NORTH AYRSHIRE COUNCIL

25 May 2021

Cabinet

Title:	**North Ayrshire Council Electric Vehicle (EV) Strategy (2021-2025)**
Purpose:	To seek Cabinet approval of the Council's first Electric Vehicle Strategy (2021-2025) and the introduction of a tariff for the public use of Electric Vehicle charging points
Recommendation:	That Cabinet: a. Approves the draft Electric Vehicle Strategy at Appendix A for implementation and publication b. Approves the introduction of a tariff and overstay fee for Council owned publicly available charge points, as detailed in Appendix B

1. Executive Summary

1.1 The North Ayrshire Environmental Sustainability & Climate Change Strategy 2017-20 (ESCCS) includes an action to work in partnership with government agencies to explore the potential for further electric charging infrastructure throughout North Ayrshire. Encouraging the uptake of EVs will not only help reduce greenhouse gas emissions and tackle climate change, but also help improve local air quality and therefore public health and wellbeing.

1.2 The aim of the first Council's Electric Vehicle (EV) Strategy (2021-2025) is to increase the number of EVs being used throughout North Ayrshire by creating a robust network of EV charge points. The strategy refers to EVs in a collective sense, including full battery electric, plug in hybrid and Ultra Low Emission Vehicles. Plug-in-vehicles (PiVs) is an umbrella term for any vehicle with a plug socket, including EVs and plug in hybrid vehicles.

1.3 The EV Strategy sets out actions to achieve this target, grouped under the following five main priority areas:

1. Development of a network of strategically located EV charge points
2. Taking a co-ordinated approach across the Council services
3. Deployment of EV within the Council's fleet and pool car scheme
4. Raising awareness of the benefits of EVs to individuals and businesses
5. Active Travel - encouraging wider E-bike and E-cargo bike opportunities

1.4 Cabinet is asked to approve the EV Strategy at Appendix A for publication, authorising officers to deliver the action plan and to endorse the recommendation to apply a tariff

for the use of the electric vehicle charge points. A detailed description of Electric Vehicle charge point tariff proposals are made in Appendix B.

2. Background

2.1 In November 2020, the UK government announced it will bring forward its ban on the sale of new petrol and diesel cars from 2040 to 2030. On 16th December 2020, the Scottish Government published the report 'Update to the Climate Change Plan 2018-2032', committing to phase out the need for new petrol and diesel cars and vans by 2030 (bringing this ambition forward by 2 years).

2.2 The 2019-2020 Programme for Government states that the Scottish Government will work with public bodies to phase out the need for any new petrol and diesel light commercial vehicles by 2025 and to create the conditions to phase out the need for all new petrol and diesel vehicles in Scotland's public sector fleet by 2030.

2.3 The Scottish Government's commitment is reflected through the development of ChargePlace Scotland, a national network of EV charge points available across Scotland. The network now comprises over 1,500 publicly available charge points across Scotland, making it one of the most comprehensive networks in Europe.

2.4 The Council's Environmental Sustainability & Climate Change Strategy 2017-20 was approved by Cabinet in January 2017. One of the work streams is Transport & Travel and there is a specific action to work in partnership with government agencies to explore the potential for further electric charging infrastructure throughout North Ayrshire. EVs offer a range of benefits including carbon savings, improvement to air quality and fuel cost savings.

2.5 The EV Strategy (2021-2025) refers to EVs in a collective sense, including full battery electric, plug in hybrid and Ultra Low Emission Vehicles. Plug in Vehicles (PiVs) is an umbrella term for any vehicle with a plug socket, including EV's and plug in hybrid vehicles. The popularity of EVs is growing at a considerable pace and based on statistics from the Department of Transport, North Ayrshire has seen a steady increase from 7 PiVs in 2013 to 217 PiVs licensed in 2020.

2.6 In addition to the cost of EVs and the limited journey range, there are many local factors which affect PiV ownership including income levels, local incentives and domestic properties without a driveway, leaving residents unable to charge at home. Based on a local authority analysis carried out by Transport Scotland, there is a positive correlation between the proportion of EVs and the number of publicly accessible charge points.

2.7 The EV Strategy presents the Council's first EV Action Plan, designed to promote the uptake and deployment of EVs in North Ayrshire.

2.8 The Council installed its first charge point in 2014 and as of the December 2020 has installed 24 publicly accessible EV charge points. All charge points were fully grant funded through Transport Scotland's ChargePlace Scotland Network programme.

2.9 The EV Strategy sets a target for one publicly accessible charge point for every nine PiV. This target was set to exceed the recommendation from European Commission to have at least one charge point for every ten PiV. The rationale behind this is to future proof our network but also because the number of PiVs registered is still relatively low.

2.10 The sub target for 2% of total number of vehicles registered in North Ayrshire to be PiVs will be more challenging as the council has limited influence over this area. The 2% target was calculated using Energy Saving Trust's forecasting tool and is based on the high growth scenario. The number of PiVs registered has been rising year on year and

it expected that as we expand our network of EV charge points, the widespread adoption of PiVs will follow.

2.11 The lack of workplace charging facilities requires to be addressed, in order for the Council to introduce more EVs in both our fleet and pool car scheme. For workplace charge points, the strategy sets a target to have 80 workplace charge sockets (44 charge points with varying number of outlets) by December 2025. In 2020, the council had installed 9 workplace charge points to support the decarbonisation of our fleet vehicles. A target of 7 workplace charge points per years is, therefore, realistic and achievable.

2.12 Every year, the Council will report on the following performance indicators to measure progress: number of publicly accessible charge points, percentage of PiVs in North Ayrshire and the number of council owned workplace charge sockets/points.

2.13 The Council's progress on the three performance indicators is subject to funding from Scottish Government, Transport Scotland and the Energy Saving Trust. Officers will continue to secure funding opportunities to ensure these targets are met.

2.14 To ensure a comprehensive and well-planned approach to developing the EV charging infrastructure, the following priorities have been identified and actions have been assigned in the EV Action Plan:

1. Development of a network of strategically located EV charge points
2. Taking a co-ordinated approach across the Council services
3. Deployment of EV within the Council's fleet and pool car scheme
4. Raising awareness of the benefits of EVs to individuals and businesses
5. Active Travel – Encouragement of wider E-bike and E-cargo bike opportunities

2.15 The EV Action Plan allows officers to continue to utilise Local Authority Installation Programme grant funding from Transport Scotland to install more publicly accessible EV charge points across North Ayrshire.

2.16 The Switched-on Towns and Cities feasibility report prepared by the Energy Saving Trust provides the business case to install 36 EV charge points in Irvine and it provides an indication on the level of investment required. An application will be submitted for the second round of the Switched-on Towns and Cities Challenge Fund, once open for applications. The findings from the feasibility report will be used to support the application.

2.17 To ensure that the Council's network of EV infrastructure remains robust and reliable, consideration is given to introducing a tariff for the use of existing charge points. The Council has provided free electricity from charge points to EV users since 2014. It is proposed that Cabinet approves the introduction of a tariff and overstay fee for EV charge points across North Ayrshire.

2.18 The electricity cost for these EV charge points has been increasing every year. In 2020, the annual electricity cost was £20,345, which reflects both public (£18,144) and NAC fleet vehicle (£2,201) use. Due to the increasing electricity costs it is no longer sustainable for the Council to provide free electricity for public EV infrastructure.

2.19 To ensure North Ayrshire Council can maintain and grow its EV charging infrastructure, it is vital that there is a move towards a sustainable model which includes the introduction of charging tariffs and overstay fee. 12 out of 32 Scottish councils have already introduced tariffs.

2.20 The tariff and overstay fee proposed for North Ayrshire Council is in line with recommendations from the Electric Vehicle Association (EVA) Scotland and Charge Place Scotland, and is proposed as follows:

- £0.30 per kWh for Rapid charge points (over 43kW)
- £0.19 per kWh for Destination charge points (all slower charge points e.g. 22kW, 7kW and 3kW)
- Overstay flat fee of £10 will automatically apply after 70 minutes for Rapid charge points and 190 minutes for Destination charge points.

2.21 The Council's proposed tariff equates to 8.6p per mile for Rapid charge points and 5.4p per mile for Destination charge points. This compares well to the average cost for conventionally fuelled vehicles which is between 13p to 16p per mile (based on data from Energy Saving Trust).

2.22 Council officers will begin the process of introducing tariffs and overstay fees immediately after Cabinet approval has been sought and secured.

2.23 At present, the Council offers free parking at all Council owned car parks apart from the Shorefront and Bellman's Close car park in Largs. The Council are considering the introduction of parking fees in the future. How this will impact EV charging in car parks where parking fees apply will be investigated and recommendations provided to Cabinet for approval at a future date.

2.24 The Council has a role in leading by example in its vehicle fleet. The Council's pool car scheme was successfully launched in 2015/16 to reduce carbon emissions and expenditure associated with staff travel. Over 1200 members of staff have signed up to the scheme, with access to 27 low emission vehicles across 11 Council office locations.

2.25 Promotion and awareness raising is needed to improve consumers' attitudes towards EVs. One of the proposed actions is to update the Council website to show EV charge point locations within North Ayrshire and signposts to funding and support available.

2.26 The "20-minute neighborhoods" concept enables people to live, learn, and meet their daily needs within a 20-minute walk of their home. This concept will encourage people to walk and cycle more. E-bikes and E-cargo bikes are examples of active travel options which can help the Council reduce on carbon emissions. The Council will explore the opportunity to incorporate EV infrastructure and encourage E-bike roll out in its town centre development and regeneration projects such as the Ardrossan Low Carbon Hub.

3. Proposals

3.1 It is proposed Cabinet:

a. Approves the draft Electric Vehicle strategy at Appendix A for implementation and publication

b. Approves the introduction of a tariff and overstay fee for Council-owned publicly available charge points, as detailed in Appendix B.

4. Implications/Socio-economic Duty

Financial

4.1 Financial Projections

The introduction of a tariff for the public use of Electric Vehicle charge points will assist in ensuring the growing EV network and infrastructure is financially sustainable.

4.1.1 The financials projections based on the tariffs presented in the Appendix B are as follows:

Table: Projected income based on charge sessions in 2020

Electricity usage for public EV charging in 2020	**114,105kWh**
Income from charges to EV users based on tariffs proposal	**£30,837**
ChargePlace Scotland (CPS) Fees	
Transaction Fee (£0.36 per charge session)	£3,161
Banking Fee (2.59%)	£910
Merchant Fee (1.50%)	£463
CPS Total Fee	**4,534**
Revenue received by the Council from ChargePlace Scotland after deducting CPS Total Fee	**£26,304**

4.1.2 The above assumes that the tariff is only applied to public users and North Ayrshire Council fleet is excluded.

4.1.3 Based on charge session data in 2020, the tariff proposed would provide a revenue of £26,304. Revenue associated with overstay fees is not included in the calculations as it is assumed that all users will comply with the time limit set.

4.1.4 The projected income will contribute to the maintenance costs of the EV charge points which will be required from December 2022. The estimated cost of maintenance for 24 EV charge points is approximately £24,000 per year (not including repairs due to vandalism or misuse).

4.1.5 However, it is important to note that the projected income is a conservative figure as 5 out of the 24 charge points were only commissioned in November 2020, being operational for only 15% of the year. It is also expected that the EV charge point usage in the future years will continue to rise as EVs become more popular and the associated income would rise in line with the trend.

Human Resources

4.2 The Sustainability Team will lead on implementation of the EV Strategy, management of tariffs and arranged maintenance of EV charge points. These duties will be met within the existing staff compliment.

Legal

4.3 Under the Section 35 of the Road Traffic Regulation Act 1984 the Council may make an order about parking spaces, including charges for use. Section 35C of the Act gives the Council the power to vary parking charges by notice. EV tariff charges at North Ayrshire are parking charge changes, and so can be achieved on notice of intention. Officers within Legal Services were consulted in preparation of this report and confirmed that a charge may be imposed for the use of the charge points, including an overstay penalty charge.

Equality/Socio-economic

4.4 The strategy supports the uptake of electric vehicles and helps to have a greater diversity of transportation choices available across North Ayrshire. Socio – economic benefits include better health through improved air quality and reduced ecological damage. The EV infrastructure supports local communities in the transition towards low carbon transport by providing access to electric vehicle charge points throughout North Ayrshire.

Environmental and Sustainability

4.5 Delivery of the EV Strategy will contribute towards:

- achieving the North Ayrshire Council Climate Emergency declaration commitment to achieving net zero by 2030, by encouraging uptake of electrical vehicles and thereby reducing carbon emissions associated with petrol and diesel vehicles. It is estimated that approximately 1.9 tonnes of carbon dioxide is saved when opting for an electric car rather than a petrol or diesel car (based on an average 10,000miles per year).
- improving air quality in North Ayrshire, specifically in urban areas

In addition, the Council's second Sustainability Strategy sets an ambitious target to reduce carbon emissions in North Ayrshire by 40% by 2030 (based on a 2005 baseline year). Within the strategy, one of the work streams is Transport & Travel with an action to explore the potential for further EV charging infrastructure throughout North Ayrshire. The third ESCCS covering the period 2021-2023 will identify actions for North Ayrshire to achieve net-zero carbon status by 2030.

Key Priorities

4.6 This EV Strategy has been written to support the Council priorities 'Aspiring Communities' and 'Inspiring Place' through:

- Active and strong communities;
- Inclusive, growing and enterprising local economy;
- Vibrant and welcoming places;
- A sustainable environment; and
- An efficient Council that maximises resources and provides value for money.

Community Wealth Building

4.7 The EV Strategy supports the Community Wealth Building in North Ayrshire by driving local more inclusive and resilient economy. In particular it supports the following pillars of community wealth building:

- Procurement: encourages and supports a growing, diverse and resilient local business base through increased opportunities and demand for EV components and materials, EV infrastructure and EV maintenance;
- Land and Assets: explores productive use of public owned land and assets for the common good and our net zero journey;
- Financial Power: commits capital investment within the local area to support actions to reduce carbon emissions across North Ayrshire and to help achieve carbon neutrality by 2030;

- Plural Ownership: supports the Council's ambitions around municipalisation to safeguard and enhance public services for residents through innovative approaches; and allows the Council to show green economic leadership.

5. Consultation

5.1 Officers within Economic Development and Regeneration (Active Travel and Transport), Commercial Services (Corporate Transport) and Democratic Services (Legal) were consulted in the preparation of this report.

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For further information please contact **Agnes Piatek-Bednarek, Senior Manager (Energy and Sustainability,** on **07391 394949**.

Background Papers
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North Ayrshire Council

Electric Vehicle Strategy

2021-2025

North Ayrshire Council
Comhairle Siorrachd Àir a Tuath

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Introduction

North Ayrshire Council is committed to promoting the uptake of electric vehicles and developing a robust charging infrastructure for residents, businesses and visitors. This document presents North Ayrshire Council's first Electric Vehicle Strategy and outlines how the Council will support electric vehicle (referred to as 'EV') adoption. Encouraging the uptake of EVs is fundamental to tackling climate change issues and by reducing traffic pollution, we will also improve the quality of life of people who live, work and visit North Ayrshire.

As a public body that plans for the long term, the Council is uniquely placed to play a significant role in the EV revolution. A Climate Emergency has been declared by the Council in June 2019, with a commitment to become net-zero carbon by 2030. Electric vehicles will not only help reduce greenhouse gas emissions and tackle climate change, but also help improve local air quality and therefore public health and wellbeing.

Our Vision

The aim of the Council's Electric Vehicle strategy is to increase the number of EVs being used throughout North Ayrshire by creating a robust network of EV charge points.

The strategic objectives of the EV Strategy are as follows:

- To create a deliverable action plan to facilitate an increase the number of EVs being used through North Ayrshire
- To take a proactive approach in creating a strong network of publicly accessible EV charge points which will meet the demand in the future
- To address air quality issues that have, or will arise due to transport-related issues
- To inform and complement the Council's wider policies on environmental sustainability and transport
- To raise awareness of the benefits of EVs and the charging infrastructure that is available
- To contribute to the Council's commitment to become net-zero carbon by 2030

Within a study undertaken by the European Federation for Transport & Environment, the European Commission recommended that for electric vehicles to become commercially viable, there must be at least one charge point for every ten Plug-in-Vehicles (PiVs) on the road. PiVs is a blanket term for any vehicle with a plug socket, including EVs and plug in hybrid vehicles.

North Ayrshire Council's baseline as of December 2020 is one charge point for every five PiVs registered in North Ayrshire. The Council has exceeded the target set by the European Commission, however, this is due to the low numbers of EVs registered rather than the size of the charging network.

By December 2025, the Council's aspirational target is to have:

- One publicly accessible charge point for every nine PiVs*
- 2% of total number of vehicles registered in North Ayrshire to be PiVs
- 80 workplace charge sockets (44 workplace chargers with varying number of outlets)

*This target includes both Council owned and privately-owned charge points and is subject to funding.

The Council's target to have one publicly accessible for every nine PiVs exceeds the recommendation from European Commission to have at least one charge point for every ten PiV. The Council has committed to exceed the norm because the number of PiVs registered is still relatively low. A large network of EV charge points will future proof our infrastructure and allow us to meet the increasing number of PiVs which is expected since the sale of new petrol and diesel cars will be banned by the UK government in 2030.

The sub-target for 2% of total number of vehicles registered in North Ayrshire to be PiVs will be more challenging as there are factors which affect PiV ownership which are out with the Council's control, such as income and price of EVs. The 2% target was calculated using the Energy Saving Trust's forecasting tool. This tool uses historical data including PiV uptake in the previous years to forecast the number of PiVs in the future, based on low, medium and high growth. The 2% target is based on a high growth scenario which the Council aims to achieve through our EV Strategy.

In 2020, the Council installed 9 workplace charge points (13 sockets) and our target for the next 5 years is to install 7 charge points per year. Future workplace charge points installation are expected to be in more complex sites, incurring additional costs, however officers will continue to seek external funding opportunities to achieve this target.

Electric Vehicle Strategy

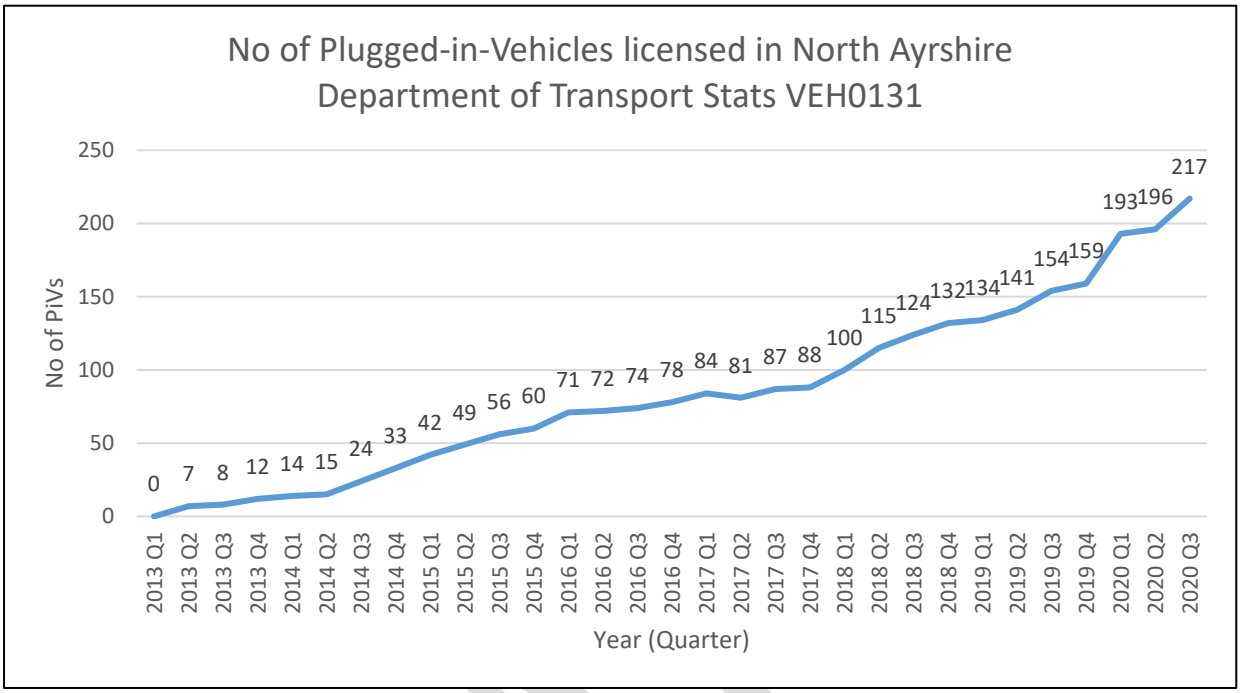
This is North Ayrshire Council's first Electric Vehicle strategy, developed to support the uptake of EVs for residents and business in North Ayrshire, improve the charge point network, and decarbonise the transport sector. EVs offer an extensive range of benefits to private owners and organisations, for example, reduced carbon emissions, improved air quality, and financial savings on fuel, vehicle tax and maintenance.

What have we achieved so far?

Electric Vehicles in North Ayrshire.

The popularity of EVs is growing at a considerable pace and North Ayrshire has seen a steady increase from 7 PiVs in 2013 to 217 PiVs licensed in 2020, based on statistics from the Department of Transport (Figure 1).

Figure 1 – Number of Plug-in-Vehicles (PiVs) licensed in North Ayrshire (2013- 2020)
Source: Department of Transport Stats VEH0131



The predominant road vehicles are fuelled by petrol and diesel with 159 PiVs licensed equating to 0.23% of total number of vehicles. (Total count of 70,250 cars, light good vehicles and other vehicles registered in 2019[1]). Statistics from the Department of Transport for total number of registered vehicles are published annually. This report uses the most up to date PiV data available to create a December 2019 baseline.

In addition to the cost of EVs and the limited driving range, there are many local factors which affect PiV ownership including:

- income levels
- local incentives such as free parking for EVs and free electricity from public charge points
- proportion of flats and terraced properties with no access to off-street parking. Without a driveway, residents are unable to install their own charge point, giving them no option to charge at home.

Based on analysis of a local authority study carried out by Transport Scotland in 2018, there is a positive correlation between the proportion of EVs and the number of publicly accessible charge points. This indicates scope for the Council to introduce more EV charge points to facilitate a step change in the uptake of EVs.

[1] VEH0105 - Data on all licensed and registered vehicles, produced by Department for Transport https://www.gov.uk/government/statistical-data-sets/all-vehicles-veh01

Electric Vehicle Charging Infrastructure

The ChargePlace Scotland Network has been developed by the Scottish Government to support local authorities and other organisations to install publicly available charge points. The national network comprises over 1,500 publicly available charge points, making it one of the most comprehensive networks in Europe. There are three main types of EV charge points – Rapid, Fast, and Slow. Indicative times for charging an electric vehicle are detailed in Figure 2 below.

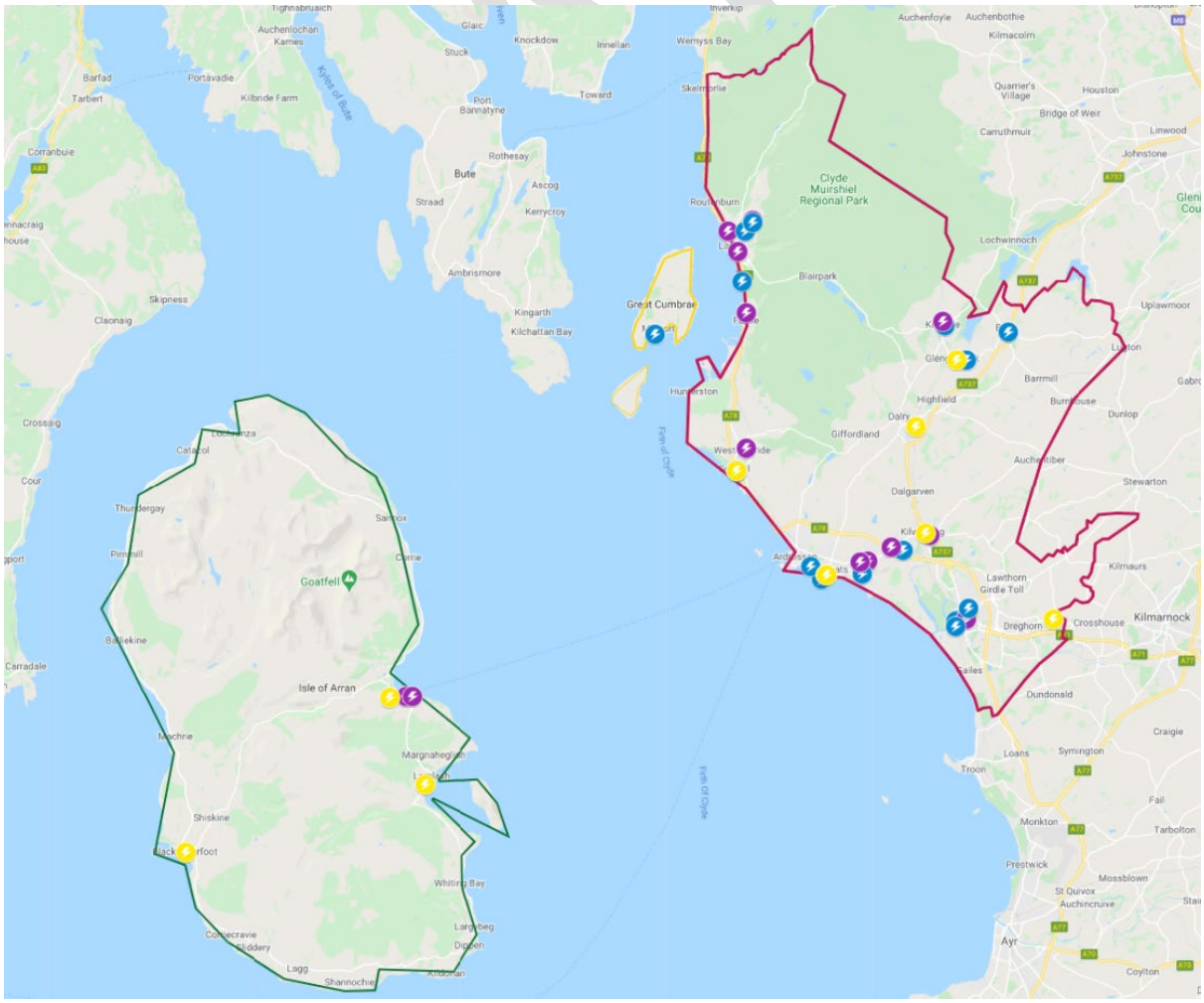
Figure 2 – Indicative charge times per charger type.

Charger Type	Rapid (43 - 50kW)	Fast (7-22kW)	Slow (3kW)
Time*	30 - 60 mins	3 - 4 hours	6 - 10 hours
Charge Level	0 - 80%	0 - 100%	0 - 100%

*Dependent on the battery size (measured in kWh) and on-board charger built into the EV

As of the 31st December 2020, there are a total of 41 charge points in North Ayrshire, of which 24 (8 Rapid and 16 Fast charge points) are owned by the Council. Figure 3 shows the locations of charge points across North Ayrshire.

Figure 3 – Locations of Charge Points in North Ayrshire as of December 2020
Source – ChargePlace Scotland, ZapMap and Plugshare



EV ownership in North Ayrshire has increased over the last three years; this is reflected through the increased usage of the publicly accessible EV charge points. Figures 4 and 5 show the electricity usage and number of charge sessions from 2015 to 2020 for all the charge points owned by the Council.

Total annual electricity usage has increased to thirty times more than the usage in 2015. The increasing popularity of existing charging infrastructure is evidenced, and it is the Council's objective to ensure there is adequate infrastructure to meet the demand and encourage increased use of EVs across the area.

Figure 4 – NAC Annual EV Electricity Usage

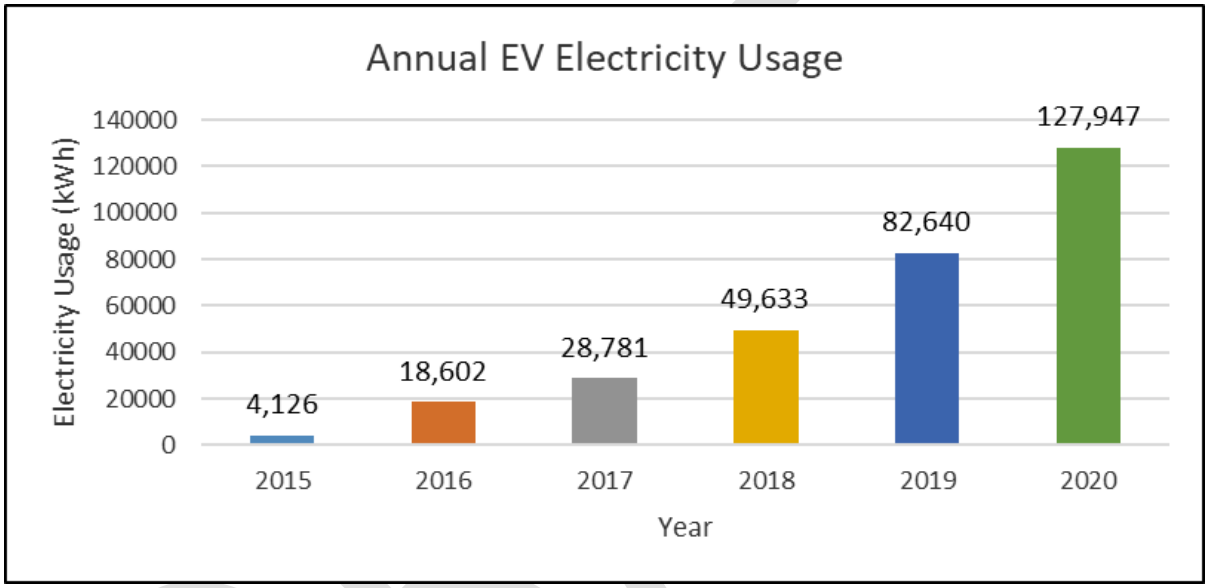
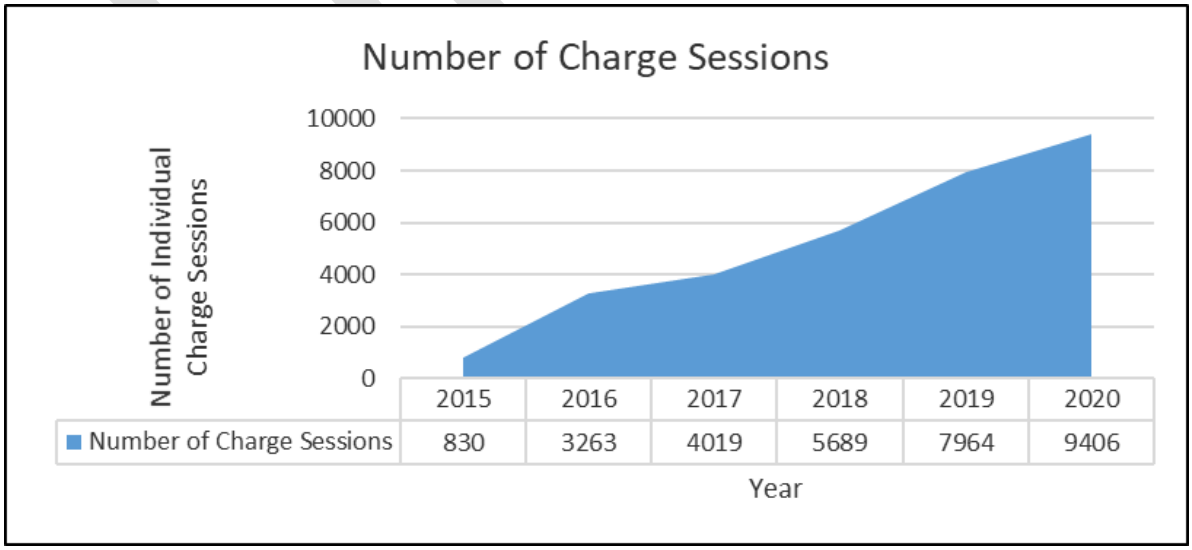


Figure 5 – Number of Charge Sessions



Context

A wide range of policies and plans support the wider adoption of EVs. This strategy acknowledges these and establishes a robust and long-term action plan to encourage a step change in the uptake of EVs within North Ayrshire. The EV Strategy will be used to inform the Local Transport Strategy which is due to be refreshed in 2021.

National Context

In September 2013, Transport Scotland published the Switched On Scotland Roadmap, which set out a long-term vision and strategic approach to advance widespread adoption of EVs. In order to achieve this vision, the Scottish Government launched the 'Switched on Scotland Phase 2: An Action Plan for Growth' in June 2017.

In November 2020, the UK government announced it will bring forward its ban on the sale of new petrol and diesel cars from 2040 to 2030[2]. On 16th December 2020, the Scottish Government released an update to their 2018-2032 Climate Change Plan[3]. Within this update, Scottish Government has committed to phase out the need for new petrol and diesel cars and vans by 2030 (bringing this ambition forward from the 2018 plan by 2 years). The 2019-2020 Programme for Government states that the Scottish Government will work with public bodies to phase out the need for any new petrol and diesel light commercial vehicles by 2025 and to create the conditions to phase out the need for all new petrol and diesel vehicles in Scotland's public sector fleet by 2030.

Local Context

The Council has a number of plans and strategies that support the EV Strategy and these include:

Net Zero Carbon by 2030

The World Meteorological Organisation (WMO) report on The Global Climate in 2015-2019[4] says that the global average temperature has increased by 1.1°C since the pre-industrial period. The Intergovernmental Panel for Climate Change (IPCC) special report[5] in October 2018 also confirmed that the world is already 1°C warmer than pre-industrial levels, and that an increase to 2°C would significantly worsen the risks of drought, floods, extreme heat and poverty for hundreds of millions of people. Globally, research suggests the world has until 2030 to reduce emissions before climate change impacts become irreversible.

Action has been taken on a global scale with countries and local governments declaring climate emergencies. On 11th June 2019 North Ayrshire Council declared a Climate

[2] 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] Update to the Climate Change Plan 2018 – 2032: Securing a Green Recovery on a Path to Net Zero

[4] World Meteorological Organization - The Global Climate in 2015–2019 https://library.wmo.int/doc_num.php?explnum_id=9936

[5] IPCC Special Report - Global Warming of 1.5 ºC https://www.ipcc.ch/sr15/

Emergency, committing to achieve net zero carbon emissions by 2030. This target applies to both the Council's estate, and North Ayrshire as a whole. The Council must lead the way in:

- Reducing emissions from buildings (domestic and non-domestic), transport and waste
- Implementing methods to remove carbon dioxide from the atmosphere

In Scotland, transport is responsible for 27% of greenhouse gas emissions, with road transport contributing 73% of these[6]. EVs have substantially lower greenhouse gas emissions than conventional vehicles, even when taking into account the electricity source and the electricity used for battery production. The British Government's key 2018 publication The Road to Zero[7] estimated that in 2018 an EV car in the UK currently has total associated greenhouse gas emissions 66% lower than a petrol car and 60% lower than a diesel car. As the National Grid decarbonises, the carbon intensity of electricity generation will become cleaner at source and the emissions associated with EV use will also fall in parallel. The EV Strategy will encourage the EV adoption across North Ayrshire and in turn this will contribute to reducing emissions and help the Council to achieve net-zero carbon emissions.

Council Plan 2019-2024: A Council that is Fair for All

This sets the strategic direction for the Council, including our mission in "*Working together to improve well-being, prosperity and equity in North Ayrshire".* We aim to achieve through three strategic themes: "Inspiring Place", "Aspiring Communities" and "A Council for the Future".

One of the priority outcomes within the operational plan is – *"North Ayrshire is well-connected with effective infrastructure"* and there is an action to "develop and implement an Electric Vehicle Strategy, and work in partnership with government agencies to deliver further electric charging infrastructure throughout North Ayrshire."

Environmental Sustainability and Climate Change Strategy (ESCCS) 2017-20

The Council's second Sustainability Strategy sets an ambitious target to reduce carbon emissions in North Ayrshire by 40% by 2030 (based on a 2005 baseline year). Within the strategy, one of the work streams is Transport & Travel with an action to explore the potential for further EV charging infrastructure throughout North Ayrshire. The third ESCCS covering the period 2021-2023 will identify actions for North Ayrshire to achieve net-zero carbon status by 2030.

Town Centre Parking Strategy 2014 – 2020

Effective management of parking and the development of alternative travel modes are central aspects within the development of economic and environmentally sustainable town centres. Within the parking strategy there is an action to promote sustainable modes of transport and to expand the EV charge point network.

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[6] Scottish Transport Statistics No. 36: 2017 Edition, Transport Scotland
https://www.transport.gov.scot/media/41863/scottish-transport-statistics-2017-with-correction-to-table-214.pdf

[7] The Road to Zero, Department for Transport, July 2018
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/739460/road-to-zero.pdf

Air Quality Annual Progress Report

The National Air Quality Strategy outlines a national framework for reducing hazards to health from air pollution in the UK. Local authorities are required to assess local air quality and publish an Air Quality Annual Progress Report. A major source of air pollutant is from diesel and petrol vehicles.

Where we are now?

As of the 31st December 2020, the Council has installed 24 publicly accessible EV charge points since 2014. The capital cost of these EV charge points has been grant funded by Transport Scotland, with the Council providing staff resourcing to carry out the following duties:

- procurement of infrastructure
- project manage the installation process
- liaison with electricity Distribution Network Operator (DNO) for grid connection
- management of the warranty and maintenance agreement with contractors
- fault monitoring and fault resolution
- engagement with other Council Services such as Roads, Lighting, Housing and Estates

Currently all EV charge points installed via the grant come with either a 3 or 5 year warranty and maintenance agreement. Once this has expired, the responsibility for maintenance falls to the Council and this includes:

- annual electrical inspection
- repairs to out of service charge points
- repairs due to vandalism and misuse

In July 2019, North Ayrshire Council successfully secured funding from Transport Scotland to commission the Energy Saving Trust's EV feasibility report for Irvine. The in-depth study provides recommendations on the level of investment required to increase EV charge points for a range of user groups within the Irvine area. The study details the business case which considers potential revenue based on low, medium and high growth scenarios.

Where do we want to be?

By December 2025, the Council's aspirational target is to have:

One publicly accessible charge point for every nine PiVs*

2% of total number of vehicles registered in North Ayrshire to be PiVs

80 workplace charge sockets (44 workplace charge points with varying number of outlets)

*This target includes both Council owned and privately-owned charge points and is subject to funding.

How do we measure progress?

To ensure that we meet our aspirational targets by December 2025, the progress should follow the forecast detail in Table 6 below (subject to funding):

Table 6 – Forecast number of publicly accessible EV charge points & PiVs in North Ayrshire

Year	No. of cars, light good vehicles and other vehicles registered	No. of Plug in Vehicles (PiVs) licensed	Percentage of PiVs licensed	No. of publicly accessible charge points required (1 charge point per 9 PiVs)
Forecast Data				
2025	74980	1500	2.00%	167
2024	74013	1007	1.36%	112
2023	73245	732	1.00%	81
2022	72484	536	0.74%	60
2021	71732	387	0.54%	43
2020	70987	277	0.39%	31
Historical Data				
2019	70250	159	0.23%	
2018	69327	132	0.19%	
2017	68853	88	0.13%	
2016	68543	78	0.11%	
2015	67660	60	0.09%	
2014	66496	33	0.05%	

The Council will review our progress annually as the licensed vehicles data is published once per year by the Department for Transport. The target number of charge points and number of PiVs will vary dependent on the total count of cars, light good vehicles and other vehicles registered in North Ayrshire each year.

As we expand the charging network, we hope this will in turn increase EV ownership over the next five years. As a sub-target, the Council will compare the number of PiVs registered with the total number of vehicles registered in North Ayrshire. The December 2019 data set from the Department of Transport (which is the latest available) identifies the proportion of PiVs registered in North Ayrshire was 0.23%, with the average across all 32 Scottish local authorities being 0.54%.

As of December 2020, the Council has installed 9 workplace charge points (13 sockets) to support the decarbonisation of our fleet. The Council will expand the network of workplace charge points and progress should follow the forecast detailed in Table 7 (subject to funding):

Table 7 – Forecast number of workplace EV charge points (sockets):

Year	Total number of sockets	Total number of workplace charge points
2025	80	44
2024	64	36
2023	48	28
2022	32	20
2021	16	12
2020 (actual)	13	9

Every year, the Council will report on the following performance indicators to measure progress:

- Number of publicly accessible charge points in North Ayrshire with a target to have at least one charge point per nine PiVs in all years.
- Percentage of total number of vehicles registered in North Ayrshire to be PiVs. This trend is likely to differ from the above forecast data – for example uptake may be slow in 2021/2022 but there could exponential growth in 2024/25. The Council's sub target is to have 2% of total number of vehicles registered in North Ayrshire to be PiVs by December 2025.
- Number of council owned workplace charge sockets with a target of 80 workplace charge sockets (44 workplace charge points with varying number of outlets).

How do we get there?

North Ayrshire Council will continue to secure funding opportunities to support the move to electric vehicles. Some examples of the support available from the Scottish Government are as follows:

- Local Authority Installation Programme – up to 100% grant funding available for the installation of publicly accessible EV charging infrastructure.
- Switched on Fleet – Full grant for 3 years' lease of a new Ultra Low Emission Vehicle (ULEV), or the difference in price between ULEV and a petrol & diesel comparison - available for replacement of a conventional vehicle in council owned fleet. Funding is also available for the installation of workplace EV charge points at office or depot premises.
- **Switched on Towns and Cities Challenge Fund** – Competition for up to 100% funding towards capital infrastructure projects, with a funding value of £1.5 to £2.5 million per project. The first round in 18/19 awarded £12.1m to five local authorities[8].
- **Low Carbon Travel and Transport Challenge Fund** - funding under the European Regional Development Fund 2014-2020 Programme to facilitate the delivery of active travel and low carbon transport hubs, as well as paths.

Within this EV Strategy, the Council has set targets for the number of publicly accessible charge points, the number of workplace EV charge points and the percentage of PiVs registered in North Ayrshire. These ambitious targets directly support the Scottish Government's commitment to phase out the need for new petrol and diesel cars and vans by 2030. It is important to note that our targets are subject to funding. The Council requires financial support from Central Government to continue the roll-out of public and workplace EV charging infrastructure across North Ayrshire.

In order to ensure a comprehensive and robust approach to developing the EV infrastructure, the following have been identified as priorities, with an Action Plan developed (Appendix 1) to ensure delivery:

[8] https://www.transport.gov.scot/our-approach/environment/carbon-reduction-on-roads/switched-on-towns-and-cities-challenge-fund/

- Development of a network of strategically located EV charge points
- Taking a co-ordinated approach across the Council services
- Deployment of EV within the Council's fleet and pool car scheme
- Raising awareness of the benefits of EVs to individuals and businesses
- Active Travel - Encouraging wider E-bike and E-cargo bike opportunities

Priority 1 – Development of a network of strategically located EV charge points

There is a causality dilemma in the EV agenda: which comes first, EVs or the charge point infrastructure? A survey carried out amongst 220 participants through the Switched on Towns and Cities Feasibility study identified the largest barriers to adopting EV's in the area were as follows:

- 43% stated that lack of charging infrastructure was the biggest barrier to EV adoption
- 32% believed that cost was the limiting factor
- 18% believed that there was insufficient vehicle journey range
- 7% felt that the choice of vehicles on the market was not wide enough

The result suggests that an improved local network of charging infrastructure would help improve local confidence in the technology's viability.

To develop a robust network of EV infrastructure, the Council has proposed the following actions:

Priority 1 Development of a network of strategically located EV charge points		
1.1	Every financial year, the Council will apply for Local Authority Installation Programme grant funding from Transport Scotland to install more publicly accessible EV charge points across North Ayrshire.	Every year, the Council will review the number of PiVs licensed and apply for funding to allow North Ayrshire to have one charge point per nine PiVs. The sub target for 2% of total number of vehicles registered in North Ayrshire to be PiVs by December 2025 will be monitored and reviewed every year. The expectation is that by expanding the network of charging infrastructure, widespread adoption of PiVs will follow. Please refer to Table 6 for annual targets.
1.2	Create an evaluation methodology which will help the Council to identify and map out potential charging infrastructure locations	It is important that the best locations are selected and that we match these to the different types of charge points available (Rapid, Fast and Slow). A process is required for the identification of sites which considers user convenience like proximity to amenities and technical aspects like surface type, distance to grid connection and parking type. We will consider how EV charge points can be located strategically to encourage visitors to our towns and bring support to our local businesses. The Council will also identify opportunities to incorporate EV charging infrastructure alongside

		regeneration and town centre improvement projects.
1.3	Review the Switched on Town and Cities In-Depth Feasibility Report prepared by the Energy Saving Trust and apply for Switched on Towns and Cities Challenge Fund	This report was commissioned in July 2019 and it provides recommendations on the level of investment required to increase EV charge points for a range of user groups within the Irvine area. The study details the business case which considers potential revenue based on low, medium and high growth scenarios. An application to the challenge fund will be made when round 2 is announced in due course.
1.4	Establish (i) a best practice benchmark for the number of EV charge points for the Council's new build developments and (ii) a process so that EV charge points are included in the project brief for the Council's new build developments	The Council will review and establish a best practice benchmark for the number of EV charge points for the Council's new build developments e.g. schools, offices or housing developments – subject to funding. A process will be established to ensure that charge points are incorporated at new build stage and therefore, avoid retrofit at a later stage.
1.5	Introduce additional guidance for EV infrastructure to accompany the Local Development Plan for planning	The additional guidance will ensure that charge points are considered as material consideration in the planning process. It will highlight how EV charge points in new developments can contribute to the Council's aspirations for decarbonisation, particularly for domestic flat development where residents have no access to off street parking.

Priority 2 - Taking a co-ordinated approach across the Council services

The EV strategy touches all directorates within the Council at both a strategic and operational level.

Priority Action 2 Taking a co-ordinated approach across the Council services		
2.1	Self-funding Charging Infrastructure - A proposal setting out the charging proposals to be presented to Cabinet for formal approval	Since 2014, the Council has provided free electricity from its charge points to EV users. The Council anticipates that once the adoption of EV increases, the cost of the electricity used to charge a vehicle will be passed back to the user. To ensure that the Council's network of EV charge points remains robust and reliable, we will consider introducing a tariff and overstay fee to cover the cost of supplying electricity and cost of maintaining the facilities.

2.2	Review current portfolio of EV charge points and ensure infrastructure is maintained and fit for purpose.	Many EV drivers experience anxiety as a result of petrol & diesel vehicles blocking charge points or users not moving their EVs away even though they are fully charged. To overcome this, EV charging bays must be clearly marked and have the correct signage. Since 2017, all publicly accessible charge points installed have been marked green along with an EV logo. Clear signage is also required prior to the introduction of tariffs and overstay fees. The Council's portfolio of charge points will be reviewed and EV bays to be signed and lined appropriately, subject to funding.
2.3	Review current parking management policies – introduce an EV Charging Bay Traffic Regulation Order (TRO)	An EV charging bay Traffic Regulation Order (TRO) would prevent: • EVs from overstaying at charge points • EVs from parking in charging bays but not charging • Petrol and diesel vehicles from parking in charging bays A TRO will be approved within 6 months of application and will allow us to enforce parking restrictions and help improve the EV user experience. The TRO will be enforced by Police Scotland until Decriminalised Parking Enforcement and parking charges are introduced by the Council.
2.4	Procure for an EV charge point installer for 2022-2025	At present, the Council has a contract with an installer for the installation of EV charge points. Procurement will need to be carried out when contract ends on the 31st of March 2022.
2.5	Clarification of the roles and responsibilities within the Council	The work related to EVs involves a number of service areas that have different roles and input as summarised in Table 8. As the Council progresses further on the EV agenda, the roles and responsibilities will be reviewed and kept updated.

Table 8 – EV Strategy Roles and Responsibilities

Place Directorate	Team	Roles and Responsibilities
Economic Development & Regeneration	Regeneration - Active Travel and Transport	Delivery of publicly accessible charge points using ChargePlace Scotland Network/ Local Authority Installation Programme funding from Transport Scotland. Specific duties include: • Site surveys to identify charge point locations • Liaison with electricity Distribution Network Operators to obtain new electricity connections

		• Fault monitoring & fault resolution • Design, procurement and delivery of publicly accessible charge points Delivery of active travel and transport projects such as Travel Smart, Irvine Active Travel Hub and E-bike Grant Fund
Commercial	Corporate Transport Hub	Delivery of workplace charge points for both fleet and pool car vehicles Deployment of EVs within Council's fleet and pool car scheme to reduce on grey fleet mileage Management of the Switched on Fleet funding from Transport Scotland
Physical Environment	Corporate Sustainability	Lead for EV Strategy Support function for various tasks within the action plan Management of ChargePlace Scotland Network/ Local Authority Installation Programme Funding from Transport Scotland Administrative function of paying the electrical costs of charge points - cost to be allocated to relevant cost centres/departments Manage maintenance contract for publicly accessible charge points Manage the maintenance of the signage and bay markings Manage the revenue income from new tariff introduction
Physical Environment	Property Management & Investment	Delivery of charge points for individual new developments such as new schools, leisure centres and sheltered housing. Manage maintenance contract for workplace charge points on Council sites (subject to budget)

Priority 3 - Deploy EV within the Council's fleet and pool car scheme

The 2019-2020 Programme for Government outlined Scottish Government's commitment to phase out the need for new petrol or diesel cars in the public sector fleet by 2025 and for all other vehicles in the public sector fleet by 2030. The Council's vehicle fleet has long played an important and essential role in daily operational activities such as maintaining the public realm and our parks, undertaking enforcement or collecting waste. It is important the vehicles used by the Council minimise harmful emissions, with an ambition to produce zero emissions.

The Corporate Transport Hub is responsible for the Council's fleet is made up of vehicles that are either leased or owned outright. Fleet turnover for owned vehicles is likely to be slower than those that are leased so as to ensure value for money is achieved over their lifespan. The current fleet includes a range of vehicles intended to serve varying purposes, meaning that some vehicles would be more suited to switching from conventional fuels to electric than others. Given the current average range limitations of EV batteries, Council vehicles which

currently travel less than 100 miles per day would have the best potential to switch to electric. Majority of the Council's fleet is stored overnight on council-owned properties and therefore, to allow us to electrify these vehicles, we must install workplace charge points at our office and depot premises.

Fundamentally, we need to change the way we operate and deliver services, travel and use our fleet, to encourage green and clean technology and innovation, to promote behavioural change and active travel. Improving the energy efficiency of the fleet such as reducing mileage and the size of the fleet and encouraging the use of pool cars is leading to reductions in both emissions and costs. The Council's Car Club scheme was successfully launched in 2015/16 to reduce expenditure and carbon emissions associated with staff travel. Over 1200 members of staff have signed up to the scheme, with 275,868 miles driven in the low emissions pool cars in financial year 2019/20. Approximately 13% of the total mileage was carried out in EVs. The Car Club scheme has 27 low emission vehicles across 11 council office locations. The Council's aim is to expand its pool car fleet to reduce grey fleet business mileage, therefore there is scope to increase workplace charge points to incorporate more EVs. Figure 7 shows a reduction in grey fleet business mileage as a result of the travel hierarchy and success of the Car Club scheme.

Table 9 - Annual Grey Fleet Mileage vs Pool Car Mileage

Period	Total Miles Travelled	Grey Fleet	Pool Car Miles
2014/15	2,569,213	2,569,213	0
2015/16	2,300,079	2,252,760	47,319
2016/17	2,166,818	2,051,109	115,709
2017/18	1,668,310	1,534,822	133,488
2018/19	1,686,338	1,479,543	206,795
2019/20	1,096,778	820,910	275,868

To allow the Council to decarbonise our fleet and introduce more fleet and pool EVs, the following actions are proposed:

Priority Action 3 Deploy EV within the Council's fleet and pool car scheme		
3.1	Every financial year, the Council will apply for Switched on Fleet funding from Energy Saving Trust to install more workplace EV charge points and introduce more EVs to the Council's fleet	In order to phase out the need for new petrol or diesel cars in the public sector fleet by 2025, the Council must ensure that dedicated workplace EV charge points are available to allow for this transition. The Council will carry out a review of the Council's non-domestic buildings and fleet mileage data to identify opportunities to install workplace charge points. Please refer to Table 7 for annual targets.
3.2	Review the Switched on Fleet Report prepared by the Energy Saving Trust and	This report was commissioned in January 2019 and it provides recommendations for ULEV replacements within the Council's fleet – outlining

	implement recommendations (where appropriate)	the business case and potential cost and carbon savings.
3.3	Review the Sustainable Transport Review prepared by the Energy Saving Trust and implement recommendations (where appropriate)	This report was commissioned in July 2019 and it provides recommendations on fleet management.
3.4	Review the Grey Fleet Review prepared by the Energy Saving Trust and implement recommendations (where appropriate)	This report was commissioned in September 2019 and it provides recommendations on how to reduce on grey fleet mileage.

Priority 4 - Raise awareness of the benefits of EVs to individuals and businesses

The desire to purchase an EV stems from positive perceptions and a good experience of the technology. It is also important that we dispel the commonly held misconceptions that many people have about EVs.

To help encourage EV ownership, the Council intends to help improve the overall understanding on how EV ownership works through the following actions:

Priority Action 4 Raise awareness of the benefits of EVs to individuals and businesses		
4.1	Update the Council website to show EV charge point locations within North Ayrshire and signposts to funding and support available.	Officers will create a dedicated page on the Council website to provide general information about EV charge points and a map to show what infrastructure is available.
4.2	Engage with North Ayrshire residents to identify EV charge point locations.	The Council website will be updated to include a dedicated email address and telephone number to allow residents to submit their EV charge point location suggestions as this will help determine which areas are showing a higher demand for charge points. Demand from residents is only one of the criteria as there are other factors to consider such as: • alignment with local policies • proximity to local facilities e.g. town centre, leisure facilities, markets, tourist attractions • current parking conditions in the area • the availability of an appropriate electric supply

4.3	Engagement with other local organisations to promote the free sustainable transport support available from the Energy Saving Trust.	The Council will look to promote EVs to other organisations such as KA Leisure and local businesses through Team Ayrshire, so that both employees and employers are aware of the free support that is available to help them switch to electric.

Priority 5 – Active Travel: Encourage wider E-bike and E-cargo bike opportunities

For some people the experience of lockdown from COVID-19, showed that their lives could be improved through active travel, exercise, access to local or online services, working from or closer to home, and access to shared green spaces. The 2020-2021 Programme for Government outlined the Scottish Government's support for the concept of "20 minute neighborhoods" – enabling people to live, learn, and meet their daily needs within a 20 minute walk of their home. This concept will encourage people to walk and cycle more, but shared transport is also a key part of active travel and EVs will also help reduce vehicle emissions compared to petrol and diesel alternatives.

A key element of the EV Strategy is to improve staff health and wellbeing by introducing a travel hierarchy to encourage employees to be physically active by replacing car journeys with cycling and walking where appropriate. As part of the sustainable transport journey, E-bikes and E-cargo bikes are examples of active travel options which can help the Council reduce carbon emissions.

Travel Smart is the Council's behaviour change project to promote modal shift to active and sustainable travel. It delivers a range of activities including

- bike maintenance sessions
- walking challenges
- instructor-led cycle events
- the promotion of active and sustainable travel to and from work
- Schools and Workplaces Active Travel Programme

The Travel Smart team have engaged with a number of local employers including NHS Ayrshire and Arran, KA Leisure, EDF Energy, J and D Pierce, GSK and Booth Welsh - supporting 8 local businesses to become Cycle Friendly Employers.

The Irvine Active Travel Hub and Closed Loop Facility was officially opened on the 25th of June 2019 and this project received £476,000 support from European Regional Development Funds under Transport Scotland's Low Carbon Travel and Transport Challenge Fund. The funding has been used to establish a bike library and purchase and support cycle parking; public cycle pumps, public cycle tools and an e- bike charging station.

Furthermore, funding from both Sustrans and the Energy Saving Trust has allowed the Council to purchase nine e-bikes and one tandem. A pool bike scheme which includes E-bikes has been developed to encourage staff to cycle to meetings instead of taking the car. The bikes are available at evenings and weekends to encourage cycling and build confidence.

To encourage wider E-bike and E-cargo bike opportunities, the Council will undertake the following actions:

Priority 5 Active Travel: Encourage wider E-bike and E-cargo bike opportunities		
5.1	Identify opportunities within the Council and with local businesses to encourage the wider roll out and piloting of E-bikes and E-cargo bikes	A number of Active Travel and Transport projects have been approved by the Council after a series of successful funding bids. These include infrastructure and behaviour change projects which encourage active modes of transport such as walking and cycling.
5.2	Installation of EV charge points at the Ardrossan Low Carbon Hub	In September 2020, the Council was awarded funding from Round 3 Low Carbon Travel and Transport Challenge Fund for the Ardrossan Low Carbon Hub. This will include EV charge points (two rapid and two fast charge points for a total of eight bays) and electric bike charging stations, cycle parking, active travel information and signage, resting points and bike maintenance facilities. In addition to this project, the Council will continue to identify opportunities to incorporate EV charging infrastructure alongside regeneration and active travel hub projects.

Governance and Monitoring of the EV Strategy

The EV Strategy covers 2021 - 2025 and the EV working group will be responsible for the monitoring and reporting on progress of the EV Action Plan. To ensure a consistent and co-ordinated approach across Council services, an internal EV Working Group has been set up. The EV working group is led by the Corporate Sustainability Team, bringing together officers from Regeneration, Active Travel & Transport and the Corporate Transport Hub. Additional members from Roads, Housing, Planning, Licensing, Building Services and Property Management & Investment will be identified. The purpose of the EV working group is to:

- provide a strategic overview to progress the EV agenda
- deliver the EV action plan and report on progress
- ensure continued relevance of the strategy and allow for earlier revision of the strategy if deemed appropriate

The group will provide regular progress updates on the delivery of the action plan through established performance reporting frameworks.

Appendix 1 - Electric Vehicle Action Plan

Action No.	Description	Due Date	Lead Services(s)
Priority 1 - Development of a network of strategically located EV charge points			
1.1	Every financial year, the Council will apply for Local Authority Installation Programme grant funding from Transport Scotland to install more publicly accessible EV charge points across North Ayrshire. Please refer to Table 6 for annual targets.	**Annual Review – December 2025**	Regeneration & Corporate Sustainability
1.2	Create an evaluation methodology which will help the Council to identify and map out potential charging infrastructure locations	**March 2022**	Regeneration & Corporate Sustainability
1.3	Review the Switched on Town and Cities In-Depth Feasibility Report prepared by the Energy Saving Trust and apply for Switched on Towns and Cities Challenge Fund	**March 2023**	Regeneration & Corporate Sustainability
1.4	Establish (i) a best practice benchmark for the number of EV charge points for the Council's new build developments and (ii) a process so that EV charge points are included in the project brief for the Council's new build developments	**March 2024**	Property Management & Investment (PMI) & Corporate Sustainability
1.5	Introduce additional guidance for EV infrastructure to accompany the Local Development Plan for planning	**March 2023**	Planning
Priority 2 - Taking a co-ordinated approach across the Council services			
2.1	Self-funding Charging Infrastructure – Introduction of Tariffs and Overstay Fees for Electric Vehicle Charging Infrastructure	**Process will begin immediately after Cabinet approval has been sought and secured**	Corporate Sustainability & Roads

2.2	Review current portfolio of EV charge points and ensure infrastructure is maintained and fit for purpose	**July 2021**	Regeneration & Roads
2.3	Review current parking management policies – introduce an EV Charging Bay Traffic Regulation Order (TRO)	**September 2022**	Corporate Sustainability & Roads
2.4	Procure for an EV charge point installer for 2022-2025	**March 2022**	Regeneration & Corporate Sustainability
2.5	Clarification of the roles and responsibilities within the Council	**Ongoing**	All services
Priority 3 - Deploy EV within the Council's fleet and pool car scheme			
3.1	Every financial year, the Council will apply for Switched on Fleet funding from Energy Saving Trust to install more workplace EV charge points and introduce more EVs to the Council's fleet. Please refer to Table 7 for annual targets.	**Annual Review – December 2025**	Corporate Transport Hub & Corporate Sustainability & PMI
3.2	Review the Switched on Fleet Report prepared by the Energy Saving Trust and implement recommendations (where appropriate)	**March 2022**	Corporate Transport Hub & Corporate Sustainability
3.3	Review the Sustainable Transport Review prepared by the Energy Saving Trust and implement recommendations (where appropriate)	**March 2022**	Corporate Transport Hub & Corporate Sustainability
3.4	Review the Grey Fleet Review prepared by the Energy Saving Trust and implement recommendations (where appropriate)	**March 2022**	Corporate Transport Hub & Corporate Sustainability
Priority 4 - Raise awareness of the benefits of EVs to individuals and businesses			
4.1	Update the Council website to show EV charge point locations within North Ayrshire and signposts to funding and support available	**March 2022**	Corporate Sustainability
4.2	The Council website will be updated to include a dedicated email address and telephone number to allow residents to submit their EV charge point location suggestions	**March 2022**	Corporate Sustainability
4.3	Engagement with other local organisations to promote the free sustainable transport support available from the Energy Saving Trust	**Ongoing**	Corporate Sustainability & Regeneration & Economic Development

Priority 5 – Active Travel - Encourage wider E-bike and E-cargo bike opportunities			
5.1	Identify opportunities within the Council and with local businesses to encourage the wider roll out and piloting of E-bikes and E-cargo bikes	**Ongoing**	Regeneration
5.2	Installation of EV charge points at the Ardrossan Low Carbon Hub	**December 2022**	Regeneration & Corporate Sustainability

North Ayrshire Council

Appendix B

Introduction of Tariffs and Overstay Fees for Electric Vehicle Charging Infrastructure

North Ayrshire Council
Comhairle Siorrachd Àir a Tuath

Introduction

Since the first charge point was installed in 2014, the Council has provided free electricity from its charge points to EV users. This report proposes the introduction of a tariff payable by EV users, for charging through Council owned, publicly available charge points. The introduction of EV charge point tariffs will help alleviate Council budget pressures and maximise utilisation, availability and maintenance of charge points.

As of December 2020, North Ayrshire Council's portfolio of Electric Vehicle (EV) charge points has extended to 24 units, available for public use throughout the local authority area. The portfolio consists of the following:

- 8 x 50kW charge points (Rapid)
- 13 x 22kW charge points (Destination* - Fast)
- 3 x 7kW charge points (Destination - Standard).

*Destination charge points are slower than Rapid charge points and are usually located where the driver can spend two or more hours undertaking another activity, for example shopping, staying at a hotel or going to work.

EV ownership in North Ayrshire has increased over the last five years and this is reflected through the increased usage of the publicly accessible EV charge points. Figures 1 and 2 show the electricity usage and number of charge sessions from 2015 to 2020 for all the charge points owned by the Council.

Figure 1 - Annual EV electricity usage

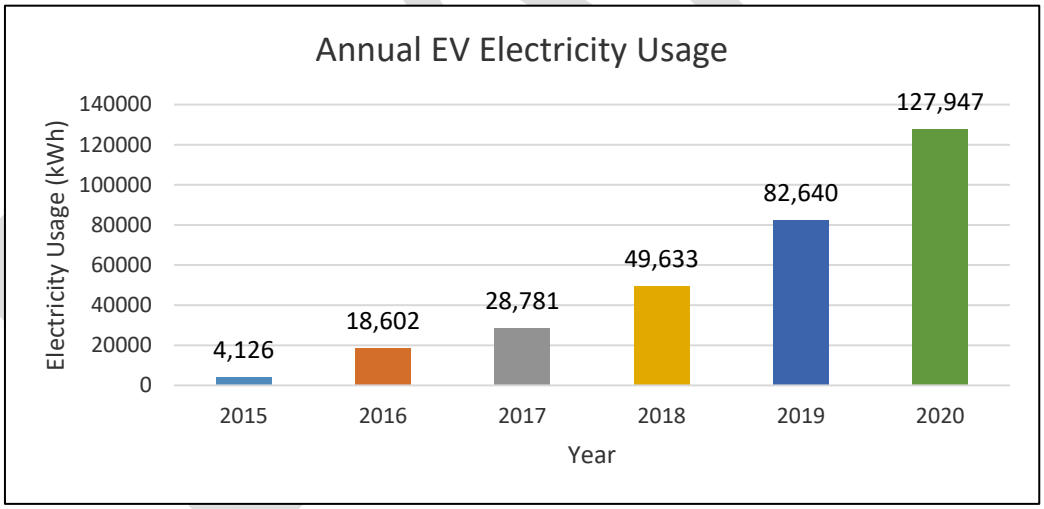
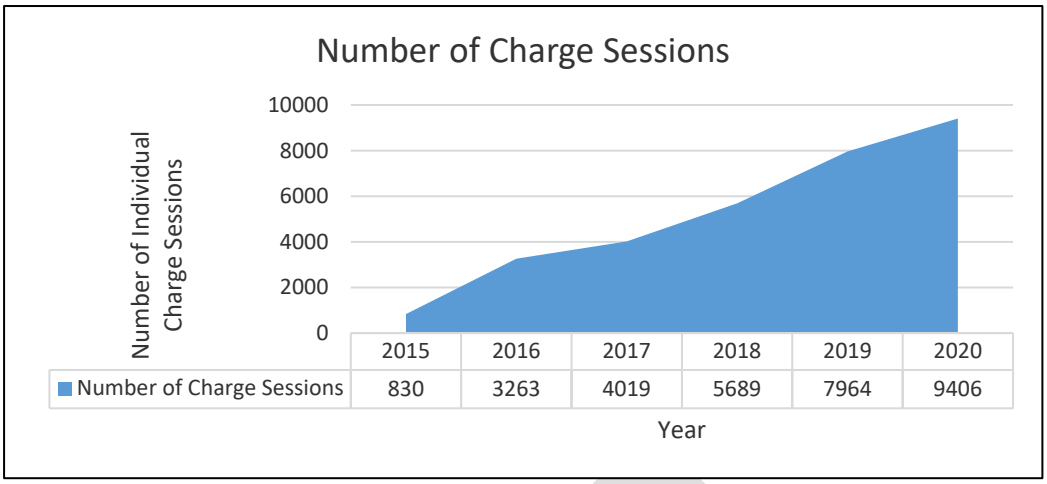


Figure 2 - Number of charge sessions



Electricity Use

The increasing popularity of existing charging infrastructure is evidenced through annual electricity consumption and expenditure data. This shows a 55% increase in consumption when comparing 2020 with 2019 data, and a 47% increase in cost, despite the Covid 19 travel restrictions in 2020. The electricity consumption and expenditure for 2019 and 2020 are shown in Table 1 below:

Table 1: Annual Electricity Consumption and Expenditure for Council owned EV charge points

Year	Number of council owned EV charge points	Annual EV electricity consumption (kWh)	Annual electricity expenditure (ex VAT)	Rate £/kWh
2019	**18**	**82,640**	**£13,776**	**£0.167**
2020	**24**	**127,947**	**£20,345**	**£0.159**

Maintenance

The Council's EV charge points have maintenance contracts in place until 31st December 2022 (or until 2024 dependent on when they were installed). The estimated cost to extend the maintenance for 24 EV charge points is estimated at approximately £24,000 per annum – not including repairs due to vandalism or misuse. The Council endeavours to locate charge points in car parks which are well lit for personal safety and protection against vandalism. Furthermore, our charge points have anti-tamper features such as mechanical connector locking which prevents the charge cables from being stolen.

To ensure that North Ayrshire Council's network of EV charge points remain robust and reliable, it is recommended that the Council should introduce a tariff and overstay fee for EV charge points. The income generated will help cover the cost of supplying electricity and the maintenance of the EV charging facilities.

Parking Fees

At present, the Council offers free parking at all Council owned car parks apart from the

Shorefront and Bellman's Close car park in Largs. The Council are considering the introduction of parking fees in the future. How this will impact EV charging in car parks where parking fees apply will be investigated and recommendations provided to Cabinet for approval at a future date.

Recommendations from Electric Vehicle Association Scotland

The Electric Vehicle Association (EVA) Scotland issued the Tariff Guidance document 'Billing for Public and Private EV Charging.' Their goal is to ensure that the host i.e. owners of the EV charge points, can provide and maintain the service and encourage best practice amongst users of EV infrastructure.

EVA Scotland recommends the following:

- Minimum fee as opposed to connection fees. The disadvantage of connection fees is that it encourages the misuse of chargers as users tend to maximise their stays to minimise the unit cost. Minimum fee should be waived if the session is interrupted other than by the user.
- Tiered tariff - higher pence per kWh for rapid charger to reflect the higher rate of delivery of energy. Cheaper rate for fast chargers (22kW and less) as the tariff should be affordable for users without access to home charging. They recommend that the differential should not exceed 10p/kWh.
- An overstay fee to discourage abuse of charging bays as preferential parking. A time based overstay fee to encourage fair usage of the EV chargers as it provides an incentive for users to move their EVs when they have finished charging. The recommended rate is £1 per minute and a minimum charge of £10.

Recommendations from Charge Place Scotland

Charge Place Scotland (CPS) is owned and developed by Transport Scotland and is responsible for applying the tariff and overstay fee through their back office and require 21 days' notice to apply the tariff.
The CPS recommendation is to charge 50% above the charge per kWh the council is paying for electricity, i.e. if the council is being charged £0.16 per kWh, the EV tariff should be £0.24 per kWh.

Before the tariff goes live, there must be clear signage on or adjacent to the charge point to advise the user that there is a tariff to use the charge point, along with details of the tariff rate. Given that the Council is already meeting the electricity costs, Council fleet vehicles will not be liable for the tariff.

The Council's publicly accessible EV charge points are all part of the Charge Place Scotland (CPS) network. As such the charge points must be fully compatible with and linked to the Scottish Ministers' central CPS Charge Point Management System, throughout their lifetime. For EV drivers to use the Council's EV charge points, they must register for a CPS account, provide bank details and purchase an access card, at a cost of £20 per year. Users can then charge their EV at any charge point displayed on the CPS live map.

When the tariff and overstay fee is applied, the CPS back-office collects the generated revenue from the EV driver via direct debit and forward this to the host (North Ayrshire Council) on a quarterly basis, minus the CPS fees.

The CPS fees are as follows and are applied per charging session:

- Transaction fee: £0.36 (including VAT)
- Banking fee: 2.95% of total cost of charging session (including VAT)
- Merchant fee: 1.50% of total cost of charging session (including VAT)

Overstay

At present, CPS cannot accommodate for a time-based overstay fee e.g. £1 per minute. Therefore, the only option available is to charge a flat fee once it exceeds a certain time limit. CPS are investigating the possibility of building in functionality to allow hosts to charge an overstay fee at minute intervals as recommended by EVA Scotland, but they do not have any timescales for this development.

Tariffs

Scottish local authorities and private business in North Ayrshire

Twelve out of the 32 councils within Scotland have already introduced tariffs for EV charging; a further has received approval by its Cabinet but has yet to initiate the charging scheme. At present, there are only three private businesses within North Ayrshire which have introduced a tariff to their EV charge points.

Analysis of EV charge point tariffs for Scottish Local Authorities and private businesses within North Ayrshire can be seen in Table 2 below. Tariffs differ across local authorities and some have opted to include connection fees, as opposed to a minimum fee.

The analysis is based on an EV drawing 20kWh per charge session and fuel economy of 3.5miles/kWh. This allows for the total cost of charge sessions to be compared between local authorities. The analysis also provides a cost per mile which allows the comparison of running cost between EV and conventional vehicles (between 13p to 16p per mile, based on data from Energy Saving Trust[1]).

Table 2 shows that when using this scenario, the average tariffs are:

- 25p/kWh (7.3p/mile) for Rapid charge points
- 20p/kWh (5.8p/mile) for Destination charge points

[1] https://energysavingtrust.org.uk/advice/electric-vehicles/

Table 2: Analysis of EV charge point tariffs for Scottish Local Authorities and private businesses within North Ayrshire

Host	Tariff Introduction Date	Rapid Charge Point					Destination Charge Point					Overstay Fee			
		Minimum Fee	Connection Fee	Rate £/kWh	Cost to EV driver for 20kWhs	Cost per Mile (£/mile)	Minimum Fee	Connection Fee	Rate £/kWh	Cost to EV driver for 20kWhs	Cost per Mile (£/mile)	Rapid	Rapid - Time Allowed (Minutes)	Destination (Fast & Standard)	Destination Time Allowed (Minutes)
Moray Council	2014	Flat fee of £3.80 per session			£3.80	£0.054	Flat fee of £3.80 per session			£3.80	£0.054				
Dumfries & Galloway	07/01/2019	£1.50		£0.25	£5.00	£0.071	£1.50		£0.25	£5.00	£0.071				
Orkney Council	06/05/2019	£2.00		£0.25	£5.00	£0.071	£1.00		£0.20	£4.00	£0.057	£5	60	£5	180
Dundee City Council	01/11/2019		£0.38	£0.15	£3.38	£0.048		£0.38	£0.15	£3.38	£0.048				
East Lothian Council	10/02/2020	£1.00		£0.30	£6.00	£0.086	£1.00		£0.16	£3.20	£0.046	£1 per minute (max charge of £30)	45		
Aberdeen City Council	01/06/2020		£0.38	£0.19	£4.18	£0.060		£0.38	£0.19	£4.18	£0.060				
Western Isles	15/06/2020	£1.00		£0.20	£4.00	£0.057	£1.00		£0.20	£4.00	£0.057	£5	90	£5	240
Fife Council	16/11/2020		£1.60	£0.15	£4.60	£0.066		£1.60	£0.15	£4.60	£0.066				
Mid Lothian Council	01/01/2021	£1.00		£0.30	£6.00	£0.086	£1.00		£0.16	£3.20	£0.046	£1 per minute	60		
Aberdeenshire Council	04/01/2021			£0.21	£4.20	£0.060			£0.21	£4.20	£0.060				
Argyll & Bute Council	09/04/2021	£1.80		£0.25	£5.00	£0.071	£1.80		£0.25	£5.00	£0.071	£30	120	£30	240
Falkirk Council	19/04/2021	£1.00		£0.25	£5.00	£0.071	£1.00		£0.25	£5.00	£0.071	£5	60	£5	240

Edinburgh City Council	Approved by Cabinet but tariff live date TBC		£2.00 for Park and Ride	£0.20	£6.00	£0.086						
			£1.00	£0.20	£5.00	£0.071		£0.30	£0.20	£4.30	£0.061	
Instavolt	Always			£0.35	£7.00	£0.100						
Red Squirrel Pub and Restaurant (Osprey)	Always			£0.36	£7.20	£0.103						
Largs Yacht Haven	Unknown						£1.00		£0.15	£3.00	£0.043	

	Rate £/kWh	Cost to EV driver for 20kWhs	Cost per Mile (£/mile)		Rate £/kWh	Cost to EV driver for 20kWhs	Cost per Mile (£/mile)
Average Cost per Mile (Rapid)	£0.25	£5.09	£0.073	Average Cost per Mile (Destination)	£0.20	£4.06	£0.058

Host	Tariff Introduction Date	Rapid Charge Point					Destination Charge Point					Overstay Fee			
		Minimum Fee	Connection Fee	Rate £/kWh	Cost to EV driver for 20kWhs	Cost per Mile (£/mile)	Minimum Fee	Connection Fee	Rate £/kWh	Cost to EV driver for 20kWhs	Cost per Mile (£/mile)	Rapid	Rapid - Time Allowed (Minutes)	Destination (Fast & Standard)	Destination Time Allowed (Minutes)
Proposed NAC Tariff	TBC	£1.00		£0.30	£6.00	£0.086	£1.00		£0.19	£3.80	£0.054	£10	70	£10	190

Proposed Charging Tariff for North Ayrshire Council EV Charge Points

Following a review of the EV tariffs applied by other local authorities and private businesses, whilst considering recommendations from EVA Scotland and Charge Place Scotland, the tariffs for North Ayrshire Council owned EV charge points are proposed in Table 3:

Table 3: Proposed Tariffs for North Ayrshire Council

Charge Point Type	Tariff (p/kWh)	Minimum Fee
Destination – all slower charge points (e.g. 22kW, 7kW and 3kW)	£0.19	£1.00
Rapid – over 43kW	£0.30	£1.00

Charge Point Type	Overstay Fee
All charge points	£10 Flat fee
Destination – all slower charge points (e.g. 22kW, 7kW and 3kW)	After 190 mins of charge - 3 hours plus 10 minute grace period
Rapid - over 43kW	After 70 mins of charge - 1 hour plus 10 minute grace period

In addition to the above table, the following is proposed:

- The Overstay Fee applies at all times for Rapid (43kW) charge points
- For Destination charge points, overstay fee is exempt for the following:
    - Between 7pm and 8:30am (to allow for overnight charging)
    - For the charge points at Union Street Car Park, Saltcoats (to encourage Park and Ride at Saltcoats Train Station)
- A minimum fee of £1 per session will be applied, which would be waived if the session is interrupted.
- Council officers will begin the process of introducing tariffs and overstay fees immediately after Cabinet approval has been sought and secured.
- As transactions and energy costs may vary in time, the Council will review the costs annually and amend the charges accordingly.

Rationale for the Tariff Proposal

North Ayrshire Council's proposed tariff for Destination charge points is £0.19/kWh and equates to 5.4p/mile. The proposed tariff for Rapid charge points is £0.30/kWh and equates to 8.6p/mile.

The Council's proposed tariffs are designed to support the increased use of Destination charge points for regular daily charging. The proposed tariff is below average, to incentivise use of the fast and standard charge points.

Rapid charge points are more accessible for those who are driving long distance and require a quick 'top-up.' Rapid charge points attract a higher charging tariff (as recommended by EVA Scotland) due to the complex infrastructure and large volume of electricity required per charge, resulting in capacity pressure on the electricity grid.

The Council's proposed tariff for Rapid charge points is slightly above average but it is the same price as East Lothian, Mid Lothian and Edinburgh City Council (Park and Ride). It is cheaper than the private charge point providers located in Saltcoats and Stevenston, but not so low as to drive out competition from existing and future private charge point network operators.

These proposed tariffs also support EV charging at home. While it is cheaper for an EV user to charge their vehicle at home (equating to between approximately 3p to 5p per mile, depending on the domestic tariff), Destination charge points are more accessible to those without domestic charge point access, for example those living in flats or without in curtilage parking, by giving access to public charge points at a fair and reasonable tariff.

Although only six out of twelve local authorities have introduced an overstay fee, the Council has proposed an overstay flat fee of £10. Overstay fees are endorsed by EVA Scotland to support the availability of EV charge points.

Financial Projection for the Tariff Proposal

The financial projections based on the proposed tariffs are detailed in Table 4 and assume that the tariff is only applied to public users, with North Ayrshire Council fleet & pool vehicle usage excluded.

Based on charge session data in 2020, the tariff proposed would provide a revenue of £26,304. Following deduction of electricity costs of £18,144 (public electricity usage accounts for 89% of the total cost detailed in Table 1) the net income to North Ayrshire Council would be £8,159. Revenue associated with overstay fee is not included in the calculations as it is assumed that all users will comply to the time limit set.

Table 4: Financial projection based on proposed tariffs

Electricity usage for public EV charging in 2020	**114,105kWh**
Income from charges to EV users based on tariffs proposal	**£30,837**
ChargePlace Scotland (CPS) Fees	
Transaction Fee (£0.36 per charge session)	£3,161
Banking Fee (2.59%)	£910
Merchant Fee (1.50%)	£463
CPS Total Fee	**4,534**
Revenue received by the Council from ChargePlace Scotland after deducting CPS Total Fee	**£26,304**

At present, the installation of publicly accessible EV charge points is funded through Transport Scotland's Local Authority Installation Programme, and any additional charge points will be required to be funded through access to this grant or other suitable capital finance. However, there is no budget available for maintenance of the charge points. Therefore, income generated from the tariffs will be used to fund ongoing maintenance costs, which are estimated to be approximately £24,000 per year. It is anticipated that in future years, EV charge point usage will continue to rise as EVs become more popular and the associated income will rise in line with the trend.