to their vehicles, which integrates all of the bidirectional charging types outlined above.
- 5.2.23 The V2X Innovation Programme¹¹⁷ is being delivered by Innovate UK as part of UK Research and Innovation on behalf of the Department for Business, Energy and Industrial Strategy. The programme aims to address barriers to enabling energy flexibility from bi-directional electric vehicle charging. Phase 1 of the competition held between March and May 2022 supported the development of V2X bi-directional charging technologies and business models, aiming to overcome barriers to V2X deployment and accelerate commercialisation of V2X technologies and services. Phase 2 of the competition will support small scale V2X demonstrations in 2023.

5.3 Alternative Fuels – Hydrogen

- 5.3.1 Figure 28, below, shows a fuel hierarchy pyramid based on their carbon footprint, alongside the pros and cons of each. To quantify the equivalent carbon emission (CO_{2e}) values for each fuel source shown in Figure 28, data on direct (e.g., tail-pipe emissions) and indirect (e.g., production and transportation) data was obtained^{118 119 120}.
- 5.3.2 Transitioning up the pyramid, towards hydrogen, is critical to achieve net-zero ambitions. While progress has been made, specifically trials for buses and large vehicles¹²¹, there are several key challenges that must first be addressed to enable large-scale adoption.¹²²
- **Green Hydrogen** – Generated by splitting water molecules, through electrolysis, with electricity generated renewable sources. The technology is immature and currently cost prohibitive.
 - **Blue Hydrogen** – Created through Steam Methane Reforming (SMR) which converts natural gas into hydrogen. Although SMR has a carbon footprint, emissions can be captured, stored and reused, minimising impact. Although not a net-zero fuel source, blue hydrogen is considered a necessary stepping-stone for facilitating wider green hydrogen usage¹²³. In the UK, a blue-green hydrogen mix is being considered as a method of balancing sustainability with economic feasibility.

¹¹⁷ Department for Business, Energy & Industrial Strategy, V2X Innovation Programme (2022)

<https://www.gov.uk/government/publications/v2x-innovation-programme>

¹¹⁸ Howarth, R.W. and Jacobson, M.Z., How Green is Blue Hydrogen? (2021)

<https://onlinelibrary.wiley.com/doi/full/10.1002/ese3.956#:~:text=3.3%20Total%20carbon%20dioxide%20and%20methane%20emissions%20for%20blue%20hydrogen&text=To%20summarize%2C%20when%20only%20the,g%20CO2%20per%20MJ>

¹¹⁹ The International Council on Clean Transportation, Biodiesel Briefing (2012) https://theicct.org/wp-content/uploads/2021/06/ICCT_biodiesel-briefing_Jan12.pdf

¹²⁰ HM Government, Greenhouse Gas Reporting Conversion Factors (2021). <https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2021>

¹²¹ Element Energy, Hydrogen development in Wales (2020) <https://gov.wales/sites/default/files/consultations/2021-01/baselining-report-hydrogen-development-in-wales.pdf>

¹²² Arcadis Consulting (UK), Exploring our hydrogen future (2021) <https://www.arcadis.com/en-gb/knowledge-hub/blog/united-kingdom/agnieszka-krzyzaniak/2021/exploring-our-hydrogen-future>

¹²³ ATCO, Hydrogen (2022) <https://www.atco.com/content/dam/web/projects/projects-overview/hydrogen/hydrogen-types.pdf>
Conserve Energy Future, Advantages and Disadvantages of Hydrogen (2022) https://www.conserve-energy-future.com/advantages_disadvantages_hydrogenenergy.php

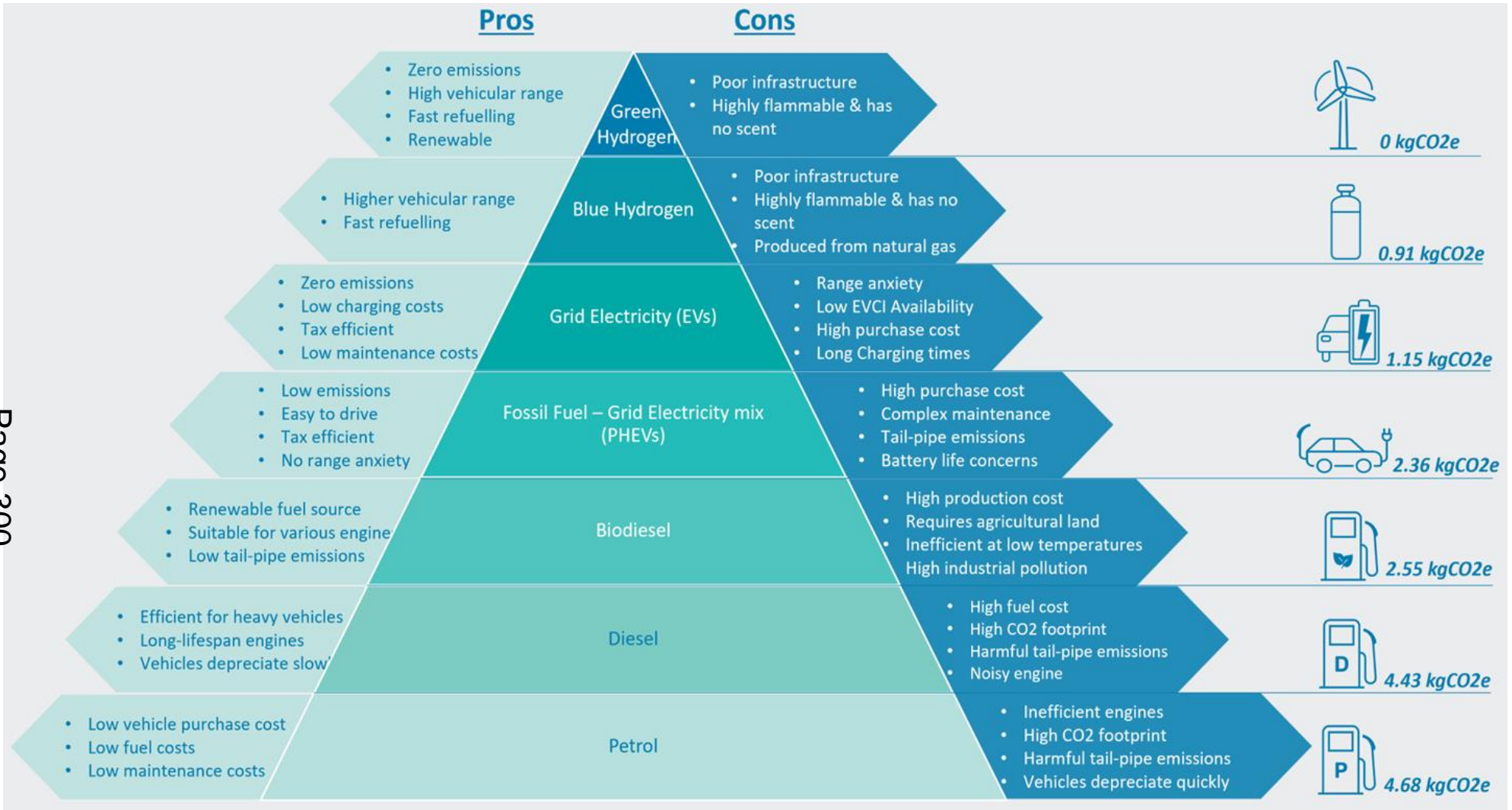


Figure 28: Fuel hierarchy pyramid and CO₂ emissions for an average trip in NPT (14.2 miles)

5.4 Future Technology

5.4.1 This section explores the rapidly evolving EV and EVCP market, covering innovations and technologies that are under development.

Smart Regenerative Braking

- 5.4.2 Regenerative Braking System (RBS) is an energy recovery mechanism that slows down a moving vehicle by converting its kinetic energy into a form that can either be used immediately or stored until needed. This kinetic energy while braking is otherwise lost to the environment due to friction. RBS retrieves some of this energy and drives it back to the battery, improving energy efficiency and increasing EV range by as much as 25%¹²⁴.
- 5.4.3 Nearly all EVs and PHEVs are fitted with RBS to recover energy otherwise lost when the vehicles brakes or decelerates and recharge the battery. The amount of restored energy that is achieved from regenerative braking depends on factors such as driving behaviour, conditions, and terrain.
- 5.4.4 As one of the major disadvantages of most EVs remains their low driving range, improved RBS offer an effective approach for extending EV range. In addition to boosting range and improving the overall efficiency of the vehicle, RBS also helps control braking operations and can significantly extend the life of the braking system.
- 5.4.5 EV efficiency and range can be further maximised through adjustable RBS, a recently introduced feature in Hyundai EVs. Adjustable RBS allows the driver to adjust the level of regenerative braking from different levels of deceleration and charging strength¹²⁵. With each higher level, the car decelerates more using the electric motor, increasing the recharging strength at the same time. The higher the level, the more the car slows and recharges the battery.
- 5.4.6 A leap in the automotive regenerative braking industry is being witnessed with the development of Smart RBS, an advanced driver-assistance system application that analyses driving and traffic conditions and autonomously adjusts the regenerative braking level for even more driving efficiency. Smart Regenerative Braking uses radar sensors to automatically control braking in traffic, slowing the car down as per surrounding conditions.
- 5.4.7 With advancements in RBS, OEMs have removed the need for heavy flywheels that add extra weight to the total weight of the vehicle. OEMs are further expected to invest in developing next-gen smart RBSs. Regenerative brake intensive vehicle applications are expected to develop further as the automotive industry prioritises EV development.

Solid State Batteries

- 5.4.8 Solid-state batteries, so called because they have solid components where lithium-ion batteries would have a fluid, offer improved battery performance in extreme temperatures and battery durability, they also avoid risk of fluid leaks and the need for bulky and expensive cooling mechanisms¹²⁶.

¹²⁴ Electronic Design: <https://www.electronicdesign.com/markets/automotive/article/21140424/global-marketing-insights-fast-and-agile-regenerative-braking-is-redefining-vehicle-dynamics>

¹²⁵ Hyundai, Ioniq Electric (2022). <https://www.hyundai.com/eu/models/ioniq-electric/Features.html>

¹²⁶ Rodrigo Elizalde-Segovia et al, Solid-State Lithium-Sulfur Batteries (2020). <https://iopscience.iop.org/article/10.1149/1945-7111/abc4c0#:~:text=Conclusions,85%25%20of%20the%20theoretical%20capacity>

- 5.4.9 Solid state EV batteries offer greater EV driving range, shorter recharging times, and lower risk of fires than current lithium-ion batteries. These are compelling benefits that have drawn big investments from automakers in recent years. Despite this, a commercial and affordable solid-state EV battery has not yet reached the market.
- 5.4.10 Solid Power, a Colorado-based battery start-up backed by BMW and Ford, has begun pilot production of an innovative solid-state EV battery cell. The company expects to begin shipping these batteries to its automotive partners, BMW, and Ford, for testing in prototype vehicles by the end of 2022 and mass production could begin as soon as 2024¹²⁷.

Graphene Batteries

- 5.4.11 One of the major issues to EV adoption is the slow charging rate compared to the time taken to refuel ICE vehicles. A variety of options have been explored for rapid charging EV batteries, including various inorganic nanomaterials, but the use of graphene is now being commercially realized. This is primarily because it has high electrical conductivity, high charge carrier mobility, and is highly stable.
- 5.4.12 Guangzhou Automobile New Energy (GAC) Group started researching graphene battery technology in 2014 and they have now unveiled a breakthrough graphene battery for EVs that can be charged with an ultra-rapid EVCP twice as fast as a traditional EV battery, in as little as 10 minutes¹²⁸. Furthermore, during a demonstration of this battery, it was able to extend the range of an EV by 207 km (129 miles) on a five-minute charge.
- 5.4.13 The newly developed battery units appear to have a high degree of quality and reliability and the ability to charge an EV battery in a very short time, giving EVs the capability to make regular long journeys. But whether we will see any other EVs being manufactured with graphene batteries depends on how it performs in real-world use on the road over time.
- 5.4.14 Skeleton Technologies, a firm that specializes in ultracapacitors, also announced that it is working together with the Karlsruhe Institute of Technology (KIT) in Germany, on a new graphene battery named SuperBattery. The SuperBattery will utilize a patented Curved Graphene carbon material to achieve a charging time of just 15 seconds¹²⁹.
- 5.4.15 Ultracapacitors are increasingly emerging as the ideal complementary technology to lithium-ion batteries which will not replace lithium-ion batteries but may supplement it for better performance. As such, the new SuperBattery might be a perfect fit for different types of hybrids and might also be a supplement for the main traction battery in BEVs to carry on the high power under acceleration or strong recharge. This could extend battery life and lower the cooling needs of EV battery packs.

Hyper Charging

- 5.4.16 A 1,000 kW EV charger with HyperCharging technology has been launched by EV Technology developer Voltempo which is designed to charge the next generation of EVs in as little as six minutes, delivering nearly three times the power of an ultra-rapid EVCP and can charge up to 24 vehicles at the same time^{130 131}.

¹²⁷ CNBC, Pilot Production of Solid State EV Battery (2022) <https://www.cnbc.com/2022/06/06/solid-power-begins-pilot-production-of-solid-state-ev-battery.html>

¹²⁸ Azonano, GAC Group's Breakthrough Fast-Charging Graphene Battery (2021): <https://www.azonano.com/article.aspx?ArticleID=5655>

¹²⁹ Inside EVs, Graphene Superbattery (2022). <https://insideevs.com/news/442980/new-graphene-superbattery-charge-15-seconds/>

¹³⁰ Fleet News, Voltempo launches 1,000kW electric vehicle HyperCharging technology (2022). <https://www.fleetnews.co.uk/news/latest-fleet-news/electric-fleet-news/2022/01/28/voltempo-launches-1000kw-electric-vehicle-hypercharging-technology>

¹³¹ Zap-Map, Worlds Fastest EV Charger (2022) <https://www.zap-map.com/voltempo-launches-world-fastest-electric-vehicle-charger/>

- 5.4.17 For the current generation of EVs, HyperCharging provides 30% faster charging through dynamic power management, and it has demonstrated that it will be able to charge the next generation of EVs in the time it takes to refuel a conventional, petrol-driven vehicle. This technology aims to enable petrol stations to transform into cost-effective charging hubs and is designed around the charging needs of fleets. Voltempo's HyperChargers can be particularly suitable for locations that need to charge a lot of vehicles at the same time, and the technology's modular system and patented centralised charging design enables it to be installed 70% faster than other charging systems with 30% lower installation costs.¹³²
- 5.4.18 The chargers are not solely reliant on energy from the grid, but can use multiple sources, including solar, biofuel power generation, waste-to-energy technology and battery stored energy.¹³³ So far, HyperCharging has caught the attention of the EV industry by being a future-ready, scalable charging technology that is significantly faster than any comparable EV charging solution available today.

Quantum Charging

- 5.4.19 The improvement in battery technology was one of the main technical bottlenecks which had to be solved to kick start the current EV revolution. A new technology pioneered by scientists at the Institute for Basic Science in South Korea, known as Quantum Charging, could rapidly reduce EV charging times by charging all cells in a battery simultaneously¹³⁴. This is not possible within typical EV batteries.
- 5.4.20 Studies show that quantum batteries can accelerate current EV charging speeds by a factor of 200¹³⁵. For a typical EV, this is equivalent to a standard 10-hour home charging session being complete in 3 minutes, and a 30-minute rapid-charging session being completed approximately 9 seconds¹³⁶. These reductions would make EV recharging comparable to the time spent at a fuel pump.
- 5.4.21 Quantum technologies are still in their infancy and there is a long way to go before these methods can be implemented in practice. Research findings such as these can help incentivize funding agencies and businesses to further invest in these technologies. If employed, it is believed that quantum batteries would completely revolutionize the way we use energy and take us a step closer to our sustainable future.

ZEV in Motorsport

- 5.4.22 Several motorsport events have been introduced that support decarbonization by using ZEV in their racing competitions, including Formula E¹³⁷, FIA eTouring¹³⁸, and the eSkootr Championship¹³⁹. These events promote ZEVs and advertise the improvement in ZEV technology to a wider audience, as well as enabling engineering innovations which will flow through into production vehicles.

¹³² Traffic Technology Today, EV Infrastructure (2022) <https://www.traffictechtoday.com/news/electric-vehicles-ev-infrastructure/worlds-fastest-ev-charging-technology-announced.html>

¹³³ Which EV, Worlds Fastest EV Charger (2022) <https://www.whichev.net/2022/01/24/voltempo-launches-worlds-fastest-charging-system-for-evs/>

¹³⁴ PV-Magazine, Quantum Physics EV Charging (2022) <https://www.pv-magazine.com/2022/03/25/the-mobility-revolution-quantum-physics-based-tech-to-cut-ev-charging-time-to-nine-seconds/>

¹³⁵ Institute for Basic Science, New technology to speed up charging electric cars (2022). <https://www.sciencedaily.com/releases/2022/03/220321091916.htm>

¹³⁶ Innovation News Network, Quantum EV Charging (2022) <https://www.innovationnewsnetwork.com/quantum-charging-technology-ev-charging/19608/>

¹³⁷ FIA Formula E World Championship. <https://www.fiaformulae.com/en>

¹³⁸ FIA eTouring Car World Cup. <https://www.fia-etcr.com/>

¹³⁹ eSkootr Championship. <https://official.esc.live/>

ZEV Innovations in Motorsport

- 5.4.23 Continuous efforts are being made to upgrade existing technologies and develop more efficient zero emission racing vehicles which have smaller sized batteries, higher top speeds, higher energy storage, and the ability to be charged rapidly.
- 5.4.24 The third generation (Gen3) car in Formula E is under the development stage which will be lighter and faster than the existing Gen2 vehicles and is expected to launch in 2024. The expected top speed of the Gen 3 car will be 320 kph compared to 284 kph in the current Gen 2 cars. Developers of Gen 3 cars are trying to reduce the size of the battery which can be recharged at a pit stop with a 600kW ultra-rapid charger within a very short duration¹⁴⁰.
- 5.4.25 MotoE world championship¹⁴¹ is an electric motorbike racing event that started in 2019. The motorbike can produce a maximum 120 kW of power and achieve a top speed of 270 kph. Within 20 minutes, 85% of the battery can be recharged via the integrated DC fast charging technology.
- 5.4.26 Extreme E¹⁴² is an international off-road, fully electric Sport Utility Vehicle racing event that started in 2018. The racing locations are chosen to raise awareness for some aspects of climate change and have included the Saudi Arabian desert, and the Arctic. Due to the challenging conditions of the track, the vehicle is manufactured in such a way that it can generate 400 kW of power which allows it to reach a speed of 62 mph in 4.5 seconds at a gradient of up to 130%.

ZEV Motorsport Events in the UK

- 5.4.27 Cambrian rally is a premier motorsport event held in Wales. A 'Green Cambrian Rally', is planned to be introduced by 2025¹⁴³ alongside the main rally as a zero-emission event. This will become one of the first rally events in the UK to demonstrate electric race vehicles. The organizers have set the following objectives for the rally to achieve net zero carbon emissions by 2025:
- planting more trees which will offset the carbon footprint produced by vehicles,
 - ensure all non-competitive vehicles are electric or hybrid,
 - meet the standards of a 1 Star FIA Institute Environmental Accreditation,
 - set annual environment targets for the Conwy Cambrian Rally.
- 5.4.28 London will host round 15 and 16 of Season 9 of the Formula E¹⁴⁴ world championship in July 2023. These two rounds are scheduled to be held at the ExCel Circuit around the Royal Victoria Dock.
- 5.4.29 Extreme E had its first season in 2021 with the final round organized in Bovington Training Area (BTA) on the Jurassic Coast of Dorset¹⁴⁵. The second round of the 2023 season is scheduled to be held in Scotland.

EV Conversion Market

- 5.4.30 The demand for EVs has gained substantial momentum over the last few years supported by a growing network of charging infrastructure. While there are a growing number of EV makes and models becoming available on the market, some ICE owners prefer to retrofit their existing vehicle to convert it to an EV, this is becoming especially collector/classic cars owners.

¹⁴⁰ The National News, Formula E is electrifying automotive industry's 'biggest revolution' in decades (2022).

<https://www.thenationalnews.com/weekend/2022/07/29/formula-e-is-electrifying-automotive-industrys-biggest-revolution-in-decades/>

¹⁴¹ Moto GP, MotoE. <https://www.motogp.com/en/FIM+Enel+MotoE+World+Cup>

¹⁴² Extreme E. <https://www.extreme-e.com/en/the-car>

¹⁴³ Cambrian Rally, Cambrian Rally Goes Green (2021). <https://cambrianrally.co.uk/news/2021/cambrian-rally-goes-green>

¹⁴⁴ FIA Formula E, 2023 Hankook London e-prix. <https://www.fiaformulae.com/en/races/2022-23/r15-london>

¹⁴⁵ Inside DIO, Extreme E: An electrifying race weekend at Bovington Training Area (2022).

<https://insidedio.blog.gov.uk/2022/01/04/extreme-e-an-electrifying-race-weekend-at-bovington-training-area/>

- 5.4.31 Conventional cars can be retrofitted and converted to EVs by replacing the engine with an electric motor and then adding batteries to power the electric motor. Retrofitting of vehicles can either be done by a suitably trained professional or by one-self, with sufficient knowledge and expertise in electrical engineering.
- 5.4.32 Before converting any vehicle into an EV, the owner must first register for EV conversion along with submitting documents such as the vehicle's tax payment receipt, original vehicle registration certificate, and current MOT certificate if the vehicle is more than three years old¹⁴⁶.
- 5.4.33 In the UK, retrofitting of a conventional vehicle into an EV is legal but the retrofitted vehicle has to be re-registered with the government as the newly converted EV will fall under either rebuilt vehicles or radically altered vehicle categories. The new vehicle will also have to pass the MOT test every year except if it is a classic car over 40 years old.

EV Conversion costs

- 5.4.34 Self-retrofitting¹⁴⁷ of a vehicle is the cheapest way to convert an existing vehicle into an EV but it requires a high level of electrical and mechanical knowledge and one has to be very cautious while handling the equipment. Everything EV is a company that offers complete DIY kits¹⁴⁸ which start from £5,000 but does not include any tools needed to install the kit. The conversion kits need to be registered with gov.uk if it is going to be used on UK roads.¹⁴⁹
- 5.4.35 A registered electric car conversion company can also undertake the conversation. Electric Car Converts¹⁵⁰ is an example of a company that converts classic cars into electric cars based on customer requirements. The cost of vehicle conversion depends on the client's requirement and model which can range from £10,000 to £50,000+.
- 5.4.36 Initially, retrofitting a conventional vehicle may seem like a cost-intensive process but in the long run, users can save on maintenance and fuel costs, reduce their personal carbon footprint, avoid penalties in AQMAs and clean air zones, and enjoy other regulatory benefits such as in the case of on-street parking.

¹⁴⁶ RAC, Electric car conversion: how to convert a car to electric (2022). <https://www.rac.co.uk/drive/electric-cars/choosing/electric-car-conversion-how-to-convert-a-car-to-electric/>

¹⁴⁷ YourCar, Electric Car Conversion Guide (2021). <https://yourcar.co.uk/electric-car-conversion/>

¹⁴⁸ Everything-EV, Basic EV conversion kits to suit many vehicles. https://www.everything-ev.com/index.php?route=product/category&path=62_97

¹⁴⁹ Bonnet, Electric Car Conversion Law in the UK: Things You Need to Know (2022). <https://www.joinbonnet.com/post/ev-conversion-law-uk>

¹⁵⁰ Electric Car Converts. <https://www.electriccarconverts.com/>

Informing the NPT ZEV Strategy

As the market continues to mature, ZEV uptake is expected to continue increasing as performance and cost reach parity with ICE vehicles. A diverse charging / refuelling network in NPT will be required to ensure ZEV users have the ability and confidence to charge their vehicles. On-street residential EVCPs will be vital do this however, they present particular challenges which must be addressed. To overcome these, NPTC will explore a variety of different EVCP types that best meet the constraints and opportunities of different location.

The ZEV market is undergoing rapid innovation. As this occurs the performance and affordability of ZEV technology will improve. NPTC will continue to pursue opportunities to build on cutting-edge research and ongoing projects to monitor technological development, pursue partnerships with private organisation, and ensure that it can be effectively adopted in NPT.

Pursue alignment with ongoing projects in and around NPT



Promote Inclusive ZEV uptake across Neath Port Talbot



Promote Private Sector investment in ZEV technologies



6 Priority Focus Areas





6.1 Overview

- 6.1.1 The following section outlines a series of Priority Focus Areas (PFAs) that have been developed for this Strategy. It is recommended that the PFAs are delivered through a phased approach starting with small work packages that lay foundations for larger, more ambitious schemes.
- 6.1.2 PFAs have been developed in collaboration with NPTC to ensure that the main concerns and ambitions of the council have been addressed. PFAs were then further developed using Arcadis' experience delivering ZEV strategies across the UK and understanding of the current 'state' of ZEVs on a local, regional and national scale.

6.2 Strategic Objectives

- 6.2.1 A series of objectives were developed to ensure that the PFAs were aligned with the commitments of NPTC and designed to create long-term social, environmental and economic benefits for NPT. These objectives are presented in Table 22, below.

Table 22: Strategic Objectives of the NPT ZEV Strategy

Symbol	Objective
	Promote Inclusive ZEV uptake across Neath Port Talbot
	Promote Private Sector investment in ZEV technologies
	Continue to deliver NPTC's net-zero transport emissions agenda
	Pursue alignment with ongoing innovation projects in and around Neath Port Talbot

Promote Inclusive ZEV uptake across Neath Port Talbot



- 6.2.2 There are 2 major barriers to ZEV adoption¹⁵¹, which NPTC can help address. These are:
- Provision of charging/refuelling infrastructure
 - Affordability of ZEVs
- 6.2.3 Given the current market, EVs provide immediate opportunities for the adoption of ZEVs and therefore they are the current focus of this objective. As other alternative fuel cell-powered vehicles (e.g. hydrogen) become more commercially viable and available on the market, inclusive uptake of these vehicles will also be promoted.

¹⁵¹ EXRO, Barriers to EV Adoption (2022). <https://www.exro.com/industry-insights/barriers-to-electric-vehicle-adoption-in-2022>

6.2.4 Analysis of the existing NPT EVCP network, covered in Section 3.2, revealed that there are currently only 8 publicly available EVCPs, concentrated within the urban centres and along the strategic road network. These 8 EVCPs are all high-speed (either fast or rapid) and located in retail car parks or attractions (e.g. restaurants). This is significant for 3 reasons:

1. There are no public on-street residential EVCPs to cater for people without driveways or off-street parking. Research has shown that 75% of all EV charging events occur at home¹⁵², therefore provision of convenient residential EVCI is significant to promoting EV uptake.
2. Given the lack of competition, EVCP operators can impose higher tariffs on the price of electricity. According to ZapMap data on NPT EVCPs, current public charging costs are between 70p and 78p per kWh, approximately 180% greater than the cost of using residential EVCP¹⁵³.
3. There is currently no public EVCP provision in rural areas. Of the 42 wards in NPT, 24 are classed as rural accounting for approximately 50% of regions population¹⁵⁴.

6.2.5 To achieve inclusive ZEV uptake NPTC must also consider those without access to their own vehicles. The average proportion of residents without access to their own car is over 25% across NPT and reaches as high as 34% in the Afan Valley¹⁵⁵. This can significantly impact people's choices and their ability to access key services and employment opportunities. It is important to note that options should try to avoid private ZEV ownership and promote public/shared ZEV options.

Promote Private Sector investment in ZEV technologies



6.2.6 Utilising private sector investment is essential to support NPTC in delivering and maintaining ZEV schemes. By maximising funding from external sources, schemes capture efficiencies through increased purchasing power and economies of scale. Furthermore, through shared business models, NPTC can reduce their capital and operational expenditure.

6.2.7 Private sector investment can also come in the form of installation of workplace EVCPs, available to staff. Currently there is no evidence that any workplace EVCPs have been installed in NPT. This can help increase provision of EVCI, without public funding. The forecasts outlined in Section 4 of this Strategy will provide confidence to private sector investors and CPOs that there is and will be demand for EV charging within NPT and so installing EVCI will be commercially viable.

6.2.8 Encouraging investment can also take the form of subsidies towards incentives or training courses aimed at promoting ZEV technologies or upskilling workforces in the automotive industries. This also supports the creation of high-skilled private sector jobs within NPT surrounding EVs and EVCPs.

Continue to deliver NPTC's net-zero transport emissions agenda



6.2.9 To meet NPTC's 2030 net-zero commitments, the council must replace an average of 58 public sector vehicles with ZEVs each year, not accounting for the councils' grey fleet of nearly 1,800 vehicles. This will require an estimated 200 fast/rapid EVCPs at depots and other council owned sites. There are currently 12 EVCPs installed at NPTC depots with a further 22 planned for installation next year.

¹⁵² Element Energy, EV Charging Behaviour Study (2019). <http://www.element-energy.co.uk/wordpress/wp-content/uploads/2019/04/20190329-NG-EV-CHARGING-BEHAVIOUR-STUDY-FINAL-REPORT-V1-EXTERNAL.pdf>

¹⁵³ <https://pod-point.com/guides/driver/cost-of-charging-electric-car#:~:text=Most%20network%20rapid%20chargers%20cost,owners%20of%20Tesla%20electric%20vehicles.>

¹⁵⁴ NPTC, Rural Neath Port Talbot (2007) <https://regenerate.npt.gov.uk/media/6908/rdpbro-eng-finallowres.pdf?v=20190807091543>

¹⁵⁵ NPTC, Local Development Plan 2011 – 2026: Transport (2013).

https://www.npt.gov.uk/PDF/ldp_deposit_transport_topic_paper_august_2013.pdf

6.2.10 To facilitate this network, NPTC will need to work with National Grid to assess suitability of each depot, incorporate innovative demand mitigation technologies (e.g. on-site renewable energy generation) and plan future reinforcements to the power grid.

Pursue alignment with ongoing innovation projects in and around Neath Port Talbot



6.2.11 Section 3.4 provides an overview of recent and ongoing ZEV schemes in the areas surrounding NPT. By aligning closely with these schemes, there is an opportunity for NPTC to:

- Gain access to additional pots of public and private funding.
- Explore new and emerging ZEV technologies.
- Utilise findings and lessons learned from other local authorities.

6.2.12 Where possible, NPTC should pursue schemes as part of a joint approach with other public and private organisations. Joint ventures have the benefit of:

- **Increased Purchasing Power** – to facilitate larger investments towards selected options.
- **Economies of Scale** – A joint procurement strategy could capture cost savings through bulk orders (e.g., EVCPs) or larger contracts (e.g., private Charge Point Operators).
- **Spreading Resources & Risk** – Sharing resource requirements and risk allocation across multiple parties to mitigate issues associated with manpower and low risk-appetite.
- **Sharing Knowledge** – A collaborative approach can ensure best practice and lessons learned are shared across all LAs.
- **Cohesive solutions** – Avoiding fragmented solutions that differ across LA boundaries which confuse and frustrate potential users (e.g., LA-specific EVCP payment apps).

6.3 A Phased Approach

6.3.1 Figure 29 below illustrates how the PFAs are interconnected and how they can be progressed to further NPTC's ambitions.

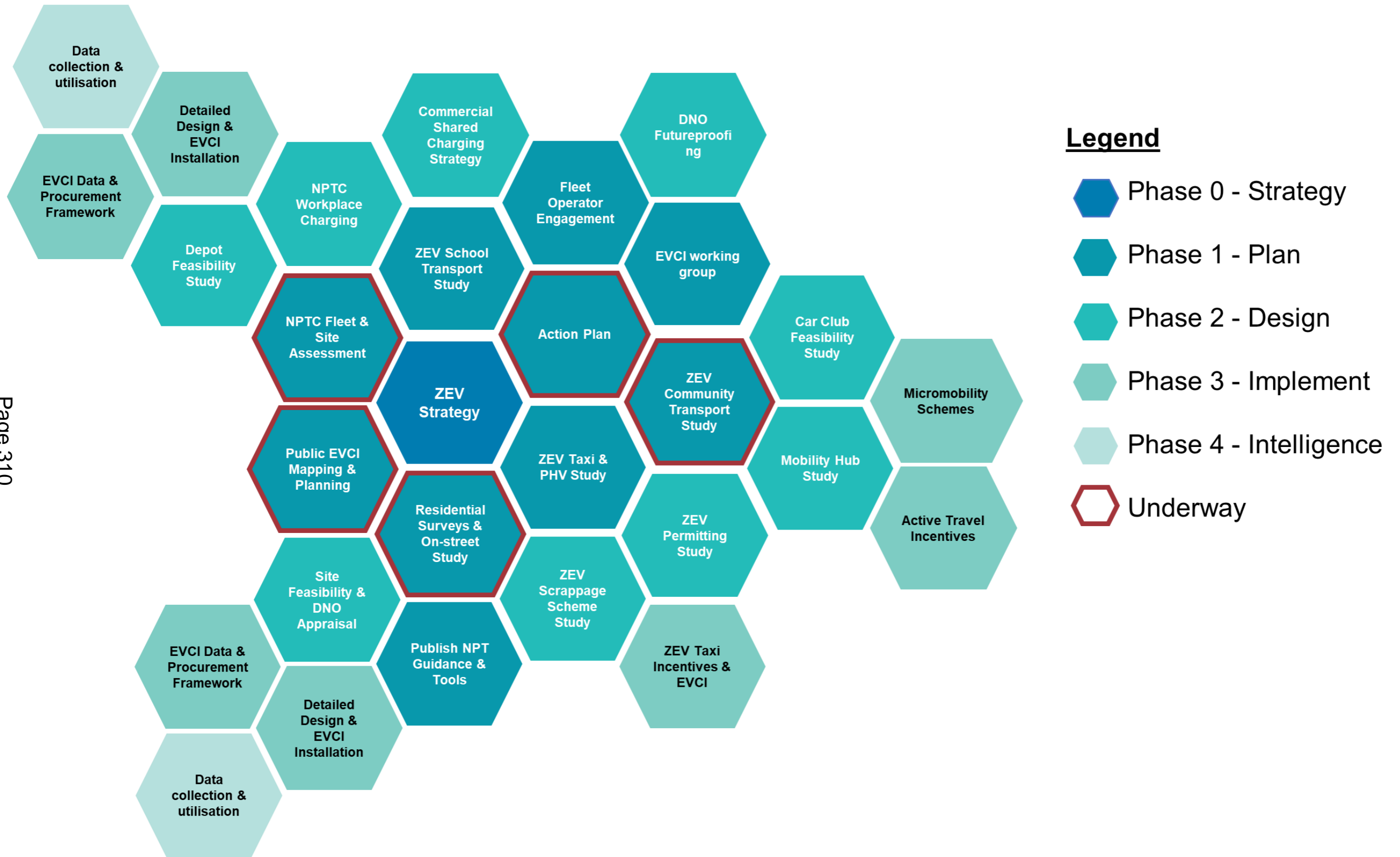


Figure 29: Phased Delivery of Priority Focus Areas

- 6.3.2 The following sections of the report cover the proposed PFAs that NPTC will explore to further the ZEV Strategy objectives, outlined in Section 6.2, which have been symbolised in each PFA heading. PFAs are likely to change and adapt following discussions within NPTC, involvement from key stakeholders and likely funding available.

6.4 Public Charging/Refuelling Infrastructure

Public EVCI Mapping & Site Selection



- 6.4.1 NPTC will continue to explore how geospatial data can be utilised to assess potential sites for EVCI based on a series of parameters, including:
- Flood zones.
 - Protected sites and ecological areas.
 - Air Quality Management Zones.
 - Proximity to housing without off-street charging availability (e.g. apartments or terraced houses).
 - Accessibility and distance to surrounding road network.
 - Power Availability.
- 6.4.2 NPTC is committed to creating a fair and equal provision across the region. To achieve this will require identification of specific communities and areas that are without access to private EVCI and therefore reliant on public provision. Areas of current focus include public car parks, public highway network and residential neighbourhoods.
- 6.4.3 With a portfolio of potential sites, NPTC will then be in a position to develop a spatial plan and roadmap for the rollout of EVCPs across the region. Sites identified may also be selected to be progressed into the feasibility study stages.

Residential Surveys & On-Street Mapping



- 6.4.4 This PFA is closely aligned with *Public EVCI Mapping & Site Selection*, however with a specific focus on On-street Residential EVCPs, covered in detail in Section 5.2. Across the UK it is estimated that 40% of all homes do not have private driveways and therefore rely on on-street parking for 75% of their charging events. Provision of adequate on-street EVCPs is therefore essential in enabling inclusive adopting of EVs across NPT.
- 6.4.5 Through public consultations and surveys NPTC can identify what barriers exist for residents wanting to switch to EVs and what opportunities exist to generate additional demand. Analysis of these findings could then reveal:
- Locations where demand for on-street EVCPs already exists.
 - Locations where provision of on-street EVCPs will encourage EV uptake.
 - Number/location/speed of EVCPs required.
 - Sites where power assessments and feasibility studies could be initiated.

Public Site Feasibility Studies & Power Assessments



- 6.4.6 Formal DNO applications for installing EVCPs include a detailed power and costs assessment and will reveal the alternative substations / connection methods to access additional power sources as required. This will also be the first step of assessing the suitability of on-site renewable energy generation (e.g. solar panels) to provide a source of power to reduce the demand on the power grid

6.4.7 Studies can also focus on exploring BESS technology. BESS act similarly to onsite renewable generation, and can supplement power in a site constrained by the grid network¹⁵⁶. However, rather than producing additional power BESS are charged when power demand is low (i.e. in the middle of the day when the depot is empty), and discharged when demand is high

EVCI Data & Procurement Framework



6.4.8 NPTC will develop a robust and comprehensive framework surrounding the procurement of EVCI-related goods and services, to ensure that any installed public EVCPs are:

- Built to last without requiring constant maintenance.
- Safe and easy-to-use.
- Managed and operated to a high standard.
- Able to collect and share usage data.

6.4.9 NPTC will also look into the value of collecting EVCP usage data to observe user behaviour and inform future decision making. For this to be possible NPTC will work with EVCP operators to ensure data is regularly collected and shared in consistent format with NPTC.

EVCI Detailed Design & Installation



6.4.10 According to the required standards outlined in EVCI Data & Procurement Framework, NPTC should select appropriate contractors to undertake:

- detailed site design, utility surveys, power connections, cost estimation and work planning.
- civils work to install physical infrastructure at the site.
- Completing electrical connections with the mains grid to ensure adequate and safe supply.
- Commissioning EVCPs, including setting up back-office systems as required.

6.4.11 NPTC will continue to explore opportunities to utilise existing Welsh Government funding to support installation costs. NPTC will also look into innovative business models to enable investment from private EVCP installation companies to cover a proportion of the costs, as part of a revenue share model. This is advantageous as it minimises the financial investment for capital required by NPTC.

EVCP Usage Data Collection and Analytics



6.4.12 EVCP utilisation is a useful indicator to assess:

- User charging behaviour.
- Trends in frequency and number of EV users.
- Whether EVCPs are well placed.
- Whether more EVCPs are required at certain locations.

6.4.13 Having visibility of this data can be leveraged to inform decision making. To this end, NPTC will draft suitable agreements with CPOs to include provision of collected data in a timely and presentable manner.

6.4.14 NPTC will also study how best to ensure a consistent approach to the collection and visualisation of usage data through an automated process to minimise the labour required by the council.

¹⁵⁶ Zenobe, Stagecoach Park and Ride Guildford (2019). <https://www.zenobe.com/case-studies/stagecoach-park-and-ride/>

6.5 NPTC Staff / Fleet ZEVs

NPTC Fleet & Site Assessment



- 6.5.1 To accurately quantify the exact requirement for the number and location of EVCPs across NPTC sites, the council will continue to study the behaviour of public sector fleets, including:
- Fleet usage data analysis (telematics), with an option to include the NPTC Grey fleet¹⁵⁷.
 - Identification of suitable ZEV replacement vehicles.
 - Cost benefit analysis of transitioning to ZEVs.
 - Studies into alternative ZEV technologies.
- 6.5.2 NPTC will also explore how these studies can be translated into identifying the optimal extent and placement of EVCP at depots to meet the need of the public section fleet.

ZEV School Transport Study



- 6.5.3 NPTC will explore the benefits of commissioning a study to assess feasibility of current and emerging ZEV technologies in the context of decarbonising school transportation across NPT, including high-level indicative costs that would be associated with their uptake and implementation.
- 6.5.4 Such a study would analyse the current school transportation fleet, and facilities where charging/refuelling would take place to reveal operational requirements of a ZEV fleet and power availability at school sites.
- 6.5.5 The findings of a feasibility study would then be intended for use when applying for government grants, attract private investments, and justify the spending of NPTC funds based on the environmental, economic and social benefits that could be created.

NPTC Depot Feasibility Studies and Site Survey



- 6.5.6 According to WGES¹⁵⁸ reports, local grid capacity constraints were identified at several NPTC depots. NPTC will look into conducting, more in-depth studies, in collaboration with National Grid, to investigate options for alleviating these constraints and increasing the number of EVCPs that can be installed at NPTC sites.
- 6.5.7 The process will follow that of the Public Site Feasibility Studies & Power Assessments PFA outlined in Section 6.3.2, however may also include monitoring the site to obtain high-quality power consumption and supply data that will inform EVCP decision making.
- 6.5.8 Sites with ample power capacity to supply EVCPs may then be progressed to the detailed design phase which will include:
- Design of EVCP layout, including electrical infrastructure and bay markings.
 - Estimations of initial costs.
 - Identifying opportunities to future proof sites (e.g. installation of 'skeleton EVCPs).
 - Align with ongoing maintenance / civils projects planned for the site.

¹⁵⁷ Leased personal vehicles operated by NPTC employees and paid for by NPTC

¹⁵⁸ Welsh Government Energy Service, Neath Port Talbot Council Electric Vehicles Charging Infrastructure Report (2021)

6.6 Commercial Charging

Fleet Operator Engagement



- 6.6.1 Fleet operators can benefit significantly from ZEV adoption through reduced fuel costs, lower maintenance requirements and improved working conditions for employees. However, many are currently either unable or unwilling to adopt ZEVs within their fleet due to:
- High initial capital costs of vehicles and infrastructure.
 - Lack of publicly available infrastructure.
 - Concerns and doubt over the commercial viability of ZEV technology.
- 6.6.2 NPTC will explore opportunities to engage directly with private fleet operators across to understand key barriers to adopting ZEVs and identify considerations to inform ZEV promotions and incentive schemes. Schemes planned in collaboration with these parties have a higher chance of being successful and encouraging private investment into these technologies. Examples of engagement methods possible, include:
- Online consultations and surveys to capture fleet owners and operators' input.
 - Public workshops and presentations covering ambitions of NPTC, knowledge shares, panel discussions and Q&As.
- 6.6.3 Possible fleets to engage with could include delivery services (food, groceries, postal services), public service fleets (ambulances, police force), commercial freight, taxi operators, public transportation, and private fleets (contractors, estate agents).

Shared Commercial Charging Study



- 6.6.4 Shared commercial charging is an agreement between multiple parties to share use of the same charging/refuelling infrastructure. To facilitate this, it is essential that both fleets have similar charging requirements and compatible operational cycles. There are many benefits to this, including:
- Organisations can share the costs of installing and maintaining EVCPs.
 - Maximum utilisation of charging infrastructure.
 - High returns on investment for charging infrastructure.
 - Increased resilience by sharing charging networks in the event of malfunctions or supply issues.
- 6.6.5 NPTC should explore the possible benefits of a specific shared charging study covering:
- Identifying suitable partnerships involving private and public sector organisations based on operational requirements and locations.
 - Explore suitable business models.
 - Engage with stakeholders to discuss pain points and develop collaborative solutions.
 - Identify best practice and lessons learned from similar projects across the UK and internationally.

NPTC Workplace Charging Scheme



- 6.6.6 To reduce the demand on public charging infrastructure, NPT will continue to promote workplace charging schemes, whereby business owners install private charging/refuelling infrastructure for use by employees, visitors, or fleet vehicles on a regular basis.

6.6.7 This scheme is closely aligned with the findings of the Shared Commercial Charging Study, as there may be scope for NPTC sites to facilitate charging and refuelling of private fleet vehicles. However, to achieve this, a study will be required to take into consideration:

- Commercial viability.
- Impacts on NPTC fleet operations.
- Risks to NPTC.

6.7 Taxi and Private Hire Vehicle Charging

ZEV Taxi & PHV Study



6.7.1 Taxis and other Private Hire Vehicles (PHVs), although part of a wider fleet, are formed typically by self-employed drivers. They are therefore unique and unsuited for the fleet operator engagement and workplace charging schemes.

6.7.2 NPTC will engage with local Taxi and PHV drivers to understand the demands and barriers associated with ZEV taxi fleets and begin to explore the role of NPTC in incentivising and promoting ZEVs for these drivers, including:

- Provision of designated refuelling/recharging infrastructure in town centres and destinations.
- Funding scrappage schemes to replace older more polluting vehicles with ZEVs.
- Permit schemes to enable free parking / charging for ZEV taxis and PHVs.
- The role of the private sector, taking inspiration from national and international examples.

6.8 ZEV Alternative Transport

Zero-emission Community Transport Study



6.8.1 Community transport is an essential service for rural or isolated communities within NPT, providing much needed access to employment opportunities and social services. Community transport vehicles have unique and varied operational patterns and are often available to be used by any registered member of a community. These vehicles do not fit into the typical ZEV fleet studies and require a specific study.

6.8.2 To this end, NPT will assess the benefits of a specific study looking into ongoing community services in NPT and what the impact would be of incorporating ZEVs into these fleets. Such a study may include engaging directly with community transport organisations as a key stakeholder and using best practice examples from similar ongoing and completed projects across the UK and internationally to identify key challenges and lessons learned.

ZEV Car Club Study



6.8.3 Car clubs allow users to access a vehicle when they need without owning one and thereby offer a flexible and convenient alternative to private car ownership or leasing. Car clubs are a socially inclusive and sustainable alternative transport, especially if ZEVs are incorporated into the club.

6.8.4 NPT will look to assess the feasibility of an NPT car club taking and:

- Identify communities and regions that would benefit from car clubs.
- Identify locations charging/refuelling infrastructure that would support ZEVs being incorporated into the car club.
- Review requirements for the number and type of ZEVs that would form part of the car club.

- Explore different operating models and indicative costs to implement and manage.
- Create outline business cases to support obtaining public funding and private investment.
- Create a road map for potential expansion plans.
- Observe similar schemes to identify best practice and lessons learned.

Mobility Hubs Study



6.8.5 Mobility hubs are accessible spaces where public, shared, and active travel modes are co-located. They are designed around the principle of reallocating space within the public realm away from private cars, enhancing the area for pedestrians, and making travelling with alternative mobility services efficient and convenient. The concept has been widely applied across Northern European and American cities and is starting to be replicated in the UK.

6.8.6 Figure 30 and Table 23 below display the pilot mobility hubs across the UK which are at various stages of development, according to CoMoUK¹⁵⁹.

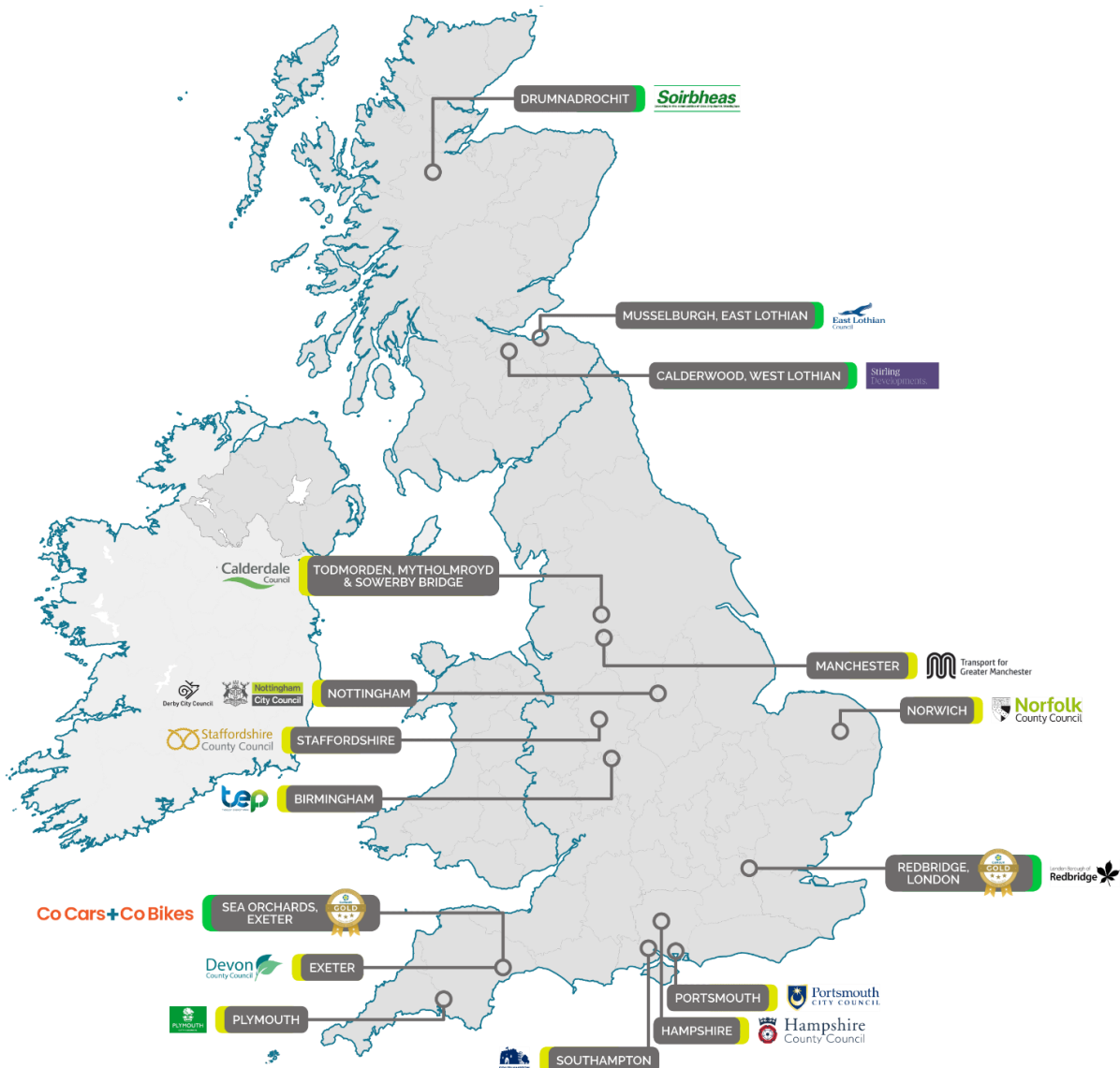


Figure 30: UK Mobility Hub Trials

¹⁵⁹ CoMoUK, Mobility Hubs: Built and planned hubs. <https://www.como.org.uk/mobility-hubs/built-and-planned-hubs>

Table 23: UK Mobility Hub Schemes

Location	Progress	Description
Exeter	Open	An all-electric mobility hub at the Bloor Homes development, near Exeter. Featuring a fleet of Co Bikes e-bikes and two Co Cars EVs, with a one-minute walk to a bus stop.
London Borough of Redbridge	Open	Suburban mini hub including a community café, planting, car club, EV charging and space to include micro-mobility
Calderwood, West Lothian	Open	Calderwood mobility hub serves the new housing development of Calderwood in West Lothian; providing car club and bike share at a transport interchange for express bus services to Edinburgh.
Loch Ness Community Hub	Open	Situated in the village of Drumnadrochit on the banks of the famous loch, Loch Ness Hub is a community mobility hub promoting sustainable modes of transport including e-bike share, with additional modes planned in the future.
Musselburgh	Open	Developed in conjunction with SEStran, this hub includes car club bays, bike sharing facilities, public transport, wayfinding, and streetscape elements all under the new brand of Journey Hub.
Calderdale Council	In development	Mobility hubs are being developed at the rail stations in Todmoden, Mytholmroyd and Sowerby Bridge to link to the local car club and provide enhanced cycle storage and landscaping
Devon County Council	In development	The council are working with South Western Railway and Co-cars / Co-bikes to gradually upgrade new sites to integrated mobility hubs.
Hampshire County Council	In development	There are 4 mobility hubs in development in the area. A town centre hub funded by DfT Transforming Cities Fund and three hubs at railway stations (one funded by DfT Transforming Cities Fund and the other two by National Highways Travel Demand Management).
Norfolk County Council	In development	30 hubs planned over the Greater Norfolk area with shared bikes, cars and e-scooters alongside street redesign.
Nottingham and Derby City Councils	In development	Future Transport Zone funding is supporting three types of mobility hub– neighbourhoods, campuses, and depots with electric car club hire, electric bike sharing, vehicle charging points, digital, real-time information
Plymouth City Council	In development	Up to 50 mobility hubs being planned for the city including e-bikes, electric car club, EV charging and an associate app.
Portsmouth City Council	In development	The council are planning 5 mobility hubs across the area including one on the Isle of Wight.
Southampton City Council	In development	2 transport interchange/corridor hubs are being created and funded through DfT Transforming Cities Fund.
Staffordshire County Council	In development	Several mobility hubs are being developed including a range of shared modes, as part of the ADEPT Live Labs initiative.
Greater Manchester	In development	Car clubs and e cargo bikes are being developed in new mobility hubs in Chorlton and Bury.

<i>Location</i>	<i>Progress</i>	<i>Description</i>
<i>Tyseley Energy Park</i>	<i>In development</i>	<i>Hub development in Birmingham including: electrical Vehicle Charging, along with an innovation hub and a café area</i>
<i>Yorkshire</i>	<i>Proposed</i>	<i>West Yorkshire Combined Authority have plans a network of inclusive mobility hubs for Leeds & Wakefield including a range of shared modes</i>

- 6.8.7 There is no set model for mobility hubs, and they can be designed to fit the constraints of an area and the needs of the surrounding population. However, they all share three main characteristics:
- co-location of public transportation and shared mobility modes (e.g., car clubs, micro-mobility).
 - public realm improvements (e.g., pavement widening, converting parking into cycle infrastructure)
 - a branded pillar identifying the space as a mobility hub within a wider network of hubs and providing travel information.
- 6.8.8 NPTC will explore mobility hubs within the context of NPT, where they may be located, and what considerations must be taken to deploy them would be the first step in their adoption.

Micro-mobility Study



- 6.8.1 Micro-mobility modes, including e-bikes and e-scooters, have already been deployed across much of Europe, Asia, and Northern America. However, they are only slowly being adopted in towns and cities within the UK. In the UK, shared eScooter pilots, funded by DfT¹⁶⁰ are operating in England only, to inform future potential regulatory changes.
- 6.8.2 In London, the UK's first accredited mobility hub was introduced in South Woodford, Redbridge. Reclaiming on street car parking spaces, the Redbridge mini hub was the first to meet the standards set by national shared transport charity, Collaborative Mobility UK (CoMoUK). The hub consists of bike share schemes, car clubs, walking and cycling provision, alongside community facilities, such as cafes, fitness areas, and green space^{161 162}.
- 6.8.3 NPTC will explore how and where these technologies could be implemented in NPT, with an aim to help support future government funding applications.



Active Travel Incentives



- 6.8.4 Promoting active travel (e.g., walking and cycling) modes to replace private car trips creates equivalent benefits to that of many ZEVs schemes and is closely aligned with the objectives outlined in Section 6.2. By incentivising Active Travel, NPTC hopes to:
- Reduce NPT's Transport Sector GHG emissions.
 - Improve air quality within NPT's urban areas.
 - Create an inclusive transport network, benefitting all who live and work in NPT.

¹⁶⁰ DfT, E-scooter Trial Guidance (2022). <https://www.gov.uk/government/publications/e-scooter-trials-guidance-for-local-areas-and-rental-operators/e-scooter-trials-guidance-for-local-areas-and-rental-operators>

¹⁶¹ Intelligent Transport, 'UK's first "accredited mobility hub" unveiled in London' (2021). <https://www.intelligenttransport.com/transport-news/126087/mobility-hub-london/>

¹⁶² Meristem Design, Meristem's Parklets awarded UK's 1st Accredited Mobility Hub, (2021).

<https://www.meristemdesign.co.uk/news/2021/7/5/meristems-parklets-awarded-uks-1st-accredited-mobility-hub>

6.8.5 Examples of incentives for Active Travel include:

- Improvements to the public realm to make streets safer for cyclists and residents.
- Expanding the existing cycle network and incorporate infrastructure, including Bike lockers and repair stations.

6.9 Community Engagements & ZEV Promotions

Develop EV Library & Guidance on NPTC Website



6.9.1 NPTC will explore the benefits of publishing a single source of truth on the councils existing platforms to show useful information surrounding ZEVs, debunk myths and offer guidance for residents/businesses wishing to transition to ZEVs. This could be expanded into the future to include cost-calculator tools and maps of EVCPs.

Subsidised Training Courses



6.9.2 NPTC will consider subsidising accredited training courses to improve understanding of ZEV technologies, support upskilling through improved access to higher qualifications, and ensure a highly skilled workforce in preparation for widespread uptake of these technologies. Possible target beneficiaries of this scheme include: Fleet operators, mechanics, civils / electricians installing EVCPs, and drivers.

6.9.3 To achieve this, NPTC will investigate the availability of public funds to either part-subsidise existing courses or explore the development of a ZEV Centre of Excellence in NPT, in close collaboration with surrounding engineering schools and colleges including Neath College, Pontardawe College, Brecon Beacons College, and Newtown College.

ZEV Scrappage Schemes Study



6.9.4 Scrappage schemes have been shown to incentivise businesses and residents to trade in their old fossil-fuelled powered vehicle in exchange for a ZEV. Similar schemes across the UK have been extremely effective, however they require detailed planning and assessment to effectively design and implement. Important factors to consider in such a scheme include:

- Identifying suitable replacement ZEVs.
- Identifying sources of funding/
- Undertaking cost-benefit analysis of different proposal/
- Ensuring the scheme supports inclusive ZEV uptake.

6.9.5 NPTC will explore what an NPT ZEV scrappage scheme could look like using successful examples of similar schemes across the UK and internationally and using this to lobby government for access to funding to deliver such a scheme.

Informing the NPT ZEV Strategy

This section covers the PFAs that will be explored to meet the strategic objectives of this Strategy. These PFAs cover six themes: Public infrastructure, NPTC fleet, Commercial Charging, Taxis and Private Hire Vehicles, Alternative Transport, and Community Engagements. PFAs are intended to be delivered in phases from planning through to installation and management to ensure. The development of a NPT Delivery Plan will form the next steps of the ZEV Strategy.

7 Way Forward – Implementation of this Strategy

- 7.1.1 This strategy document is the central core element of creating a co-ordinated and structured **Implementation Action Plan** for increasing the provision of zero-emission vehicle infrastructure within the geographical area of Neath Port Talbot Council. It must be clearly understood that this is the starting position, and the **Implementation Action Plan** will be the mechanism for developing and establishing the required delivery initiatives and programmes.
- 7.1.2 NPTC will continue to develop an **Implementation Action Plan** outlining committed initiatives and schemes targeted at increasing the adoption of ZEVs and the installation of supporting infrastructure within NPT. Plans are developed with buy-in from across NPTC and collaboration from key stakeholders to ensure commitments timescales are achievable.
- 7.1.3 The NPTC **Implementation Action Plan** will be benchmarked against a roadmap of relevant private and public sector ZEV commitments, shown in Figure 32, to ensure commitments are suitable, ambitious and in line with the industry.
- 7.1.4 This strategy provides the evidence base and analysis to inform evidence-based decision making on the topic of zero-emission vehicles in Neath Port Talbot. The process of developing this strategy has collected and collated information and context to provide a strategic awareness that will facilitate stakeholder buy-in to future developments in this area.
- 7.1.5 The priority focus areas developed through this work are at time of writing relevant for the region and provide a springboard to enable agility and flexibility to develop the work into the future. This means future work can be aligned and make best use of external factors such as strategy and policy making, technology trends, political decision making, funding and financing opportunities, and external demand and supply.

8 Next Steps

8.1.1 The following next step actions will be essential for delivering the aims and objectives of the ZEV infrastructure strategy. Figure 31 illustrates the next step core actions.

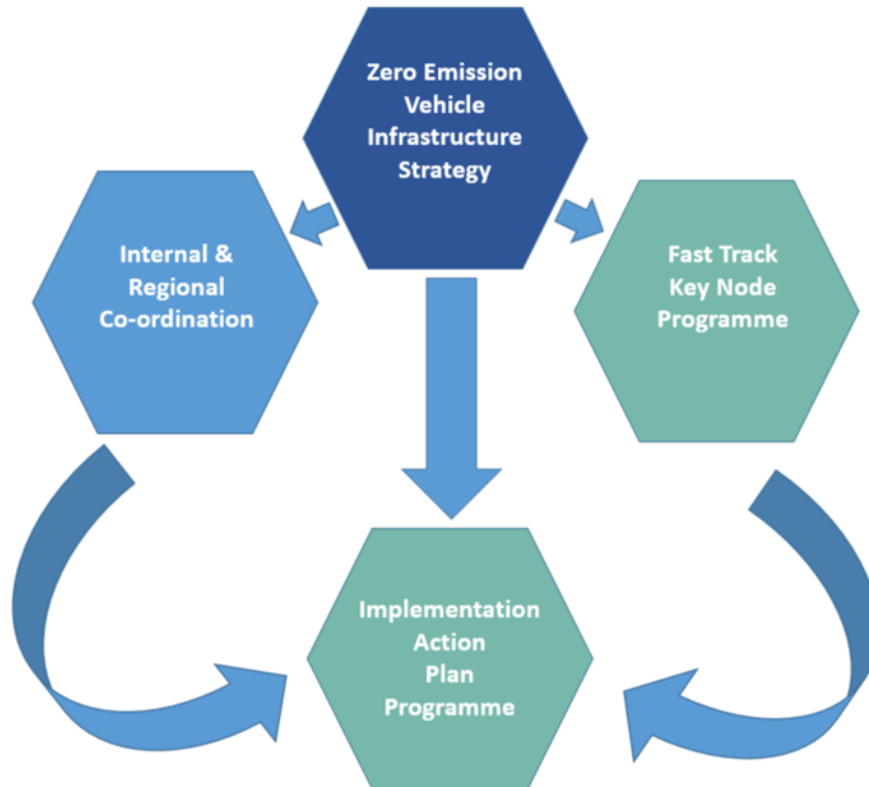


Figure 31 - Next Step Actions

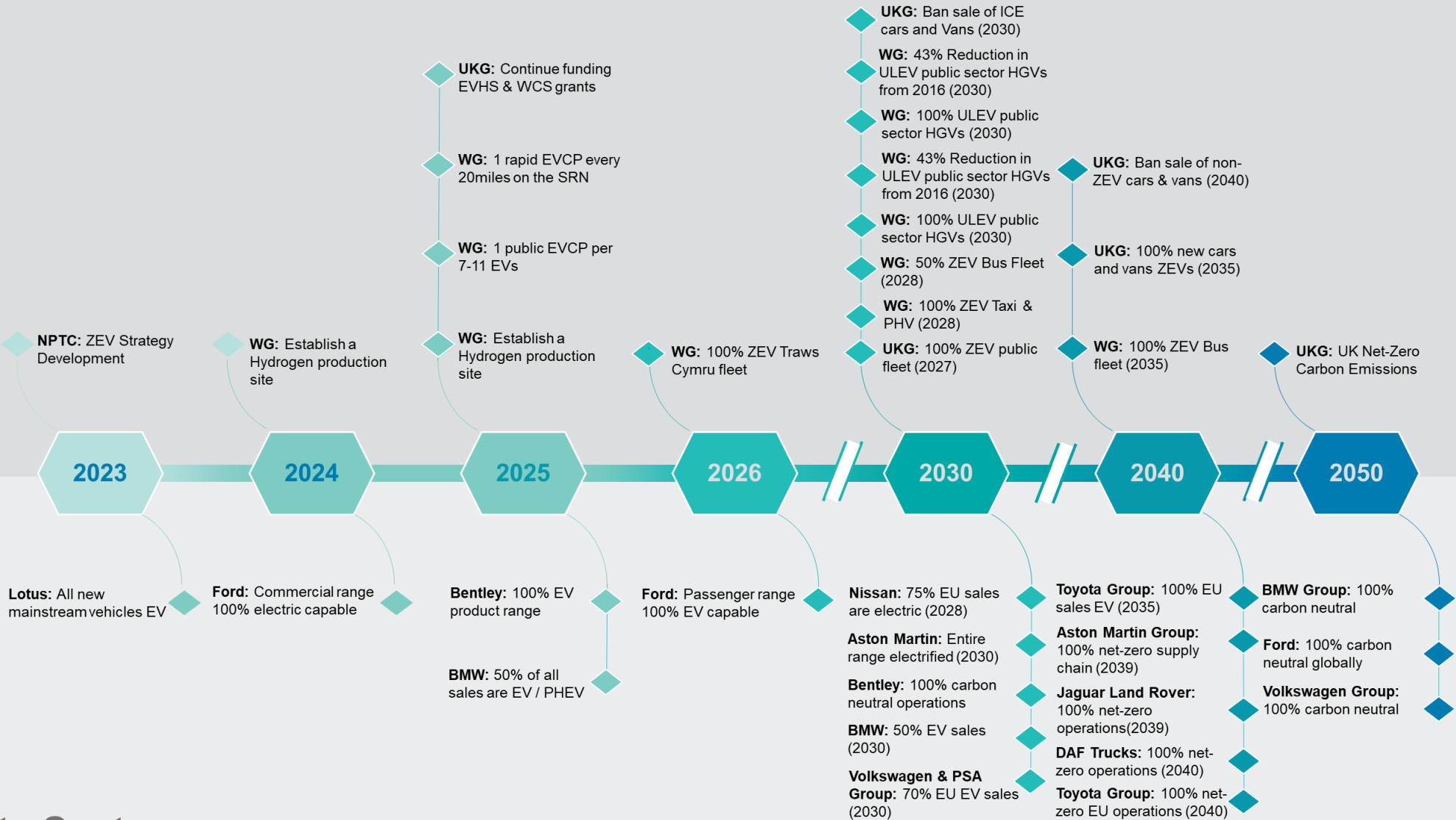
8.1.2 To commence the development and demonstrate progress of the Implementation Action Plan the following shortlist of priority focus areas have been developed:

- **Publish Guidance & Tools on NPTC Website** – this would create a resource bank on the council's website, identifying trusted sources and create calculators for residents / businesses to understand emissions and costs impacts of switching to zero emission vehicles.
- **ZEV Taxi & PHV Study** – this would engage with key Hackney Carriage and private hire vehicle stakeholders to understand barriers and opportunities, identify how NPTC can help, and explore next steps
- **Establish Regional EVCI Working Group** – this would enable regular workshop / panels to share and discuss challenges, lessons learned and opportunities for collaboration and alignment.
- **NPTC Workplace Charging Study** – this would include surveying NPTC employees to understand current or future planned levels of EV uptake, including understanding how to incentivise transition to zero-emission vehicles and understand charging requirements on site.
- **Mobility Hub Study** – this would evidence where mobility hubs should be located, and which service offerings should be at each site, leveraging available data and geospatial analysis and stakeholder engagement to ideally locate hubs.
- **Public Site EVCI Feasibility Studies** – this would progress a pipeline of identified EVCI sites through DNO engagement, power assessments, and scheme design including scheme cost, enabling an 'off the shelf' approach to charging infrastructure funding and financing.

- 8.1.3 In conjunction with the develop of the Action Plan Programme, a fast track key charging point node installation programme will be identified and implemented, this fast track programme will identify key core charging hubs within / key travelling routes, Towns, Villages, Communities and Valley Areas, focused on enabling locations such as:
- Council carparks
 - Council owned facilities
 - Key visitor attractions within NPT
 - Key retail outlets
- 8.1.4 Another key action will be a mapping exercise to identify all potential funding sources aligned to the following charging provision:
- Public facing charging provision
 - Fleet charging provision
 - Community charging provision
 - Disadvantaged areas charging provision
 - Innovative one-off projects
- 8.1.5 Regional engagement will also be undertaken to ensure effective co-ordination with surrounding councils and the councils within south-west Wales.
- 8.1.6 Another fast track enabling action will be the development and provision of individual separate policy/guidance notes i.e.:
- NPT Council – Fleet
 - NPT Council –Workplace Charging
 - New build and refurbishment requirements
 - ZEV Engagement strategy (All sectors)
- 8.1.7 To ensure internal co-ordination across the council regarding zero emission vehicle infrastructure the Zero Emission Vehicle Infrastructure Officer will set up a working group of key internal stakeholders to identify all relevant existing and proposed initiatives and projects.

Public Sector

Page 323



Private Sector

Figure 32: Roadmap of ZEV commitments made by private and public sector organisations.

9 Reference List

References

Air Quality News.Com. 1000 EV ChargePoints installed on London's lamp posts - AirQualityNews

Arcadis Consulting (UK), Exploring our hydrogen future (2021) <https://www.arcadis.com/en-gb/knowledge-hub/blog/united-kingdom/agnieszka-krzyzaniak/2021/exploring-our-hydrogen-future>

ATCO, Hydrogen (2022) <https://www.atco.com/content/dam/web/projects/projects-overview/hydrogen/hydrogen-types.pdf>

Automotive New, Renault doubtful on price parity for EVs and ICEs (2022). <https://europe.autonews.com/automakers/renault-ceo-de-meo-doubtful-ev-and-ice-price-parity>

Barriers Direct High-Quality Bollards for Security and Protection | Barriers Direct | Barriers Direct

BloombergNEF, Annual Battery Price Survey (2021). <https://about.bnef.com/blog/battery-pack-prices-fall-to-an-average-of-132-kwh-but-rising-commodity-prices-start-to-bite/>

Business Live, NHS Wales to get zero emission trucks as part of multi-million pound electric fleet trial (2022). NHS Wales to get zero emission trucks as part of multi-million pound electric fleet trial - Business Live (business-live.co.uk)

Buyacar, Electric cars: pros and cons (2022) <https://www.buyacar.co.uk/cars/economical-cars/electric-cars/651/electric-cars-pros-and-cons>

Cardiff Capital Region, Accelerating Transition to Hydrogen and a Commercial Property Energy Refit Programme (2022). Accelerating Transition to Hydrogen and a Commercial Property Energy Refit Programme - Cardiff Capital Region

Cardiff Capital Region Transport Authority, Ultra Low emission vehicles (2022). [item-5-ulev.pdf](#) (cardiffcapitalregion.wales)

CleanTechnica, EVs and ICE Price Parity (2022). <https://cleantechnica.com/2022/07/07/have-electric-vehicles-reached-parity-with-their-ice-counterparts/>

CNBC: <https://www.cnn.com/2022/06/06/solid-power-begins-pilot-production-of-solid-state-ev-battery.html>

ComoUK, Mobility Hubs: Bremen Case Study (2021). https://como.org.uk/wp-content/uploads/2021/01/CoMoUK_Mobility-Hubs_Bremen-Case-Study.pdf

CoMoUK, Mobility Hubs: Built and planned hubs. <https://www.como.org.uk/mobility-hubs/built-and-planned-hubs>

Conserve Energy Future, Advantages and Disadvantages of Biofuel (2022). <https://www.conserve-energy-future.com/advantages-and-disadvantages-of-biofuels.php>

Conserve Energy Future, Advantages and Disadvantages of Hydrogen (2022) https://www.conserve-energy-future.com/advantages_disadvantages_hydrogenenergy.php

Cowheels, Car share: Co Wheels Car Club. <https://www.co-wheels.org.uk/>

Deloitte, Insights: Electric Vehicles (2020). https://www2.deloitte.com/content/dam/insights/us/articles/22869-electric-vehicles/DI_Electric-Vehicles.pdf

Department of International Trade, Compound semiconductors and applications in South Wales. Compound semiconductors and applications in South Wales - great.gov.uk international

Department for Transport, Ultra Low Vehicles Statistics Database (2022). <https://www.gov.uk/government/statistical-data-sets/vehicle-licensing-statistics-data-tables#ultra-low-emissions-vehicles-ulevs>

Dolen Teifi Community Transport, About Dolen Teifi Dolen Teifi Community Transport - About Dolen Teifi Dramatic Heart of Wales. <https://dramaticheart.wales/>

Electric Nation, *New electric nation vehicle to grid project launches* (2022). [New Electric Nation Vehicle to Grid project Launches | Electric Nation : Electric Nation](#)

Electric Vehicle Database. <https://ev-database.uk/compare/newest-upcoming-electric-vehicle#sort:path~type~order=.id~number~desc|range-slider-range:prev~next=0~600|range-slider-towweight:prev~next=0~2500|range-slider-acceleration:prev~next=2~23|range-slider-fastcharge:prev~next=0~1100|range-slider-eff:prev~next=150~500|range-slider-topspeed:prev~next=60~260|paging:currentPage=0|paging:number=9>

Electrifying.com, *Why wait? How to beat the queue for a new electric car* (2022). <https://www.electrifying.com/blog/article/waiting-times-for-electric-cars>

Electronic Design: <https://www.electronicdesign.com/markets/automotive/article/21140424/global-marketing-insights-fast-and-agile-regenerative-braking-is-redefining-vehicle-dynamics>

Element Energy, *EV Charging Behaviour Study* (2019). <http://www.element-energy.co.uk/wordpress/wp-content/uploads/2019/04/20190329-NG-EV-CHARGING-BEHAVIOUR-STUDY-FINAL-REPORT-V1-EXTERNAL.pdf>

Element Energy, *Hydrogen development in Wales* (2020) <https://gov.wales/sites/default/files/consultations/2021-01/baselining-report-hydrogen-development-in-wales.pdf>

EV Volumes: *EV-Volumes - The Electric Vehicle World Sales Database*

EXRO, *Barriers to EV Adoption* (2022). <https://www.exro.com/industry-insights/barriers-to-electric-vehicle-adoption-in-2022>

Fleet News: <https://www.fleetnews.co.uk/news/latest-fleet-news/electric-fleet-news/2022/01/28/voltempo-launches-1000kw-electric-vehicle-hypercharging-technology>

Fuel Cell Systems, *Refuelling hydrogen vehicles at Milford Haven Marina*. <https://www.fuelcellsystems.co.uk/news/milfordhaven>

GTM, *'Nissan, Green Charge Networks Turn 'Second-Life' EV batteries into Grid Storage Business* (2015). <https://www.greentechmedia.com/articles/read/nissan-green-charge-networks-turn-second-life-ev-batteries-into-grid-storag>

Hive Power, *'Is Repurposing EV Batteries for Grid Energy Storage a Sustainable Plan?'* (2022). <https://www.hivepower.tech/blog/is-recycling-ev-batteries-for-grid-energy-storage-a-sustainable-plan>

HM Government, *EV Infrastructure grant for staff and fleets: customer guidance* (2022). <https://www.gov.uk/guidance/ev-infrastructure-grant-for-staff-and-fleets-customer-guidance>

HM Government, *Energy Storage Systems* (2021). <https://www.gov.uk/government/news/energy-storage-systems-to-support-ev-drivers-rapidly-charging-on-englands-motorways>

HM Government, *Infrastructure solutions for zero emission vehicles* (2021). *Competition overview - Infrastructure solutions for zero emission vehicles - Innovation Funding Service* (apply-for-innovation-funding.service.gov.uk)

HM Government, *News Story: UK becomes first major economy to pass net zero emissions law* (2019). <https://www.gov.uk/government/news/uk-becomes-first-major-economy-to-pass-net-zero-emissions-law>

HM Government, *News Story: Government takes historic step towards net-zero with end of sale of new petrol and diesel cars by 2030* (2020). <https://www.gov.uk/government/news/government-takes-historic-step-towards-net-zero-with-end-of-sale-of-new-petrol-and-diesel-cars-by-2030>

HM Government 2022 – *Taking Charge: The Electric Vehicle Infrastructure Strategy*. *Taking charge: the electric vehicle infrastructure strategy* (publishing.service.gov.uk)

HM Government, *Transition towards Zero Emission Vehicles: CR&D* (2021). <https://apply-for-innovation-funding.service.gov.uk/competition/870/overview>

HM Government, *Transitioning to zero emission cars and vans: 2035 delivery plan* (2021). https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1005301/transitioning-to-zero-emission-cars-vans-2035-delivery-plan.pdf

HM Government, *Low-emission vehicles eligible for a plug-in grant* <https://www.gov.uk/plug-in-vehicle-grants>

HM Government, UK Hydrogen Strategy (2021) https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1011283/UK-Hydrogen-Strategy_web.pdf

HM Government, Greenhouse Gas Reporting Conversion Factors (2021). <https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2021>

HM Government, Workplace Charging Scheme: guidance for applicants (2022). <https://www.gov.uk/guidance/workplace-charging-scheme-guidance-for-applicants>

HM Government, UK Hydrogen Strategy (2021). https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1011283/UK-Hydrogen-Strategy_web.pdf

HM Government, Zero emission road freight battery electric truck demonstration (2022). Competition overview - Zero emission road freight battery electric truck demonstration - Innovation Funding Service (apply-for-innovation-funding.service.gov.uk)

Howarth, R.W and Jacobson, M.Z., How Green is Blue Hydrogen? (2021). <https://onlinelibrary.wiley.com/doi/full/10.1002/ese3.956#:~:text=3.3%20Total%20carbon%20dioxide%20and%20methane%20emissions%20for%20blue%20hydrogen&text=To%20summarize%20C%20when%20only%20the,g%20CO2%20per%20MJ>

Hydrogen Central, Transporting Hydrogen: When to Pipe, Ship, Liquify or Blend? (2022). Transporting Hydrogen: When to Pipe, Ship, Liquify or Blend? - Hydrogen Central (hydrogen-central.com)

Hyundai: <https://www.hyundai.com/eu/models/ioniq-electric/Features.html>

IEA, Global EV Outlook (2021). <https://www.iea.org/reports/global-ev-outlook-2021>

InnovateUK, Digital twin for management of large scale renewable energy next to depot (2022). Digital twin for management of large scale renewable energy next to depot - Innovate UK KTN (ktn-uk.org)

InnovateUK, Optimisation of on-site renewable energy for EV fleet charging at council depots. Optimisation of on-site renewable energy for EV fleet charging at council depots - Innovate UK KTN (ktn-uk.org)

InnovateUK, Zero emission auxiliary energy supplies for utility and community vehicles (2022). Zero emission auxiliary energy supplies for utility and community vehicles - Innovate UK KTN (ktn-uk.org)

Innovation News Network: <https://www.innovationnewsnetwork.com/quantum-charging-technology-ev-charging/19608/>

Intelligent Transport, 'UK's first "accredited mobility hub" unveiled in London' (2021). <https://www.intelligenttransport.com/transport-news/126087/mobility-hub-london/>

IOP Science: <https://iopscience.iop.org/article/10.1149/1945-7111/abc4c0#:~:text=Conclusions,85%25%20of%20the%20theoretical%20capacity>

IPCC, Special Report: Global Warming of 1.5°C – Summary for Policymakers (2018) https://www.ipcc.ch/site/assets/uploads/sites/2/2019/05/SR15_SPM_version_report_LR.pdf

McKinsey and Company, Second-life EV batteries: The newest value pool in energy storage. <https://www.mckinsey.com/~media/McKinsey/Industries/Automotive%20and%20Assembly/Our%20Insights/Second%20life%20EV%20batteries%20The%20newest%20value%20pool%20in%20energy%20storage/Second-life-EV-batteries-The-newest-value-pool-in-energy-storage.ashx>

Meristem Design, Meristem's Parklets awarded UK's 1st Accredited Mobility Hub, (2021). <https://www.meristemdesign.co.uk/news/2021/7/5/meristems-parklets-awarded-uks-1st-accredited-mobility-hub>

National Grid Future Energy Scenarios (2021) <https://www.nationalgrideso.com/document/199871/download>

Nation Cymru, Trail of electric recycling vehicles 'extremely encouraging' says Council (2022). Trial of electric recycling vehicles 'extremely encouraging' says Council (nation.cymru)

Neath Port Talbot, '£250m Afan Valley adventure resort comes a step closer' (2022). https://www.npt.gov.uk/1410?pr_id=7127

Neath Port Talbot Council, Adopted LDP (2013). Adopted LDP (2011-2026) – Neath Port Talbot Council (npt.gov.uk)

Neath Port Talbot Council, Decarbonisation and Renewable Energy (DARE) Strategy (2022). Decarbonisation and Renewable Energy Strategy (DARE) – Neath Port Talbot Council (npt.gov.uk)

Neath Port Talbot Council, Digital Strategy (2018-2022). Digital Strategy 2018-2022 – Neath Port Talbot Council (npt.gov.uk)

Neath Port Talbot Council, Fabian Way. <https://www.npt.gov.uk/2678>

Neath Port Talbot, 'Investment at Afan Forest Park Visitor Centre creates a new Valleys Regional Park Discovery Gateway' (2022). https://www.npt.gov.uk/1410?pr_id=7082

Neath Port Talbot Council, LAQM Annual Progress Report (2020). <https://www.zap-map.com/live/%20https://www.npt.gov.uk/media/15338/npt-aq-progress-report-2020.pdf?v=20210309102532>

Neath Port Talbot Council, Replacement Local Development Plan 2021-2036. Replacement Local Development Plan (RLDP) 2021-2036 – Neath Port Talbot Council (npt.gov.uk)

Neath Port Talbot Council, Rural Neath Port Talbot (2007). <https://regenerate.npt.gov.uk/media/6908/rdpbro-eng-finalallowres.pdf?v=20190807091543>

Neath Port Talbot, Tourism Development. <https://www.npt.gov.uk/4418>

Office for National Statistics, Over half of younger drivers likely to switch to electric in next decade. <https://www.ons.gov.uk/economy/environmentalaccounts/articles/overhalfofyoungerdriverslikelytoswitchtoelectricinnextdecade/2021-10-25>

OSVehicle, The pros and cons of Hydrogen and Electric Cars (2022). The Pros And Cons Of Hydrogen And Electric Cars – OsVehicle

Pelican Yutong, Cardiff Bus place substantial zero-emission bus order (2022). Cardiff Bus place substantial zero-emission bus order (pelicanyutong.co.uk)

Portland Bureau of Transportation, Mobility Hub Typology Study (2020). https://altago.com/wp-content/uploads/PBOT-Mobility-Hub-Typology_June2020.pdf

Powys, Business invited to have their say on electric vehicle charging (2022). Businesses invited to have their say on electric vehicle charging - Powys County Council

Powys, Powys welcomes its first electric refuse collection vehicle to the county's waste and recycling fleet (2021). Powys welcomes its first electric refuse collection vehicle to the county's waste and recycling fleet - Powys County Council

PV-Magazine: <https://www.pv-magazine.com/2022/03/25/the-mobility-revolution-quantum-physics-based-tech-to-cut-ev-charging-time-to-nine-seconds/>

Tata Steel, Port Talbot. <https://www.tatasteeleurope.com/construction/sustainability/performance-at-our-sites/port-talbot>

The Energy Saving Trust, Charging Electric Vehicles. <https://energysavingtrust.org.uk/sites/default/files/23465-EST%2BDFT-Charging%20Electric%20Vehicles%20-%20Best%20Practice%20Guide-WEB.pdf>

The International Council on Clean Transportation, Biodiesel Briefing (2012) https://theicct.org/wp-content/uploads/2021/06/ICCT_biodiesel-briefing_Jan12.pdf

This is Money Oxford installs UK's first pop-up chargers that rise out of the pavement | This is Money TripTo Mid Wales Electric Car Clubs (2022). Welcome to TripTo - Mid-Wales Electric Car Clubs

Regional Economic Framework For South West Wales, (2021). <https://gov.wales/sites/default/files/publications/2021-12/south-west-wales-regional-economic-framework.pdf>

RIAS, Diesel vs petrol: the pros and cons (2018) <https://www.rias.co.uk/news-and-guides/living-and-lifestyle/diesel-vs-petrol-the-pros-and-cons/>

Science Daily: <https://www.sciencedaily.com/releases/2022/03/220321091916.html>

Smart Cities Worlds, V2B grid pilot demonstrates how EV fleets can reduce municipalities' energy costs (2022). <https://www.smartcitiesworld.net/news/v2b-grid-pilot-demonstrates-how-ev-fleets-can-reduce-municipalities-energy-costs-7551>

Smart Energy, Feasibility study to explore hydrogen's potential for Mid Wales (2022). Feasibility study to explore hydrogen's potential for Mid Wales (smart-energy.com)

Statista, EV Battery Prices (2021). <https://www.statista.com/chart/7713/electric-car-battery-prices/>

Sust-it, Plug-in hybrids (2022) <https://www.sust-it.net/vehicles-plug-in-hybrids.php>

Swansea Bay City Deal, Welcome to the Swansea Bay City Deal. <https://www.swanseabaycitydeal.wales/>

SWITCH, The Regional Transport Plan for Southwest Wales (2007). https://democracy.swansea.gov.uk/Data/Council/20090730/Agenda/Email_Only_Appendix_of_RTP_-_Appendices_RTP.pdf

This is Money Oxford installs UK's first pop-up chargers that rise out of the pavement | This is Money

Traffic Technology Today: <https://www.traffictechnologytoday.com/news/electric-vehicles-ev-infrastructure/worlds-fastest-ev-charging-technology-announced.html>

Transport Network <https://www.transport-network.co.uk/Governments-EV-charging-plans-wont-be-enough-report-argues/17113>

Visit Britain, The Great Britain Day Visitor 2019 Annual Report (2019). https://www.visitbritain.org/sites/default/files/vb-corporate/gbdvs_2019_annual_report_-_a.pdf

Vehicle Certification Agency, New Car Fuel Consumption & Emission Figures (2022). <https://www.vehicle-certification-agency.gov.uk/fuel-consumption-co2/fuel-consumption-guide/zero-and-ultra-low-emission-vehicles-ulevs/>

US Department of Energy, 'Alternative Fuels Data Center: Fuel Cell Electric Vehicles' https://afdc.energy.gov/vehicles/fuel_cell.html

UKPN, 'Getting electric vehicles moving'. [a_guide_for_electric_fleets.pdf](#) (umbraco.io)

Wales Online, Where all the 24 new electric vehicle charging points in Cardiff will be located (2022). Where all the 24 new electric vehicle charging points in Cardiff will be located - Wales Online

Welsh Government, Electric Vehicle Charging Strategy for Wales – Action Plan (2021). <https://gov.wales/sites/default/files/publications/2021-09/electric-vehicle-charging-strategy-for-wales-action-plan.pdf#:~:text=Welsh%20Government%20policy%20and%20regulations%20will%20be%20kept,a%20framework%20for%20strategic%20and%20local%20development%20plans.pdf>

Welsh Government, Electric Vehicle Charging Strategy for Wales (2021). <https://gov.wales/sites/default/files/publications/2021-03/electric-vehicle-charging-strategy-wales.pdf>

Welsh Government Energy Service, Neath Port Talbot Council Electric Vehicles Charging Infrastructure Report (2021)

Welsh Government, Guidance to Applicants for Resilient Roads Fund and Ultra Low Emission Vehicle Transformation Fund (2021), <https://gov.wales/sites/default/files/publications/2020-12/local-transport-capital-grants-guidance-to-applicants-2021-22.pdf>

Welsh Government, Net Zero Wales Carbon Budget (2021-2025). <https://gov.wales/sites/default/files/publications/2021-10/net-zero-wales-carbon-budget-2-2021-25.pdf>

Welsh Government, Tourism Profile – South West Wales 2017-2019 Summary (2021). <https://gov.wales/sites/default/files/statistics-and-research/2021-03/tourism-profile-south-west-wales-2017-2019-summary.pdf>

Welsh Government, Ultra low emission vehicle transformation fund: grants awarded 2020 to 2021 (2020). <https://gov.wales/ultra-low-emission-vehicle-transformation-fund-grants-awarded-2020-2021.html>

Welsh Government, *Ultra low emission vehicle transformation fund: grants awarded 2021 to 2022* (2021). <https://gov.wales/local-transport-fund-grants-awarded-2021-2022-html>

Welsh Government, *Well-being of Future Generations (Wales) Act (2015). Well-being of Future Generations (Wales) Act 2015: the essentials* [HTML] | GOV.WALES

Welsh Government, *Prosperity for All: A Low Carbon Wales* (2019) *Prosperity for all: a low carbon Wales* | GOV.WALES

Welsh Government, *Future Wales: The National Plan 2040* (2021). *Future Wales: The National Plan 2040 – Planning Aid Wales*

Welsh Government, *Llwybr Newydd: The Wales Transport Strategy* (2021). *Llwybr Newydd: the Wales transport strategy 2021* | GOV.WALES

Welsh Government, *Planning Policy Wales Edition 11* (2021). *Planning policy Wales* | GOV.WALES

Welsh Government, *Swansea Bay City Deal* (2019). *Welsh Government soon to release multi-million pound funding for ambitious Swansea Bay City Deal programme* | GOV.WALES

Welsh Government, *South West Wales Regional Strategy* (2022).

WhichEV, (2022). <https://www.whichev.net/2022/11/14/public-ev-charging-prices-increase-14-since-june-according-to-zap-map/#:~:text=The%20price%20EV%20drivers%20are,charge%20points%20in%20the%20UK.>

Which EV: <https://www.whichev.net/2022/01/24/voltempo-launches-worlds-fastest-charging-system-for-evs/>

Wikipedia, *Wales Neath Port Talbot Locator Map*

https://en.wikipedia.org/wiki/File:Wales_Neath_Port_Talbot_locator_map.svg

Zap-Map: <https://www.zap-map.com/voltempo-launches-world-fastest-electric-vehicle-charger/>

Zenobe, *Stagecoach Park and Ride Guildford* (2019). <https://www.zenobe.com/case-studies/stagecoach-park-and-ride/>

Appendix A

National Policy

Transport Policy Key Commitments

<p><i>Well-being of Future Generations (Wales) Act (2015)</i></p>	<ul style="list-style-type: none"> • <i>The Well-being of Future Generations Act requires public bodies in Wales “to think about the long-term impact of their decisions, to work better with people, communities and each other, and to prevent persistent problems such as poverty, health inequalities and climate change.”</i>
<p><i>Prosperity for All: A Low Carbon Wales (2019)</i></p>	<ul style="list-style-type: none"> • <i>Welsh Government aims to reduce Transport sector emissions by 43% from 2016 levels by 2030 through behavioural change Options (modal shift to more sustainable travel), increasing uptake of electric vehicles, and reducing emissions from road and rail transport through vehicle and fuel efficiency Options.</i> • <i>Welsh Government will support a change in travel behaviours by rolling out EV car clubs and car sharing initiatives, ensure that new homes and developments provide for EV charging capabilities, invest in active travel routes and the rail network, and improve the integration of bus services.</i> • <i>Welsh Government aims to increase the uptake of zero and ultra-low emission vehicles in an inclusive manner supported by an initial investment of £2m to facilitate a network of rapid EV chargers, incentives to maintain price parity, planning for electricity grid capacity upgrades, delivering zero emission bus fleets by 2028, promoting and facilitating the transition of taxis and private hire vehicles into ULEVs and exploring opportunities offered by hydrogen fuel.</i> • <i>Welsh Government will assess the opportunities to promote renewable energy to support the increased demand for electricity.</i> • <i>Welsh Government will develop a procurement strategy to increase the use of zero and ultra-low emission vehicles in public sector fleets.</i>
<p><i>Hydrogen In Wales: A Pathway and Next Steps for Developing the Hydrogen Energy Sector in Wales</i></p>	<ul style="list-style-type: none"> • <i>Deployment of 200 fuel cell buses in a town/city/region in Wales.</i> • <i>Establish Wales as an early market for commercial fuel cell vehicles.</i> • <i>Consider support for vehicle manufacturers such as Riversimple, a Wales-based designer and manufacturer of fuel cell EVs.</i> • <i>Attract vehicle integrators to Wales.</i> • <i>Deploy fuel cell trains in Wales.</i> • <i>Establish at least one renewable hydrogen production site 10+ MW by 2023/24.</i> • <i>Scope large-scale hydrogen production sites.</i> • <i>Support industrial decarbonisation through skills development and research and development.</i> • <i>Support local projects and place-based approaches.</i> • <i>Engage with other hydrogen initiatives.</i>
<p><i>Electric Vehicle Charging Strategy for Wales (2021)</i></p>	<ul style="list-style-type: none"> • <i>Need for a substantial increase in the number of slow, fast and rapid/ultra-rapid EVCPs available need for a substantial increase in the number of slow, fast and rapid/ultra-rapid chargers available in Wales.</i> • <i>Need for better quality charging, to improve the user experience for electric cars and vans and to work within the current regulatory framework with these stakeholders to plan for the decarbonised grid network.</i>
<p><i>Electric Vehicle Charging Strategy</i></p>	<ul style="list-style-type: none"> • <i>Delivery of charging infrastructure through funding and collaboration (target of one public charge point for every 7 to 11 electric vehicles on the road by 2025).</i>

for Wales: Action Plan (2021)

- *The Welsh Government Ultra Low Emissions Vehicle Transformation Fund (ULEVTF) will be used to kick-start initiatives and promote collaboration within delivery groups.*
- *Welsh Government will work with Distribution Network Operators (DNOs) in Wales to maximise the availability of power for charging vehicles and a connections group will be established involving DNOs, charge point providers, and Government.*
- *Welsh Government will work with Transport for Wales to deliver the provision of rapid charging every 20 miles on the strategic trunk road network of Wales by 2025.*
- *Welsh Government will influence the UK Government's setting of national standards for quality of charging provision and will supplement them where appropriate to ensure the needs of Wales are addressed.*
- *Welsh Government will establish a Charge Point Operator working group involving private, public, not-for profit and community organisations in pursuit of coordinating charge point operators to determine suitable locations.*
- *Welsh Government will work with public and private sectors to increase awareness of the needs of transport decarbonisation.*
- *Welsh Government aim to complete a supply chain and opportunities review by end of 2021 and establish a programme to realise opportunities for innovation and investment.*

Future Wales: The National Plan 2040 (2021)

- *Welsh Government will embrace the adoption of electric vehicles in an inclusive manner, supported by the necessary investment in charging infrastructure.*
- *It is recommended for planning authorities to ensure that the level, location and type of provision is appropriate to the scheme and local circumstances when situating EVCPs. EVCPs should be planned as part of the overall design of a development and 'passive' provision may be appropriate to enable future installation and activation.*

Llwybr Newydd: The Wales Transport Strategy (2021)

- *Upgrade, improve and future-proof the road network, addressing congestion pinch points and investing in schemes that support road safety, journey reliability resilience, modal shift and electric bike, motorbike and vehicle charging.*
- *Deliver the Welsh EV Charging Strategy Action Plan and encourage the use of motorbikes and powered light vehicles instead of cars where there are no other transport choices.*
- *Work with the sector to move all taxis and Private Hire Vehicles (PHVs) to zero-emission and make certain that the required infrastructure is in place to support the transition to zero-emission taxis.*
- *To improve air quality by pursuing modal shift, encouraging more active travel, greater use of public transport and ultra-low emissions vehicles,*
- *Where new infrastructure is needed, the Sustainable Transport Hierarchy will be used. This will give priority to interventions that support active travel, public transport and ultra-low emissions vehicles over other private motor vehicles.*
- *Over the next five years, a priority is to roll out the technology and infrastructure to deliver ultra-low emissions buses.*
- *A commitment to explore future infrastructure improvements that reduce carbon emissions, including infrastructure for new fuels.*

Net Zero Carbon Status By 2030: A

- *The Welsh Government will understand the nature and use of the fleet, future patterns of usage, and a feasible technological pathway for an ultra-low emission transformation.*

Route Map for Decarbonisation Across the Welsh Public Sector (2021)

- They will accelerate the roll-out of EV charging infrastructure and their staff will be offered the opportunity to test ultra-low emission vehicles.
- They commit to fleet transformation plans and there is a considerable upscaling of ULEV uptake.
- All new cars and light goods vehicles in the public sector fleet are ultra-low emission by 2025.
- Where practicably possible, all new Heavy Goods Vehicles in the public sector fleet are ultra-low emission by 2030.

Net Zero Wales Carbon Budget 2: 2021 – 2025 (2021)

- Welsh Government will accelerate the uptake of zero emission cars and vans.
- By 2025 Welsh Government will deliver a network of electric vehicle charging points on the strategic trunk road network every 20 miles across Wales to facilitate easier long-distance travel and will ensure that there is at least one publicly accessible charge point for between every 7 and 11 electric cars.
- The whole Traws Cymru bus fleet to be zero tailpipe emission by 2026, the most polluting 50% of service buses to be replaced by a zero-tailpipe emission bus fleet by 2028 and the remaining 50% of the service bus fleet to be zero emission by 2035.
- Welsh Government have committed to deliver a zero-tailpipe emission taxi and private hire fleet by 2028.
- All new public sector cars and light goods vehicles should be zero/ultra-low emission by 2025 and heavy goods by 2030.

Planning Policy Wales | Edition 11 (2021)

- The transportation system should be adaptable to future advances in innovation such as the mainstreaming of electric vehicles.
- EVCPs should be planned as part of the overall development design and should be located where there is good lighting, natural surveillance, where they do not obstruct pedestrians and where they are resistant to vandalism.

Welsh Government Engagement Approach for Low Carbon Delivery Plan 2 (2021)

- Welsh Government will create high-quality digital resources and tools surrounding proposed climate actions and will make these readily available to organisations and individuals.
- Welsh Government will proactively engage with Public and Private Sector organisations to create a joined collaborative approach in the development and subsequent delivery of Climate Policies

UK Policy

Transport Policy

Key Commitments

Decarbonising Transport - A Better, Greener Britain (2021)

- Introduction of a zero-emission vehicle mandate setting targets for manufacturers where a certain percentage of their sales must be zero emission from 2024.
- Ending the sale of new petrol and diesel cars and vans from 2030, with all new cars and vans being zero tailpipe emissions from 2035.
- Ending the sale of all new, non-zero emission road vehicles by 2040.
- £12 billion invested into local transport systems to support decarbonisation.
- Additional £620 million to support the transition to electric vehicles, particularly focusing on the implementation of EVCPs in residential areas.

- Will build a globally competitive zero emission vehicle supply chain and encourage data sharing across the transport sector.
- 25% of the UK Gov car fleet to be ultra-low emission by December 2022 and all government vehicles to be zero emission by 2027.

Net Zero Strategy: Build Back Greener (2021)

- 2030 - end sale of new petrol and diesel cars and vans
- 2035 - all new cars and vans must be 100% zero emission at the tailpipe
- £2.8 billion to support the switch to clean vehicles across the UK, through a range of funding packages.
- UK's Emissions must be net zero by 2050.
- The UK Government commit to invest £3 million in 2021 to establish the UK's first multi-modal hydrogen transport hub in Tees Valley.
- The UK Government also commit to develop a sector-wide Hydrogen Strategy, including its role for transport.
- The UK Government commit to demonstrate Zero Emission HGV technology on UK roads this year and decarbonise how we get our goods, including hydrogen. They also state a commitment to stimulate demand for zero emission trucks through financial and non-financial incentives.

HM Transitioning to Zero Emission Cars and Vans: 2035 Delivery Plan (2021)

- Continue to fund the plug-in van grant until at least 2022/23.
- Support provision of on-street EVCPs until at least 2024/25.
- Continue to fund the EVHS until at least 2024/25.
- Continue to fund the Workplace Charge Scheme until at least 2024/25.
- Accelerate Government fleet commitment - 100% of our car and van fleet will be fully zero emission at the tailpipe by 2027.
- Publish a Hydrogen Strategy in 2021 to develop the UK's Hydrogen economy and continue to fund the Hydrogen for Transport Programme until 2022.

Taking Charge: The Electric Vehicle Infrastructure Strategy (2022)

- Remove charging infrastructure as both a perceived, and a real, barrier to the adoption of electric vehicles (EVs).
- Support the accelerated rollout of a comprehensive and competitive rapid charging network on major roads.
- Regulate to make sure public EVCPs are reliable and easy to use.

Work with Ofgem to make sure that EVCPs are easy to connect and integrate with the electricity system.

HM UK Hydrogen Strategy (2021)

- £23 million funding for the Hydrogen for Transport Programme
- deliver the (England) National Bus Strategy and its vision of a green bus revolution.
- An end date for the sale of new diesel buses will be set and the Zero Emission Bus Regional Areas (ZEBRA) scheme established.

Regional Policies

Transport Policy Key Commitments

<p><i>Joint Transport Plan for South West Wales (2015-2020)</i></p>	<ul style="list-style-type: none"> • <i>An EV Charging Network scheme “to investigate and implement a network of EVCPs across Southwest Wales. This will seek to draw together fragmented existing provision and install new sites at strategic locations using standardised technology”.</i>
<p><i>Swansea Bay City Deal - Supporting Innovation and Low Carbon Growth (2019)</i></p>	<ul style="list-style-type: none"> • <i>Aims to create the right environment for innovation, new technologies and a decarbonised local and region economy.</i> • <i>Targets include the installation of air quality monitors, evidence-based electric vehicle charging strategy, mobilisation of electric link between Swansea Bay Technology Centre and Hydrogen Centre and the development of commercial strategy.</i>
<p><i>South West Wales Regional Energy Strategy (2022)</i></p>	<ul style="list-style-type: none"> • <i>Sets out an energy vision to reach by 2035, with outcomes including 320,000 electric cars, 9,500 on street and public EV chargers, and 10% reduction in private vehicle mileage.</i> • <i>The energy vision will result in 2.5 TWh reduction in petrol and diesel energy consumption and 0.6 TWh increase in electricity consumption, with a carbon saving potential of 580 kt CO2 (51% reduction).</i>

Local Policies

Transport Policy	Key Commitments
<p><i>Adopted LDP (2011-2026)</i></p>	<ul style="list-style-type: none"> • <i>The transport system and infrastructure will be developed in a safe, efficient and sustainable manner through implementing key transport projects and supporting schemes identified in the Joint Transport Plan, requiring development proposals to be designed to promote sustainable transport and requiring appropriate parking provision.</i>
<p><i>Decarbonisation and Renewable Energy (DARE) Strategy (2022)</i></p>	<ul style="list-style-type: none"> • <i>The annual renewals programme of the council’s fleet of vehicles will focus on migration to cleaner and more energy efficient vehicles. The council will trial new alternative fuel vehicles and continue to monitor new technologies as they enter the market.</i> • <i>The council will work with leading academics and industry partners to produce an effective, impactful and future-proof electric vehicle charging strategy.</i> • <i>The council will consider options for adopting low emissions specification as a future requirement for taxi licencing.</i> • <i>The council is working with ‘Lanzatech’ which specialises in the re use of waste gases from industrial processes to enable conversion into biofuels.</i>
<p><i>Digital Strategy (2018-2022)</i></p>	<ul style="list-style-type: none"> • <i>Maximise the benefits of the Swansea Bay City Deal, helping to create a fully connected region which is at the forefront of the digital innovation</i>

Arcadis UK

80 Fenchurch Street
London EC3M 4BY
United Kingdom

T: +44 (0) 20 7812 2000

arcadis.com

This page is intentionally left blank

NEATH PORT TALBOT COUNTY BOROUGH COUNCIL

Environment, Regeneration and Streetscene Services Cabinet Board

14th November 2023

Report of the Head of Streetcare – Mike Roberts

Matter for Decision

Wards Affected: All Wards

Electric Vehicle On-Street Home Charging

Purpose of the Report:

To inform Members of the current position regarding on-street electric vehicle charging from home electrical supply and actions required.

Executive Summary:

Members will have been aware of the UK Government policy that the sale of all new solely petrol and diesel cars and vans was to end in 2030 with all new cars and vans to be fully zero emission at the tailpipe from 2035.

This policy was recently amended to delay the end of the sale of all new petrol and diesel cars to 2035, in line with the deadline for hybrid vehicles. However, the zero emission vehicle mandate still requires 80%

of new cars and 70% of new vans sold to be zero emission by 2030, increasing to 100% from 2035, so this delay is not anticipated to significantly impact the uptake of battery electric vehicles.

All Welsh Local Authorities have been contacted in the development of this report. Those that responded all confirmed that on-street home charging involving a cable being run from the property across the highway to a vehicle is not currently permitted. However since contact was made, at least one has now agreed to undertake a limited trial in partnership with a private company for the installation of cable channels.

Demand associated with on-street parking is only going to grow as the use of plug-in battery electric vehicles becomes the norm.

This Council does not currently have formal policy on this matter which is needed. It is therefore proposed as part of a consistent approach with other Welsh Local Authorities across Wales that a moratorium is placed on electric vehicle on-street home charging for the time being pending guidance from Welsh Government, and the development of innovative solutions as referenced in Welsh Government's Electric Vehicle Charging Strategy for Wales Action Plan, and as currently being discussed by Transport for Wales.

Background:

The U.K Government's 2018 Road to Zero Strategy outlined how it will support the transition to zero emission road transport and reduce emissions from conventional vehicles during the transition. Since the Strategy was published, the U.K Government has introduced the zero emission vehicle mandate which sets a date of 2035 for the end of the sale of all new petrol, diesel and hybrid vehicles.

Home charging is a popular form of charging an electric vehicle due to the convenience, and ability to benefit from discounted domestic Electric Vehicle (EV) tariffs for electricity which can significantly reduce running costs. This is not a problem where a resident has

offroad parking such as a driveway, but presents issues for the Council as Highway Authority where they do not and have to park on-street.

Councils across Wales are starting to receive correspondence regarding the trailing of cables across footways in order to charge vehicles onstreet, outside of houses. However, the trailing of cables poses a tripping hazard for the elderly or disabled, or partially sighted/blind pedestrians, and would likely be in contravention of section 178 and/or section 162 of the Highways Act (Details provided in Appendix A).

The trailing of cables also potentially presents an electrical hazard where the Highway Authority cannot be sure of the integrity of the equipment. This raises safety issues including: overheating of plug sockets/cables; unmonitored cables being damaged, displaced or vandalised, leaving live wiring exposed and potentially risking electrocution to anyone coming into contact with it.

Risks can be mitigated to an extent by the use of a high visibility cable mat protector, but this would still result in a trip hazard, a potential problem/inconvenience for wheelchair/mobility scooter users and those with pushchairs/prams etc. Notwithstanding these problems some Councils, such as Hampshire County Council, have been allowing the trailing of some cables with a cable mat protector (See their guidance for <https://www.hants.gov.uk/transport/electric-vehicles/ev-chargingguidance>). However, Oxfordshire City Council in comparison do not allow cable mat protectors under any circumstances (See their guidance) <https://www.oxfordshire.gov.uk/residents/environment-andplanning/energy-and-climate-change/electric-vehicles>).

There are several new potential solutions designed by private companies which are in the process of being trialled by a small number of English Local Authorities, such as a cable channel with cover (installed across the footway) and a swinging overhead arm. Each has their own issues for example the shallow depth of a cable channel and the exposure to the public of the cable trailing from an overhead arm. See Appendix B.

It is anticipated that any installation of a cable channel in the footway if approved at a future date, would be undertaken by a private company under licence, and would not be maintainable at public expense.

Any solutions to convey a cable safely and appropriately from a property across an adopted footway would not resolve all the issues however. Many homes within the County Borough are terraced houses or multi occupancy tenement buildings which do not have access to off-street parking, and parking directly outside a specific property cannot be guaranteed. Even where there is a Residents' Parking Scheme, such schemes only increases the probability of being able to park in an area, not in a specific place. If on-street charging were to be approved it would likely highlight parking issues for those residents looking to park outside their property in order to charge a vehicle. It would also likely increase the demand for residents parking type schemes. If specific parking spaces were made available to individual properties, it would remove parking opportunities from others. Overall, the situation could potentially result in neighbourhood disputes between residents looking to access specific locations for vehicle charging. In any case, it could be expected that cables, having suitably traversed the footway would then be found trailing in the channel line of the road, in any water, alongside the kerb to the vehicle.

If on-street charging were allowed in certain circumstances it would seem sensible that a permit/licence system was in place to make it clear what obligations and liabilities sat with the homeowner. At present there is no such system in place which would likely require significant administration as battery electric vehicle usage increase. A licence system, for example, could though include a requirement to fit a suitable Residual Current Detection device at the start of the charging cable. Also, where licences are granted, these could be added to the Council's GIS records for public lighting infrastructure as a means of making the information available to statutory undertakers planning works. It is suggested a typical licence might look something like Appendix C.

The majority of EV models on sale today have the potential to cover distances of 120-300 miles on a full charge and this is set to potentially

increase as technology evolves. Assuming homeowners buy vehicle which suit their typical needs, it might therefore reasonably be assumed that most EV owners would not necessary need to recharge their vehicles at home on a frequent basis, but use the vehicle in a similar way to an internal combustion engine car, only needing to charge (refuel) once a week or every few days using a public rapid charger, workplace, shopping/destination chargers, or local community charging hub, albeit the cost might not be as advantageous as overnight home charging tariffs. Taking account of all of the above, in terms of investment in its emerging Zero Emission Vehicle Infrastructure Strategy, this suggests the Council's focus should be on providing community charging hubs in areas without off-street parking.

At present there are a total of 11 x 50kW+ rapid chargers in the County Borough across 5 locations in Jersey Marine, Neath, Baglan Moors, Aberavon and Glynneath, along with 14 destination chargers in various locations ranging from 7-22kw showing as publically available on Zap Map. As the uptake of electric vehicles increases, the demand on the charging infrastructure will increase. As part of its strategies, the Council will need determine the extent of its role in providing workplace charging provision for employees and rolling out publically available charge points

Below is a chart which provides an indication of the charging time for vehicles depending on the type of charger used. It should be noted however that many existing vehicles are limited to 7kW or 11kW charging on AC depending on their on-board technology, and cannot take full advantage of 22kW AC charging.

Approximate miles of range added per charger type

2.3kW 3 pin plug	7kW AC Home Wallbox/Destination charger	22kW AC Destination charger	50kW DC Rapid charger	150kW DC Rapid charger
10 miles per hour	30 miles per hour	90 miles per hour	90 miles in 30 mins	200 miles in 30 mins

In summary, for the purpose of this report, the key issue is that with the proliferation of plug-in battery electric vehicles then, with or without a proliferation of public charging points throughout the County Borough, the demand for home on-street charging is likely to increase exponentially in due course. In such circumstance there would appear to be two ways forward:

- a) Continue with, and enforce, a ban regarding on-street charging involving trailing cables over adopted footways (accepting onstreet charging by connecting to designated supply 'bollards' etc. would be OK). Council's would then need to pursue in their local strategies an adequate coverage of community charging hubs and destination chargers.
- b) Introduce a permit system to allow on-street parking via home connection in suitable circumstances.

If the latter is pursued, it would seem there is a clear case for guidance from Welsh Government to ensure a consistent approach across Wales, include model guidance and a model licence (noting Welsh Government may need similar documentation for itself in relation to single carriageway Trunk Roads which pass through communities).

Taking account of the above, it is proposed to continue discussions with Welsh Government through Transport for Wales and the WLGA to seek model guidance and licence requirements for on-street home charging with respect to on-street charging requests from residents.

Financial Impacts:

No implications

Integrated Impact Assessment:

There is no requirement to undertake an Integrated Impact Assessment as there is no policy change associated with this report. The ongoing refusal of on-street charging requests by Councils in Wales, including Neath Port Talbot, is based on health and safety considerations and protecting the position of the Council as Highway Authority. It is assumed any policy change in the form of national guidance which aims to facilitate suitable on-street home charging would be subject to assessment at the time of drafting by Welsh Government.

Valleys Communities Impacts:

Charging issues surrounding home charging with respect to terraced housing etc. will impact on valleys communities as elsewhere. Indeed, the implications may be more acute in future where there are no public transport alternatives to the use of a car for example.

Workforce Impacts:

Employees who do not have off-street parking provision and alternative means of transport may well experience issues around onstreet parking, although the council has potential to mitigate this through workplace charging opportunities.

Legal Impacts:

Legal advice indicates liability for any incident involving a cable trailed over the footway without permission would lie with the property owner. However, if a licence system was to be introduced where permission is given by the council for cables to be trailed, the council may open itself to some level of risk of litigation as there is currently no existing case law for this scenario.

Risk Management Impacts:

Without a licence system in place, or adequate financially competitive local community charging hubs, un-regulated on-street charging is likely to occur and increase.

Consultation:

There is no requirement for external consultation on this item

Recommendations:

It is recommended that:

- a) The Council continue to decline requests for on-street home or business electric vehicle charging for the time being; and,
- b) Officers continue discussions with Welsh Government through Transport for Wales and the WLGA to seek model guidance and licence requirements for on-street home charging with respect to on-street charging requests from residents.

Reasons for Proposed Decision:

Given the legal implications for the Authority, the potential safety issues arising from trailing a cable across the highway, and the early stage trailing elsewhere of potentially innovative solutions, it is

recommended to continue with the existing moratorium and monitor the success or otherwise of the trials.

With the uptake of EV's which is likely to increase rapidly in the coming years, and the home charging issues arising from the historic housing and highway layouts throughout the country, national Welsh Government guidance is required to ensure a consistent approach between Councils and to steer future plans and policies.

Implementation of Decision:

The decision is proposed for implementation after the three day call in period

Appendices:

- Appendix A – Highways Act Sections 162 & 178
- Appendix B – Examples of on street charging from home
- Appendix C – Example of what a model licence agreement might contain with respect to on-street home vehicle charging

List of Background Papers:

The Road to Zero – UK Government - [The Road to Zero \(publishing.service.gov.uk\)](https://www.publishing.service.gov.uk)

Electric vehicle Charging Strategy for Wales – Welsh government [Electric Vehicle Charging Strategy \(gov.wales\)](https://www.gov.wales)

Action Plan – Electric Vehicle Charging Strategy for Wales – Welsh Government - [Electric vehicle charging strategy for Wales: action plan \(gov.wales\)](https://www.gov.wales)

Zero Emission Vehicle (ZEV) Mandate -

<https://www.gov.uk/government/consultations/a-zero-emissionvehicle-zev-mandate-and-co2-emissions-regulation-for-new-carsand-vans-in-the-uk>

Officer Contact:

Paul Thomas, Senior Assistant - Highways

☎ 01639 686120

✉ p.thomas3@npt.gov.uk

Steve Owen, Highway & Drainage Services Manager

☎ 01639 686304

✉ s.owen@npt.gov.uk

Appendix A

Relevant Section of the Highways Act (Sections 162 & 178)

162 Penalty for placing rope etc. across highway.

A person who for any purpose places any rope, wire or other apparatus across a highway in such a manner as to be likely to cause danger to persons using the highway is, unless he proves that he had taken all necessary means to give adequate warning of the danger, guilty of an offence and liable to a fine not exceeding level 3 on the standard scale.

178 Restriction on placing rails, beams etc. over highways.

(1) No person shall fix or place any overhead beam, rail, pipe, cable, wire or other similar apparatus over, along or across a highway without the consent of the highway authority for the highway, and the highway authority may attach to their consent such reasonable terms and conditions as they think fit.

(2) Subject to subsection (3) below, a person aggrieved by the refusal of a consent under subsection (1) above, or by any terms or conditions attached to such a consent, may appeal to a magistrates' court.

(3) No appeal lies under subsection (2) above against any term or condition attached by the Minister to a consent given by him under this section if he declares the term or condition to be necessary for the purpose of securing the safety of persons using the highway to which the consent relates or of preventing interference with traffic on it.

(4) If a person contravenes subsection (1) above, or the terms or conditions of any consent given under that subsection, he is guilty of an offence and liable to a fine not exceeding level 1 on the standard scale; and if the offence is continued after conviction he is guilty of a further offence and liable to a fine not exceeding £1 for each day on which the offence is so continued.

(5) This section does not apply to any works or apparatus belonging to any statutory undertakers, and for this purpose the Civil Aviation Authority, a person who holds a licence under Chapter I of Part I of the Transport Act 2000 (to the extent that the person is carrying out activities authorised by the licence), and a universal service provider in connection with the provision of a universal

postal service and the operator of an electronic communications code network or a driver information network are to be deemed to be statutory undertakers.

Appendix B

Examples of on-street charging from home

Trailing cable



Cable protection mat



Cable channel



Swinging Overhead Arm



2. **The Licence**

- 2.1 This Agreement is made under section 178 of the Highways Act 1980.
- 2.2 In consideration of the Licence Fee and the provisions of this Agreement the Council gives the Licensee the right for the Licence Period to place the cable channel at the location specified at the Schedule to this Agreement being areas of highway maintainable at public expense for a period of _ years from the date of the agreement.

3. **Licensee's Undertakings**

The Licensee agrees and undertakes the following:

- 3.1 The Licensee must maintain the cable channel, keep it in a good state of repair and in a clean and tidy condition;
- 3.2 The Licensee must not use the cable channel for any purpose other than for charging an electric vehicle;
- 3.3 The Licensee must not use the cable channel in such a way as to cause a nuisance, damage, disturbance, annoyance, inconvenience, or interference to the adjoining or neighbouring property or the owners occupiers or users of any adjoining or neighbouring property;
- 3.4 The Licensee must indemnify the Council and keep the Council indemnified against all losses claims demands actions proceedings damages costs or expenses or other liability arising in any way from this Licence any breach of any of the Licensee's undertakings contained in clause 3 or the exercise or purported exercise of any of the rights given in clause 2; and
- 3.5 The Licensee must ensure the cable has a suitable Residual Current Detection (RCD) device included.

4. General

4.1 The rights granted in clause 2.1 are to determine – without prejudice to the Council's rights in respect of any breach of the undertakings contained in clause 3:

4.1.1 immediately on notice given by the Council at any time following any breach by the Licensee of its undertakings contained in clause 3; and/or

4.1.2 on not less than twenty eight (28) days advance notice in writing given by the Council or the Licensee to the other party

4.2 The benefit of this Licence is personal to the Licensee and not assignable and the rights given in clause 2 may only be exercised by the Licensee.

4.3 The Council may require the cable channel to be moved to an alternative area of highway maintainable at public expense:

4.3.1 and moved immediately by the Council without the Licensee's consent should the Council or any other body including but not limited to the police, fire service, ambulance service, statutory undertakers and telecommunications code system operators require access to the highway; or

4.3.2 if practicable, by giving not less than fourteen (14) days' notice in writing to the Licensee for the Licensee to move the cable channel to an alternative location approved by the Council in writing. Should the Licensee not comply with such notice the Council may move the cable channel in default.

4.3.3 For the avoidance of doubt the decision as to any alternative location will be at the discretion of the Council.

4.4 The Council is not to be liable for the death of or injury to the Licensee or for damage to any property of theirs or for any losses, claims, demands, actions, proceedings, damages, costs or expenses or other liability incurred by them in the exercise or purported exercise of the rights granted by clause 2.

5. Costs

5.1 Upon the execution of this Agreement the Licensee shall pay to the Council the total sum of [] pounds (£[]) being the combined amount of the Legal Costs and the Licence Fee

THE SCHEDULE

Location of cable channel

[]

The Plans

(Location Plan to be included here)

IN WITNESS whereof the Council has caused its Common Seal to be hereunto affixed and the Licensee has executed this deed the day and year first before written

THE COMMON SEAL of)
NEATH PORT TALBOT)
COUNTY BOROUGH COUNCIL)

was hereunto affixed in the) presence
of:)

Proper Officer

[

]

This page is intentionally left blank



Cyngor Castell-nedd Port Talbot
Neath Port Talbot Council

NEATH PORT TALBOT COUNTY BOROUGH COUNCIL

Environment, Regeneration and Streetscene Services Cabinet Board
14th November 2023

Report of the Head of Engineering & Transport
D. W. Griffiths

Matter for Information

Ward Affected: All

Electrical Vehicle and Charging Infrastructure Transition to Ultra Low Emissions update.

Purpose of Report

1. To inform members of the current position for vehicle transition to zero emission as well as charging infrastructure to support the transition for the fleet.
2. Update Members on the position of transition in line with the established transition plan.

Executive Summary

3. A report has been prepared which identifies vehicles which are either already purchased, on order or have been identified for this year's replacements to help the fleet transition to net zero.
4. This report also lists the current charge points and locations which support the EV fleet and informs members of the services required to transition a large fleet of vehicles.

Background

Vehicles

5. Fleet services have provided a list of vehicles already transitioned too full electric which total 34 with a further 43 due by 2024, see Appendix A. The vehicles range from large goods vehicles to light vans and are assessed based on suitability, mileage, market research/trials and availability before procuring.
6. The targets set by WG and in line with our transition plan are tight, 2025 for car and light van and all other vehicles by 2030. We have made very good progress in transitioning suitable vehicles so far and continue to explore all options and trials when vehicles are due for replacement.
7. Our experiences so far have been one of learning. At all stages we engage with sections and involve them in the decision-making process as well as exploring suitable vehicle types when considering range and charging etc. We also aim to educate the drivers and managers that the way we use electric vehicles is different to diesel and petrol engine vehicles as there is more planning around routes, range and charging. Feedback from drivers who have trialled the vehicles so far has been very positive.
8. We have conducted level 3 training on 94% of workshop technicians for electric and hybrid vehicles. This enables us to carry out service and inspections to the required standards on all vehicle types, we are also exploring level 4 qualifications to enable us to deliver more in-depth repairs in line with manufactures guidelines to potentially offer more services externally to generate income and contribute to the council overheads within the service area.

Charging Infrastructure

9. Fleet services have provided a list of current charging infrastructure and locations which will be used for fleet vehicles (Appendix B). The total amount of charge points currently in operation are 62 across depots and civic buildings. The fleet have a range of different chargers available with various power outputs which charge vehicles at different rates Alternating Current AC and Direct Current DC power supplies. The most popular we have are AC charge points which are generally used overnight in contrast to the DC

charger which is a rapid charger to put charge and range into the vehicle battery systems quickly in the event of any service response requirements when vehicle battery status is low.

10. Fleet services have recently changed the back-office management of the charge points from the various charge point providers to Clenergy EV who are based at Pencoed in Bridgend. This makes the management of the charging infrastructure more efficient and will allow the fleet office to better facilitate charger breakdowns, simplifies recovering costs per vehicle for electricity, producing reports and data sets which are easier to access. The fleet office can view the charge points state of charge and if vehicles are currently on charge, if the batteries are fully charged or if there is a charger fault then infrastructure can be remotely accessed, and the charger unit reset.
11. Additional chargers will be needed for future requirements such as the recycling transfer depot, provision has been put in place for the requirements of all vehicles with the potential to be transitioned to EV at the site.
12. A focus group chaired by Facilities management has also identified the need for additional charge points located at key depots and other council buildings which could be used to fast charge or top up as and when required.
13. Fleet Services have also converted their current breakdown vehicle and fitted a unique charge unit to deal with vehicles which may run out of charge. This unit is the same as the RAC and AA vehicles carry and will help with driver's range anxiety in that they will know that help is on hand in the event of running on low battery charge.
14. Members will recall the Zero Emission Fleet Transition report which was presented on the 24th September 2021. At that meeting Members approved the Zero Emissions Fleet Transition Plan and the subsequent submission of the plan to the Welsh Government Energy Service on 22nd October 2021, in line with the requirements set out in Welsh Governments Prosperity for All Document 2019, a Low Carbon Wales. The Fleet Transition Plan provides a definitive timeline of when vehicles are to be renewed and what they are to be replaced with. The Transition Plan is a management tool which will help the Council budget for the increased costs that will be incurred with E. V's.

Financial Impact

15. Currently there has been no significant financial impacts to fleet reserves mostly due to grant funding for the majority of vehicles procured which offsets the transition from diesel to electric however future vehicle replacements will result in increased costs and potential budget pressures. Due to recent market influences outside of the control of the council it is important to highlight for members that price increases/costings have only been established for the next 2 years. This could be further impacted if WG grant funding does not become available to support the WG ULEV transition targets then the council would need to fund the cost difference to transition. At present the WG have provided assurances that the Waste vehicles scheduled for renewal have been built into their grant programme when the vehicles are replaced. It is important to note the grant funds the difference in cost between a Diesel and new ULEV vehicle.
16. Moving forward any extra costs not funded by grant will be reviewed for affordability prior to purchase this will be monitored closely through the renewals/prudential borrowing arrangements to establish cost impacts on a year-by-year basis.
17. In partnership with accountable managers fleet services will scrutinise all transport related costs with a view to maximising vehicle efficiencies. It will be essential that managers are able to demonstrate that vehicle requirements before a decision is made to renew or replace. This is critical to ensure that the fleet is right sized for the services being delivered and to limit both capital and revenue budget pressures in the future.
18. A list of successful grants claimed for vehicles and chargers by the fleet section are set out in Appendix C. These grants have enabled services to make good progress in transitioning vehicles and developing the infrastructure required. Total Grant claimed for vehicles via WG £460,400.00. Total Grant claimed for charging infrastructure £360,916.00.

Integrated Impact Assessment

19. There is no requirements to undertaken an Integrated Impact Assessment as this report is for information purposes.

Valley Communities Impacts

20. No implications

Workforce Impacts

21. Training on new vehicle technologies and systems to aid transition to a zero emission vehicles.

Legal Impacts

22. There is no legal risk to the Authority although it is noted that the council are required to meet the Welsh Governments net zero targets.

Risk Management

23. Service delivery in the event of power failures and charge point communication failures.

Consultation

24. There is no requirement for external consultation on this item.

Recommendations

25. No recommendations.

Reason for Proposed Decision

26. No decision required.

Implementation of Decision

27. No decision required.

Appendices

28. Appendix A – Electric Fleet Vehicles

29. Appendix B – Charging Infrastructure and Locations

30. Appendix C – Schedule of grant funding received

31. Appendix D - Vehicle Transition Plan

List of Background Papers

32. None

Officer Contact

Kevin Lewis, Fleet Manager, Engineering & Transport

☎ 01639 763134 ✉ k.lewis@npt.gov.uk

Appendix A

Electric Vehicle List Already on Fleet

- 6 Full Electric cars, General Office pool and Access Management
- 6 Full Electric cars, Domiciliary Care
- 16 Full Electric Light Vans across sections
- 1 Full Electric 16t Road Sweeper
- 1 Full Electric Recycling Vehicle
- 2 Full Electric Community Service Transport Minibuses
- 1 Full Electric Town Centre Sweeper
- 1 Full Electric All-Terrain Vehicle Gnoll Park

Vehicles Currently on Order

- 1 Full Electric Light Van Parking Services

Vehicles on this year's renewals

- 21 Recycling Vehicles Full Electric
- 13 Full Electric Light Vans various sections
- 3 Full Electric Cars pool
- 4 Medium Possibly Full Electric panel Vans
- 1 16t Full Electric Road Sweeper

Appendix B

Charging Infrastructure and Locations

New Fleet Charging Facility at the Quays SRC.

The new Fleet charging facility at the Quays-SRC will have 16 twin socket 22kWh chargers providing the capability of charging 32 vehicles at any one time. All chargers are load balanced to ensure the power available is not exceeded.

The charging facility is an extension to the current SRC yard, entrance to this facility will be via the SRC yard. However, there are two extra emergency access points should the need arise.

The Fleet site also has a canopy with PV Solar panels fitted, this will be capable of providing a maximum of 80kWp, although it is anticipated that 68kWp is more realistic. The power generated by the PV panels will go to offset the electricity consumption of the Quays.

Alongside the Fleet facility there is also an area for staff charging in the Quays main car park. This provides six twin socket 22kWh chargers which will allow a maximum of 12 cars to be charged simultaneously. These are again load balanced to ensure power available is not exceeded.

The SRC yard also has some original charge points which have been installed for some time which serviced the early electric vehicle however have been updated a few years ago. There are 2 twin 7.5kw so 4 points which are generally used for pool vehicles. Recently fleet have also installed a rapid charger 50kWh on one side and a 22kWh on the other which is generally used for the current heavy goods sweeper and recycler.

Tregelles Court

Currently at the fleet depot located at Tregelles Court there are 8 single wall external mounted 7.5kwh trickle charge units. We have procured 2 more which were originally for the 2 CST electric minibuses however there is a decision pending on where these wall mounted chargers can be located.

Tawe Terrace

There is 1 standalone post mounted single 7.5kwh charger located at Tawe Terrace however there is limited capacity for more unless the electricity is upgraded for future requirements.

Port Talbot Civic

There are 2 single wall mount 7.5kwh charge points located at the civic centre these were installed on the wall outside the ramp entrance for cleaner's vehicles.

Library HQ Britton Ferry

There is 1 single wall mounted 7.5kwh charge point which is utilised for the current libraries light van.

Future requirements

There is also provision for Solar PV fitted to the waste transfer station roof and suitable 9x dual 22kw and 4x 150kw fast chargers for the Waste Recycling Centre at Crumlin Burrows (MREC), This will service the Refuse Recycling Fleet when moved.

Appendix C

WG Grants Received to Date for Fleet Vehicles

£6,000.00	ATV Gnoll Park
£25,000.00	Precinct Town Centre Sweeper
£185,000.00	16t V65e Electric Dual Sweeper
£12,000.00	Light Vans
£170,000.00	Terberg Matec Kerbloader Urban EV recycling truck
£62,400.00	Light Vans

Social Service also received a grant for full purchase costs of 6 Vauxhall Corsa cars for Domiciliary care.

WG Grants Received to Date for Fleet vehicle charging infrastructure.

£300,000.00	SRC Charge Park Project
£31,858.00	SRC Fast Charger
£5,000.00	Wall Mounted Chargers Tregelles Court
£24,058.00	Wall Mounted various locations.

Further Grants have been secured for the purchase of recycling vehicle fleet this year with WG however due to delivery times and chassis availability these are predicted to slip into next year.

Work is on going to identify further grant support from WG to aid transition of all vehicle types.



Cyngor Castell-nedd Port Talbot
Neath Port Talbot Council

Zero Emissions Fleet Transition Plan



Contents

1. Background
2. Fleet Profile
3. Phased Approach
4. Cost Analysis and Emissions
5. Next Steps

Glossary of Terms

Abbreviation	Meaning
• ICE	Internal Combustion Engine
• BEV	Battery Electric Vehicle
• EV	Electric Vehicle
• HEVs	Hybrid Electric Vehicles
• ULEV	Ultra Low Emission Vehicles (<i>typically a vehicle that emits less than 75g of CO₂/km from the tailpipe</i>)
• WGES	Welsh Government Energy Service
• PCV	Passenger Carrying Vehicle
• CPMS	Corporate Performance Management System
• HVO	Hydrotreated Vegetable Oil

Background

Policy Issues & Drivers for Change

- Welsh Governments 2019 Prosperity for all Document: A low Carbon Wales, sets out how Wales is going to address Climate Change. *Proposal 4 - All new cars and light goods vehicles in the Public Sector fleet are ultra low emission by 2025 and where practicably possible, all heavy goods are ultra low emission by 2030*
- U.K Government announced an end to the sale of new diesel, petrol cars and vans from 2030. Hybrid vehicles will continue to be on sale, however, from 2035 the sale of new Hybrid vehicles will also end and all new cars and vans sold in the U.K will be zero emissions.
- NPT's 2020 DARE Strategy point 4.2.2.1 States:
The Council currently operates a fleet of approximately 376 vehicles including school minibuses and contract hired vehicles (this figure does not include plant equipment). Whilst the fleet only currently has 4 fully electric vehicles, the Council is actively looking to increase the fleet to include additional vans, pool cars and a bus as part of the 'Annual Renewals Programme'. *Figures shown above are subject to change as vehicles are replaced.*

Fleet Profile

- Total number of vehicles 266 as of June 2021 however the fleet profile will fluctuate. *This figure does not include school mini buses, SWTRA and hire vehicles.*
- 11 PCV for Community Service Transport
- 41 Heavy Goods Vehicles used for the collection of Refuse and Recycling
- 40 specialist heavy goods vehicles such as road sweepers, winter maintenance gritters, gully jettors and tippers.
- 86 Medium to Large vans up to 3.5t
- Light van and Cars total 80, of which 11 have already transitioned over to full electric vehicles
- 13 contract hire vehicle 1 of which is full electric and a further 7 and self-charging hybrids HEVs.
- 35 items of mobile plant such as ride on mowers, excavators and tractors.

- 34 school minibuses and people carriers owned and operated by the schools and therefore not included in the plan.
- Vehicles are hired as and when required such as HGV's, light, medium, heavy vans and cars. On average there are 40 vehicles hired daily which has increased during the pandemic.
- 8 petrol hybrid cars and 4 full electric cars 7 electric light vans.

Phased Approach

Future options for the transition of vehicles outlined below will include;

- Full electric vehicles EV
- Hydrogen (if available)

Fleet Transition Timeline							
Year	Cars	Light Vans	Medium Panel Vans/4x4	Heavy Vans Tippers	H.G.V/Specialist	MiniBuses	Totals
21/22	7	10	4	0	8	10	39
22/23	2	1	0	1	1	0	5
23/24	3	14	5	4	23	5	54
24/25	2	19	15	21	10	0	67
25/26	1	14	1	7	7	2	32
26/27	0	2	6	2	2	1	13
27/28	0	3	4	2	11	3	23
28/29	0	2	3	11	17	0	33
29/30	N/A	N/A	N/A	N/A	N/A	N/A	266

The above chart indicates what can be transitioned and in which year it is scheduled to happen. Green vehicles are readily available. Amber only certain types of vehicles available. Red vehicles not readily available or in very early stages of development.

Estimated Cost Analysis and Emissions

Cost examples for transition to E.V Outright Purchase

Refuse Freighters

Refuse freighter	ICE	New cost	£220k
Refuse freighter	EV	New cost	£420k
Refuse Freighter	EV	Refurbished & Converted to EV	£320k

Medium Van

Medium Van	ICE	New cost	£18k
Medium Van	EV	New cost	£27k

Refuse Freighter

Refuse Freighter	EV	NEW Purchase	£420k
Refuse Freighter	EV	Refurbished existing vehicle & Converted to EV	£320k
Refuse Freighter	EV	NEW vehicle Leased over 7 years	£620k
Refuse Freighter	EV	Refurbished & Converted EV Leased 7 years	500k approx.

Renewals cycles for EV

Currently ICE vehicles have a life cycle between 5 and 7 years. However, with less wear that EV's have the life of the vehicles can be extended. This could be in line with the battery warranty which could be as long as 10 years. There may be some instances where battery degradation happens sooner depending on usage. Individual cells may be replaced which can be costly, however not as costly as replacing complete battery packs. Renewals schedules may differ with types and makes of vehicles depending on battery warranties terms and possible hydrogen fuel cell warranties.

Example of fuel cost savings after transition to EV

Using 2 vehicle types 1 being the vehicles that consume most fuel which are refuse freighters the other a standard medium van. The examples below provide potential fuel savings per vehicle.

Vehicle	Annual fuel used	Cost of Fuel/Electricity	Annual Mileage	Total Cost of Energy
Dennis Eagle 26t Refuse Freighter Diesel	16,500L Diesel 709L adblue	1.45 diesel .59 adblue	20,000km approx	£24,343.31 inc adblue
Dennis Eagle 26t Refuse Freighter EV	35,600kwh	0.19	20,000km approx	£6,764

Annual fuel savings based on one refuse freighter £17,579.31 (updated 2023)

Medium van whole life savings

Vehicle	Miles per unit of Energy	Cost of Fuel/Electricity	Lifetime Mileage	Total Cost of Energy
Vauxhall Vivaro	39.90	5.0007	100,000miles	£12,533
Vauxhall Vivaro-e	3.39	0.10	100,000miles	£5,605

Whole life saving £9,583 on fuel which will offset the higher cost of purchase. The medium van costs are based old prices 2021.

Workshop Savings

According to the WGES draft report it is estimated that there will be a 20% saving in maintenance on the chassis/drive train of the vehicles. This can be managed through opportunities with external companies and natural wastage.

Example of potential Emissions Savings

The phased approach outlined in this plan will see a year on year reduction in CO2 emissions by the Councils fleet. For the Council to achieve the reduction in emissions set out by Welsh Government will depend on vehicle availability.

Figures for 20/21 shows the Council produced 3,151.58 tonnes of CO2 per annum. As way of an example, one ICE refuse freighter produces 72.2 tonnes of carbon emissions a year. If all 13 refuse freighters were replaced the council would see an approximate reduction of 964 tonnes of carbon emissions per annum.

Next Steps

Transition of Bunkered Fuel

The Councils current stock of fuel equates to 145,000 litres of diesel and 22,000 litres of Petrol. As demand for carbon based fuels decrease and E.V becomes predominant. Fleet services will manage the transition from carbon based fuels to electric and Hydrogen as these resource becomes available. If HVO or other bio fuels become available to achieve short term gains then these maybe considered if cost effective and subject to being ethically sourced. There will be capacity in the current tanks if a decision is made to hold and dispense to certain vehicles that are covered under the manufacturer's warranty to be run on these such fuels.

Change in Culture

Management of sections/departments need to revise working practices and become more vehicle focused, this may include more robust route design and shift working patterns. Needless travel should be addressed by Management and more innovation around planning journeys/work.

Staff buy in to embrace the transition will be essential throughout the Authority and to address such things as range anxiety, driving automatic vehicles and charging protocol etiquette.

Use of hired vehicles as a back up to the existing fleet will also be zero emissions. Sections requiring car and light van hired vehicles will need to be aware that after 2025 the only options available will be zero emission.

Specialist and HGV/PCV hires may not be available as zero emission until post 2030. However, if there are zero emission option available sections will be expected to hire these.

A business case will need to be made if a section requires an ICE vehicle, which will need to be signed off at Director Level.

Workshop requirements

EV's require less maintenance than ICE vehicles which may give capacity for fleet technicians to offer services to partner organisations, contract hire companies and the general public which gives opportunity to generate income.

Work has already started with 1 EV bay already in place at Tregelles Court. However, further infrastructure improvements at both Tregelles Court and the SRC workshops will have to be introduced which will require further investment to update workshops.

Fleet's callout breakdown van has already been converted in line with the AA response vehicles to enable the technicians to attend EV breakdowns. Fleet has worked in conjunction with H&S on procedures and Risk Assessments that are required for EV, maintenance, repairs and call outs.

Currently 10 technicians have been trained to level 3 City and Guilds in EV maintenance and repairs. It is planned for further technicians to upskill before 2025. The aim is for all technicians to progress to level 5 City & Guilds which will provide more specialist knowledge on EV. As technologies develop and new zero emission fuel sources become available technicians will need further training and workshops realigning to the new technologies.

Training needs for staff

Staff have concerns regarding E.V's. this ranges from range anxiety, charging and driving of automatic vehicles. Education in transitioning to zero emission vehicles is therefore key. Staff will need to be part of the journey and this training may also help with their own private vehicle transition.

- Driving styles
- Fuelling/charging vehicles
- What to do in the event of a breakdown/accident
- Automatic gearbox driving
- Range anxiety
- Journey Planning
- Vehicle checks and new vehicle induction can be provided by NPT Road Safety Training Section <http://www.nptroadsafety.co.uk/2775>

Vehicle charging locations/parking arrangements

To ensure the transition of the council's vehicle fleet to zero emissions. Locations will need to be identified where there is sufficient parking and energy

capacity available to facilitate the number of charge points required to cater for future fleet requirements.

A review of current working practices and home parking policies, for example on call vehicles, will need to be undertaken by each department.

Charge point Management

The back office management software for the chargers will have to be capable of interfacing with the vehicles telemetry and tracking system. The chargers management software will automatically prioritise the charging of vehicles.

Fleet services currently have access to all charge point management software and online systems used to manage the charging system. Fleet will arrange breakdown repairs, maintenance and replacement of charge points.

If any other alternative fuels come to the market such as hydrogen then the same methodology will apply in regard to fuel and fuel point management. Monthly reports will be produced for all user sections and finance section for recharge purposes which will be on a vehicle registration basis.

School minibuses

Fleet will work with schools and are able to assist with the transition of their vehicles. Schools will also have the opportunity to generate income when L.A vehicles are on site and utilise their charging facilities.

Transition Plan Management

Procuring new or replacement fleet vehicles and plant should be done in line with this transition plan and the fleet renewals programme. The targets set out in this plan can be achieved as long as technology allows, the fleet service will continuously liaise with all sections to trial new technologies and to ensure they are operationally fit for purpose. If operational adjustments to suit zero emission vehicles need to be made the fleet services will assist the section Managers with this process.

Fleet services will report back to departments, senior managers and councillors when formulating annual renewals schedules. Discussions will be focused around;

- Short term emission reductions (use of bio fuels, telematics etc) before zero emission target deadlines
- Option to reduce life cycle if opportunities to purchase zero emission vehicles arise early as well as identifying funding streams
- Vehicles life may be extended until such time a particular vehicle types i.e. 4x4 are more readily available.
- Refurbish and convert existing assets to zero emissions instead of purchasing new vehicles if practically possible.
- Any new technologies that come on the market.

The above approach will give the Authority options and flexibility going forward to ensure its Carbon footprint is lowered and zero emission targets are met in line with the transition plan. The selection of these options is key to ensure the departments have vehicles capable of meeting their operational requirements whilst being the most economically advantageous vehicles available on the market at that point in time.

This page is intentionally left blank



Cyngor Castell-nedd Port Talbot
Neath Port Talbot Council

Report of the Head of Legal and Democratic Services

Environment, Regeneration and Streetscene Services Cabinet

Board

14 November 2023

ACCESS TO MEETINGS/EXCLUSION OF THE PUBLIC

Purpose:	To consider whether the Public should be excluded from the following items of business.
Item (s):	<p>Agenda Item 18 - Proposed New Cinema Extension and Internal Improvement Works at Pontardawe Arts Centre - Party Wall Notices</p> <p>Agenda Item 19 - Place Plans - The Commission of Additional Consultancy Work to The Urbanists for the further development and expansion of existing proposals</p> <p>Agenda Item 20 - Update on the Council's Local Authority Waste Disposal Company</p>
Recommendation(s):	That the public be excluded from the meeting during consideration of the following item(s) of business on the grounds that it/they involve(s) the likely disclosure of exempt information as set out in the Paragraphs listed below of Schedule 12A of the Local Government Act 1972 as amended by the Local Government (Access to Information) (Variation) (Wales) Order 2007 subject to the Public Interest Test (where appropriate) being applied.

1. Purpose of Report

To enable Members to consider whether the public should be excluded from the meeting in relation to the item(s) listed above.

Section 100A (4) of the Local Government Act 1972 as amended by the Local Government (Access to Information) (Variation) (Wales) Order 2007, allows a Principal Council to pass a resolution excluding the public from a meeting during an item of business.

Such a resolution is dependant on whether it is likely, in view of the nature of the business to be transacted or the nature of the proceedings that if members of the public were present during that item there would be disclosure to them of exempt information, as defined in section 100I of the Local Government Act 1972.

2. Exclusion of the Public/Public Interest Test

In order to comply with the above mentioned legislation, Members will be requested to exclude the public from the meeting during consideration of the item(s) of business identified in the recommendation(s) to the report on the grounds that it/they involve(s) the likely disclosure of exempt information as set out in the Exclusion Paragraphs of Schedule 12A of the Local Government Act 1972 as amended by the Local Government (Access to Information) (Variation) (Wales) Order 2007.

Information which falls within paragraphs 12 to 15, 17 and 18 of Schedule 12A of the Local Government Act 1972 as amended is exempt information if and so long as in all the circumstances of the case, the public interest in maintaining the exemption outweighs the public interest in disclosing the information.

The specific Exclusion Paragraphs and the Public Interest Tests to be applied are listed in Appendix A.

Where paragraph 16 of the Schedule 12A applies there is no public interest test. Members are able to consider whether they wish to waive their legal privilege in the information, however, given that this may place the Council in a position of risk, it is not something that should be done as a matter of routine.

3. Financial Implications

Not applicable

4. Integrated Impact Assessment

Not applicable

5. Valleys Communities Impact

Not applicable

6. Workforce Impact

Not applicable.

7. Legal Implications

The legislative provisions are set out in the report.

Members must consider with regard to each item of business the following matters.

- (a) Whether in relation to that item of business the information is capable of being exempt information, because it falls into one of the paragraphs set out in Schedule 12A of the Local Government Act 1972 as amended and reproduced in Appendix A to this report.

and either

- (b) If the information does fall within one or more of paragraphs 12 to 15, 17 and 18 of Schedule 12A of the Local Government Act 1972 as amended, the public interest test in maintaining the exemption outweighs the public interest in disclosing the information; or
- (c) if the information falls within the paragraph 16 of Schedule 12A of the Local Government Act 1972 in considering whether to exclude the public members are not required to apply the public interest test by must consider whether they wish to waive their privilege in relation to that item for any reason.

8. Risk Management

To allow Members to consider risk associated with exempt information.

9. Recommendation(s)

As detailed at the start of the report.

10. Reason for Proposed Decision(s):

To ensure that all items are considered in the appropriate manner.

11. Implementation of Decision(s):

The decision(s) will be implemented immediately.

12. List of Background Papers:

Schedule 12A of the Local Government Act 1972

13. Appendices:

Appendix A – List of Exemptions

Appendix A

NO	Relevant Paragraphs in Schedule 12A
12	Information relating to a particular individual
13	Information which is likely to reveal the identity of an individual
14	Information relating to the financial or business affairs of any particular person (including the authority holding that information).
15	Information relating to any consultations or negotiations, or contemplated consultations or negotiations in connection with any labour relations matter arising between the authority or a Minister of the Crown and employees of, or office holders under, the authority
16	Information in respect of which a claim to legal professional privilege could be maintained in legal proceedings.
17	Information which reveals that the authority proposes: <ul style="list-style-type: none"> • To give under any enactment a notice under or by virtue of which requirements are imposed on a person, or • To make an order or direction under any enactment.
18	Information relating to any action taken or to be taken in connection with the prevention, investigation or prosecution of crime.

By virtue of paragraph(s) 14 of Part 4 of Schedule 12A
of the Local Government Act 1972.

Document is Restricted

This page is intentionally left blank

By virtue of paragraph(s) 14 of Part 4 of Schedule 12A
of the Local Government Act 1972.

Document is Restricted

This page is intentionally left blank

By virtue of paragraph(s) 14 of Part 4 of Schedule 12A of the Local Government Act 1972.

Document is Restricted

This page is intentionally left blank

By virtue of paragraph(s) 14 of Part 4 of Schedule 12A
of the Local Government Act 1972.

Document is Restricted

This page is intentionally left blank

By virtue of paragraph(s) 14 of Part 4 of Schedule 12A of the Local Government Act 1972.

Document is Restricted

This page is intentionally left blank