



Green Fleet Plan (2023-2029)

1. The Vision of the Fleet Service

- 1.1 To provide a fleet of safe, effective and non-emission vehicles for the Council's services to enable the Council to deliver for the people of Gwynedd.

2. National Context

- 2.1 Since passing the Environment (Wales) Act, that follows the approach set by the Well-being of Future Generations (Wales) Act, the Welsh Government has set targets and additional support for renewable energy and de-carbonisation of the public sector. The Environment (Wales) Act 2016 makes it a requirement for the Welsh Government to reduce greenhouse emissions in Wales by at least 80% by 2050, using a system of emission targets and interim carbon budgets.

In the context of the use of vehicles by the public sector, the Welsh Government has set ambitious targets for decarbonisation. In the document Prosperity for all: a low carbon Wales, published in March 2019, is the following target:

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.

3. Local Context (Gwynedd)

- 3.1 During March 2019, Cyngor Gwynedd declared a Climate Change Emergency and this led to the Council's Cabinet publishing a Climate and Nature Emergency Plan in March 2022.

The Climate and Nature Emergency Plan has set an ambition that "Gwynedd Council will be net-zero carbon and ecologically positive by 2030", which corresponds to the Welsh Government's target for the public sector in Wales to be net-zero carbon by this date.

The Plan uses data from the year 2019/20 as a baseline, and measures our progress to reduce carbon emissions against that year's figures. Our carbon emissions from our fleet (that include waste collection and recycling vehicles) were 5,145 tCO₂e, namely 7% of the Council's carbon emissions, for that year. The Green Fleet Strategy will give guidance on how we can reduce our carbon emissions further in the future.

4. Cyngor Gwynedd Fleet

4.1 The Council's Fleet assists the Council's departments to provide a wide range of services for the people of Gwynedd from waste collection to care visits, from Highway maintenance to pupil transport. Indeed, the majority of the Council's services make use of vehicles in one way or another and this was led through the Fleet Service.

At the start of September 2022, there were 543 vehicles in the Fleet. The following table gives a breakdown of the types of vehicles (and equipment) the Council uses.

Type	Council Property	Hire		Total
4x4 Vehicle	35	1		36
Cars	64	1		65
Minibus	41	3		44
Light Commercial Vehicle	189	63		252
Heavy Commercial Vehicle	130	16		146
	459	84		543

To operate commercial vehicles over 3500kg GVW, it is essential that the Council holds a Heavy Goods Vehicle Operator Licence. Cyngor Gwynedd holds a Standard National Licence and has registered (July 2021) 98 vehicles on the licence, with the ability to add another 22 vehicles, if required.

The licence is issued by the Traffic Commissioner's Office on condition that specific guidelines are followed and that regular control and monitoring is in place to deal with, for example, ensuring that vehicles are roadworthy, MOT pass rates, issues regarding drivers such as speeding and driving hours.

Currently, it is the Fleet Manager, named on the licence as the person responsible across the Council and is supported by another three members of staff.

Under the leadership of the Fleet Manager, three workshops are located for the maintenance of the Council's vehicles. These are strategically situated across the County in Caernarfon, Pwllheli and Dolgellau. In addition to the maintenance of the Council's Fleet, the workshops serve the public by undertaking MOT tests as well as the maintenance of vehicles for external contractors.

4.2 As well as the use of vehicles, the Council makes use of other machinery on some of its sites such as forklifts and loading shovels. There are currently 20 of these in the Fleet and use diesel as fuel.

5. Steps to Transform the Fleet

5.1 Our plan to decarbonise the fleet has focused across three main themes, Weeding, Innovation and Renewal.

5.2 Weeding

This step is in the plan in order to truly recognise the size of the fleet as well as the actual needs of the services to enable them to deliver for the people of Gwynedd.

5.2.1 From the table in 4.1, it can be seen that the Fleet comprises a combination of vehicles that are the Council's property as well as hired vehicles (be this for the long or short-term). The Council hires 84 vehicles, these are a combination of:

- Additional vehicles due to work pressure.
- Additional vehicles due to the lack of management of resources.
- Unique savings schemes

In order to truly identify the size of the Fleet, and the actual need for services, Managers need to be challenged for having these vehicles.

5.2.2 Examples can be seen within the fleet that are the Council's property (459) vehicles that have no financial plans to renew them. The majority of these are vehicles that are kept once they have been renewed. Not only does this create stress on the budgets of services but also means that there are inefficient vehicles in the fleet. In addition, by not having an arrangement to renew these vehicles, it places the Council under financial risk thinking of the additional cost to purchase electric vehicles.

Funding Plan	Number
Internal loan	29
Capital Bid (Fleet Fund)	51
Depreciation	283
Self-funding	96

Obviously, there are valid reasons to include some of these vehicles in the fleet, however, there is a need to challenge the relevant Managers in terms of what their plans are to renew these vehicles.

5.2.3 There are examples within the Council's fleet of vehicles that are not used much. In order for a plan such as electric vehicles to be effective, and value for money, the vehicles need to travel approximately 8,000 miles a year. There are examples within the Council's fleet of vehicles that only travel a quarter of this total.

With the lessons learnt as a result of COVID-19, it can also be seen that staff travel less in the Council's vehicles due to the wider use made of technology (for example, virtual meetings).

Discussions will need to take place with the relevant Managers on their plans, and how they see future work arrangements as well as to challenge them regarding the need to have vehicles that only travel a relatively small number of miles.

- 5.2.4 Once this work is completed, we feel that it is essential that a vehicle structure, similar to a staff structure, is established within each Department. This will prevent Managers from retaining vehicles once they have been renewed, and provide some assurance that a sufficient budget is available to renew and maintain vehicles and to ensure that only essential vehicles serving Gwynedd residents are in our fleet.

Ref.	Details
5.2.1	Hold discussions with Managers about the actual need to hire additional vehicles.
5.2.2	Hold discussions with Managers on their plans to renew vehicles that have no financial plans for renewal.
5.2.3	Hold discussions with Managers to understand their plans and how they see the use of vehicles within their services
5.2.4	Hold a discussion between Managers and Finance on establishing a vehicle structure across the Council.


5.3 Innovative

In this step, we will look at how technology or changes in work arrangements may have on the Fleet.

- 5.3.1 Currently, the majority of the Council's vehicles use fuel bunkers to fill them with diesel. This fuel is managed through the Council's fuel system, Timeplan. By now, this system has reached the end of its life and is not suitable for further development. This means that it is not possible to manage and report on the use of diesel from our tanks this is a significant risk to the Council.

The Fleet Service has received prices to renew the technology in our tanks that will mean that we can report regularly to the Managers on the actual use of fuel by our Fleet. By doing this we can identify vehicles that contribute the most carbon emissions as well as manage any potential misuse.

Because of the direction the Council has taken with electric vehicles/ULEV, it is necessary to consider if there is a need to invest to upgrade the system. Another option available to the Council would be not to upgrade the system and transfer every vehicle to fuel cards. This option allows us to report on the use of fuel, however, there is a cost attached to this (approximately 4p per litre more).



In order to manage, challenge and report effectively on the fleet's carbon emissions, the Fleet Service believes that it is essential that this facility is available to them.

5.3.2 During the inspection of several vehicles by our workshops, we find that a number of vehicles carry a substantial amount of equipment in the vehicles. The main reason for this is 'in case we need it'. Carrying loads, mainly in vehicles smaller than 3.5t GVW, has an impact on the vehicle's safety (when it is not loaded safely) as well as the carbon emissions. No procedure exists in the Council regarding the impact that unsafe and unnecessary loads have on a vehicle's performance. The Fleet Service needs to cooperate with Managers across the Council, as well as Health and Safety to establish such a procedure.

5.3.3 Across the Council a number of vehicles that are the same can be seen, mainly cars and small vans. As noted in 5.2.3 a number of these vehicles travel a small number of miles at different times of the day.

Within some Council departments pool systems of vehicles have been established. These are for vehicles without any specialist equipment installed in them.

By establishing a corporate pool across the Council and developing an integrated booking system with a tracking system and the Council's fleet assets system, the best use of our resources can be ensured. Such plans have been presented by the Fleet Service several times in the past, but there has been no desire from within the services. We believe that this needs to be back on the agenda and for all to be mindful of the opportunities available by establishing a corporate pool system.

There is a need for a mature discussion across the Council to establish a corporate pool system.

5.3.4 As noted in 4.1, the maintenance of existing vehicles is undertaken by the Fleet Service across three strategic locations within Gwynedd. With improvements in technology for electric vehicles, the ability of workshops to maintain the vehicles should be considered.

The Fleet Service is very supportive to retain its workshops and train and provide necessary equipment for staff to maintain electric vehicles.

Indeed, there is no workshop that maintains electric vehicles in Gwynedd and the Council can use this opportunity to give an additional service to the people of Gwynedd and create external income.

Ref.	Details
5.3.1	Decision on the direction the Council needs to take to control the use of fuel.

5.3.2	Establish a procedure to load and transport equipment on vehicles.
5.3.3	Establish a corporate pool system.
5.3.4	Research what is required in terms of training and equipment in the workshops for the maintenance of electric vehicles.

5.4 Renew

Here is the direction they wish to take to renew the Fleet.

5.4.1 There is no policy currently in place to renew the Council's vehicles. By establishing a clear policy and direction, to renew the Council's fleet we can ensure that changes are made for the Council's long-term benefit.

5.4.2 With the electric, hydrogen and ULEV vehicle market moving fairly quickly Cyngor Gwynedd needs to ensure that it is open to trial alternative vehicles and technologies. The Fleet Service has received a number of demonstration vehicles over the years but does not tend to receive any firm feedback following use.

It should be ensured that any vehicles on loan (trial or demonstration) are fully inspected and that vehicle users have an input in the process.

5.4.3 Further to the guidance received from the Welsh Government (2.1) as well as the vehicles that are currently on the market, it is recommended that Cyngor Gwynedd take the following steps:

5.4.3.1 4x4 Vehicles (35)

There are no electric 4x4 vehicles currently on the market. Because of this, any vehicle that needs to be renewed in this group should be diesel/hybrid vehicles. Before renewing these vehicles Managers should confirm their requirements and reasoning for a 4x4 vehicle. When there is no sufficient reasoning, the vehicle should not be exchanged for a new 4x4 vehicle and other green options should be looked at.

5.4.3.2 Cars (72)

There are cars of all types currently in the Council's fleet. The split is as follows:

Type	Number
Car (Estate)	10
Car (Hatchback)	34
Car (MPV)	20

Car (MPV) Wheelchair	8
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Electric cars of the same type can be seen on the market today and every car that needs to be renewed should be changed to an electric version. Unfortunately, there are not many MPV cars currently on the market that allow access to wheelchairs. There will be a need to look at these in greater detail when required.

Cyngor Gwynedd should make it policy that any car purchased from now on is electric. The exception to this is that relevant managers can prove why the electric version of the vehicle is not suitable i.e. range of vehicle, infrastructure.

5.4.3.3 Minibus (33)

During the last few months minibuses have started to come onto the market. Unfortunately, the choice is not vast and the distance the vehicles can travel on a full battery is currently rather low (except for one vehicle on the market). We will monitor the market over the next few months to see if there are any other developments and re-visit at the start of 2023/24.

5.4.3.4 Light Commercial Vehicles (189)

The majority of the Council's vehicles are in this group, namely vans and lorries (pick-ups) less than 3.5t GVW. Often, specialist equipment can be seen on these vehicles and are split as follows:

Type	Number
Lorry (< 3.5t)	41
Lorry (< 3.5t) Cage	21
Lorry (< 3.5t) Stillage	10
Traffic Management	2
Lorry (< 3.5t)	111
Van (< 3.5t) Luton	4

Lorries less than 3.5t GVW are starting to come on the market, however, their range is not suitable for the requirements of Gwynedd. The same is also true about Luton vehicles. Because of this we should keep an eye on developments in the market

Currently there are 111 vans in the Council's fleet. There are versions of these vehicles on the market today and the Council should make it a policy to renew these to electric vehicles when required. The exception to this is that relevant managers can prove why the electric version of the vehicle is not suitable i.e. scope of vehicle, infrastructure.

5.4.3.5 Heavy Commercial Vehicles (129)

The specialist vehicles the Council run, e.g. gritting vehicles, waste and recycling vehicles and sweepers. Electric technology has not reached this market yet (at least not to the extent that would be effective in Gwynedd). However, there are electric vehicles on the market and the Council should regularly continue to receive and trial such vehicles.

In addition, hydrogen vehicles are starting to appear on the market, we should also keep an eye on these vehicles as this is the long-term direction the Fleet Service believes the market will move to. Unfortunately, we cannot fully investigate this market as no hydrogen infrastructure exists, thus far, in Wales.

5.4.3.6 Equipment (20)

As noted in 4.2 the Council owns 20 forklifts and loading shovels and these are used in several Highways and Municipal Service depots.

Similar equipment is available on the market today and these should be renewed to electric versions when required.

5.5 Currently there is a substantial delay in the Council's ability to receive electric vehicles to its Fleet. This problem involves the supply chain and the inability of manufacturers to provide vehicles in accordance with demand. There is a delay of more than 12 months from the time the order is placed and this obviously has an impact on any renewal schedule.

Initial discussions have been held between the Wales Fleet Manager and the Government regarding the best way forward to deal with this issue. One possible solution being discussed is for the Welsh authorities to combine their needs and go to the market with one large order. In doing so, the hope is that this will be more attractive to manufacturers, vehicles will be received quicker and may secure a cheaper purchase price.

Ref.	Details
5.4.1	Establish a policy for the renewal of vehicles across the Council.
5.4.2	Continue to hold trials on different vehicles and get reports back following use.
5.4.3.1	Challenge the need for 4x4 vehicles when they need to be renewed.

5.4.3.2	Renew every car in the fleet (when required) to an electric version.
5.4.3.3	Keep in touch with the minibus market to check for developments.
5.4.3.4	Renew every van in the fleet (when required) to an electric version and keep an eye on the developments with smaller lorries (less than 3.5f GVW).
5.4.3.5	Keep an eye on the heavy commercial vehicles market for further developments in technology.
5.4.3.6	Renewal of equipment to electric versions

6. Renewal Schedule

6.1 We refer to what is noted in 2.1 by the Welsh Government. It will be necessary to ensure that any light vehicle (less than 3.5f GVW) has low emissions from 2025 onwards, with the rest of the fleet following in 2030.

When considering the electric vehicles on the market today, 175 vehicles fall into this bracket. Should these vehicles need to be renewed (when there is a real need) the renewal schedule will look as follows:

Type	22/23	23/24	24/25	25/26	26/27	27/28	28/29
Car (Estate)	10						
Car (Hatchback)	20	5	7	2			
Car (MPV)	7	2	4	3	1	2	1
Van (3.5ft)	72	3	15	4	6	8	3

6.2 Financial impact of buying electric vehicles (purchase price only)

As noted previously, funding methods vary from department to department. We will look at the additional cost of exchanging these vehicles annually for electric vehicles. Please note that it is only an estimated cost for the electric vehicles bearing in mind that no money has been pooled by services for some vehicles.

2022/2023	£1,494,943.15
2023/2024	£165,495.67
2024/2025	£245,578.28
2025/2026	£124,489.28
2026/2027	£50,522.37
2027/2028	£99,260.69
2028/2029	-£12,712.12

This information can be seen in Appendix 1.

6.2.1 Funding Method

Internal loan: where the Council borrows money from its own funds to fund capital expenditure. Often, this money has been initially borrowed from external sources, therefore this is the reason why interest has to be paid on this type of finance. The loan repayment is an annual revenue cost for the service.

Fleet Fund: a fund of money allocated specifically for the renewal of vehicles the Council consider to be of strategic importance to how the Council works. There is no revenue cost to the service of buying a vehicle through this method.

Depreciation: this works similar to an internal loan, but it is managed directly by the Department. The vehicle is purchased with money accrued in funds and the sum is paid back over a specific period, so that there is a pot of funding available at the end of the lifespan of the vehicle that needs to be renewed. The repayment/depreciation is an annual revenue cost for the service.

Self-funding: where payment for the vehicle is made immediately by the service from its budgets. Services can buy vehicles via their usual revenue budgets, grant receipts, or money accrued in a capital account. There is no annual revenue cost to the service of buying a vehicle through this method. Very often, vehicles down as self-financing are those kept on by the Services after they are renewed.

Accrued: this is the total accrued to renew the vehicles by the end of the financial year in question.

Cost: this is the estimate for buying a similar electric vehicle. The prices are based on:

- Van at £20,000
- Car (Hatchback) at £22,000
- Car (Estate) at £25,000
- Car (MPV) at £30,000

Balance: is the difference between how much has accrued and the purchase price.

6.3 Potential Savings

6.3.1 Carbon Savings

By changing the Fleet to electric there are substantial carbon savings to be seen. 8,000 miles per annum is used (bearing in mind that some are less) as the minimum these vehicles will travel, and use a gallon of diesel every 50 miles (50mpg) on average (727 litres of diesel). Burning 1 litre of diesel creates 2.62kg of CO₂. Should the Council renew all the vehicles noted in 6.1 the estimated savings would be:

2022/2023 207,616.66kg

2023/2024	19,047.40kg
2024/2025	49,523.24kg
2025/2026	17,142.66kg
2026/2027	13,333.18kg
2027/2028	19,047.40kg
2028/2029	7,618.96kg

* These consider that not every vehicle will be changed in accordance with the plan if following the steps noted in 5.2 and 5.3 first.

6.3.2 Revenue Savings

As we convert the Fleet from diesel fuel to electric, it is possible to estimate savings between fuel and electric.

Fuel Costs (diesel)

8,000 miles per annum is used (bearing in mind that some are less) as the minimum these vehicles will travel, and use a gallon of diesel every 50 miles (50mpg) on average (160 gallons of diesel). The price of diesel is currently around 180p per litre/£8.18 per gallon that as a result gives a revenue cost (fuel) of £1,309.27 per annum for each vehicle.

Vehicle Charging Costs

8,000 miles per annum is used (bearing in mind that some are less) as the minimum these vehicles will travel, and using a figure of 200 miles on full charge as an average of 20kwh. The price of an unit of electricity is currently around 34p (namely £6.80 every time the vehicle is charged). As a result, the vehicle will need to be charged 40 times a year at a revenue cost (electric) of £272.00 a year for each vehicle.

Should the Council renew all the vehicles noted in 6.1 the estimated savings would be:

Year	No.	Diesel cost	Electricity cost	Revenue savings
2022/2023	109	£ 142,710.43	£ 29,648.00	-£ 113,062.43
2023/2024	10	£ 13,092.70	£ 2,720.00	-£ 10,372.70
2024/2025	26	£ 34,041.02	£ 7,072.00	-£ 26,969.02
2025/2026	9	£ 11,783.43	£ 2,448.00	-£ 9,335.43
2026/2027	7	£ 9,164.89	£ 1,904.00	-£ 7,260.89
2027/2028	10	£ 13,092.70	£ 2,720.00	-£ 10,372.70
2028/2029	4	£ 5,237.08	£ 1,088.00	-£ 4,149.08

It has to be considered that not every vehicle will be changed in accordance with the plan if following the steps noted in 5.2 and 5.3 first.



7. Financial Matters

7.1 The Fleet Service needs to cooperate with the Finance Department to get their input on:

- arrangements to finance the vehicles in the future (higher capital costs, funding methods).
- revenue budget savings as a result.
- general vehicle retention periods including electric vehicles.

8. Infrastructure Matters

8.1 The Fleet Service needs to cooperate with the Housing and Property Department to get their input on:

- installing sufficient charging points within the Council's assets/offices and depots.

9. Other Developments

We are eager to look at every possible option to reduce the Council's carbon emissions. There are a number of other steps we are currently taking to undertake this.

9.1 HVO (Hydrotreated Vegetable Oil) Trial

During the next few months the Fleet Service will commence a trial to run part of our fleet on HVO rather than diesel. The current cost of HVO is high (around 30p a litre higher) however, it is expected that the price will fall significantly as demand increases. There is a reduction in the direct carbon emissions (Scope 1) of 90% when using HVO compared with diesel. It should be noted that the Welsh Government do not permit us to record the direct emissions only as the emissions are high in Scope 2 and 3. Consequently, the carbon savings are around 18%. However, it is a reduction and is something we need to consider specifically with vehicles that do not have similar electric vehicles we can buy.

9.2 Hydrogen

We are part of the Transport and Decarbonisation (Hydrogen) project led by Flintshire County Council, that looks at opportunities to develop a carbon hub. This work is linked to the North Wales Ambition Board programme. This can be one hub, or a collection of elements within the hydrogen field. Certainly, this is a solution for vehicles over 3.5t.