

Blaenau Gwent County Borough Council

Decarbonisation Plan



2020 to 2030

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This document is available electronically at the Council's website:

<https://www.blaenau-gwent.gov.uk>

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Mae'r ddogfen hon ar gael yn Gymraeg

This document is available in Welsh



Content

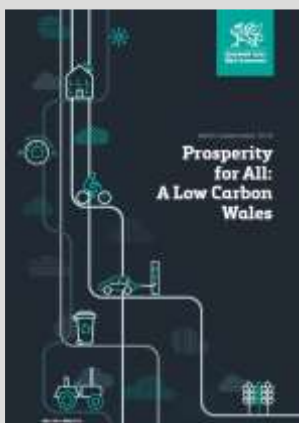
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Our Ambition to be Carbon Neutral by 2030

We support Welsh Government's ambition for the Welsh public sector to be carbon neutral by 2030, and this plan sets out how we intend to deliver on this ambition over the next ten years.

The plan will also help to ensure that decarbonisation is built into our long-term plans to improve well-being in Blaenau Gwent.

Achieving a Carbon Neutral Public Sector in Wales



The ambition for the Welsh Public Sector to be carbon neutral is part of the Welsh Government's delivery plan, '[Prosperity for All: A Low Carbon Wales](#)'.

The plan outlines that achieving this ambition will require going beyond the most common public sector actions, such as delivering improvements to the efficiency of public sector buildings and the development of renewable energy solutions. It will also require addressing other areas such as; decarbonisation of heat, procurement, and electrification of fleet.

What does carbon neutrality mean?

Carbon neutrality means reducing net emissions by at least 95%, there may be a residual 5% of emissions that is not technically feasible to eliminate by 2030.

The Welsh Government ambition is for carbon neutrality across the entire Welsh public sector, i.e. some public sector organisations may be able to achieve negative emissions, to balance out unavoidable emissions in other organisations. Our contribution to this ambition will reflect future Welsh Government guidance.

We recognise that some elements of our emissions are not solely in our direct control and/or will require additional support to achieve, e.g. the availability of low carbon technology and decarbonisation of the power grid. We will seek to collaborate with partners and advocate for actions in these areas.

Climate Change and the need for Decarbonisation

The 2015 [Paris Agreement](#) commits governments to keep global temperature rises well below 2°C above pre-industrial levels, with the ambition to limit the rise to 1.5°C.

This target was chosen as an approximate indicator of dangerous levels of climate change. Global average temperatures have already risen by 0.9°C, with further rises inevitable due to carbon already emitted. Therefore, achieving this target requires that global emissions peak as soon as possible and reduce rapidly thereafter.

The [Intergovernmental Panel on Climate Change](#) states that meeting climate change goals will require 'rapid and far-reaching transitions ... (that) are unprecedented in terms of scale, but not necessarily in terms of speed, and imply deep emissions reductions in all sectors'.

All countries are legally required to submit national action plans explaining how they will achieve their Nationally Defined Contribution (NDC). These emissions reductions contributions are set by the countries themselves, who report on their progress every five years. Currently the reductions pledged are well below the total required to achieve the 2°C target, the hope is that countries will set increasingly ambitious targets as time goes on.

The Environment (Wales) Act 2016 set a target for Wales of 80% reduction by 2050 (against 1990 levels), and last year the UK's Committee on Climate Change said it was realistic with existing technology for the UK as a whole to reach net zero emissions by 2050.

The committee recommended a 95% reduction in Wales (due to Wales's high concentration of industry and power generation), but the Welsh Government has announced its intention to go further and amend its targets to Net Zero in Wales by 2050.

This new target was part of Welsh Government's declaration of a climate emergency.

The Structure of Our Plan

Our approach to decarbonisation is based on:

1. Public Leadership

We are committed to leading decarbonisation across Blaenau Gwent. We believe that this leadership starts with addressing the climate impact of our own operations. We are already taking a number of positive actions, but we recognise the need to increase our efforts through a systematic corporate approach to decarbonising the authority.

2. Collaboration

We will work with our partners to develop joint projects to address common sources of carbon emissions and will be developing a plan for decarbonisation of Blaenau Gwent as a whole, through the Blaenau Gwent Public Services Board. This collaborative approach is informed by the principles of the [Well-being of Future Generations \(Wales\) Act 2015](#).

3. Data Driven

The basis of our plan is a comprehensive assessment of the carbon impact of our operations, including calculating our carbon footprint. Using this data to identify, and target for action, the highest impact areas of our operations.

4. Our Transition Pathways

Decarbonising the council will involve a number of different transitions in each of these high impact areas (e.g. travel, electricity). The plan includes transition summaries which identify key challenges in achieving carbon neutrality in each of these areas.

5. Low Carbon Framework

Although each transition will require its own distinct actions, we will also need a low carbon framework to provide a common strategic direction across these transitions.

6. Next Steps

A Delivery Board will be established to take decarbonisation forward.

1. Public Leadership

We are already taking a range of actions to tackle climate change, but we recognise that to provide public leadership we need to take a more systematic approach. This leadership starts with addressing the council's own carbon impact. The focus of this plan is on **mitigation actions**, aimed at preventing the release of CO₂ and other greenhouse gases that cause climate change (e.g. reducing energy use).

The other major form of climate action is **adaptation actions**, which are taken in response to the changes which are predicted, or are already taking place, as a result of climate change (e.g. improving flood defences). We are already taking adaptation actions and will seek to develop a similar strategic approach to adaptation.

Journey so far

In 2019, we began developing this plan as part of the council-wide Bridging the Gap programme, which develops new approaches to delivering our services in response to the financial challenges we face over the next five years. Following a workshop with Natural Resources Wales (NRW) to explore how they assessed their carbon footprint through the [Carbon Positive](#) project, we began developing the measures used in this plan.

The Importance of Local Leadership in Decarbonisation

Decarbonisation is often perceived as a national or international, rather than local issue. Whereas, the local focus of climate adaptation in responding to the impacts of climate change on services and infrastructure is clear. It is true that in areas such as emissions-related standards for vehicles, international action could have strong and immediate impacts globally. However, even in these areas where international connectivity is high, local action still has an important role to play, for example, through developing a network of local charging points for electric vehicles. Moreover, some of the most far-reaching options for emissions reduction may involve actions in the 'final services' category – e.g., mode shifts from driving to cycling, from business travel to teleconferences, or towards less meat-based diets – all areas where international connectivity is low and local actions are likely to be most important. Planning decisions are inherently local and have significant carbon impacts. Our plan recognises that there are areas of climate emissions which we have limited ability to impact, but also identifies areas where local action has a key role in reducing emissions.

2. Collaboration

Addressing emissions from our own operations (known as organisational emissions) through this plan is only one element of our response to climate change. Decarbonisation of Blaenau Gwent as a whole will require collaboration.

We are working with our partners through the Blaenau Gwent Public Services Board (PSB) to develop a plan to keep carbon emissions for Blaenau Gwent as a whole (known as territorial emissions) within a science based carbon budget in-line with the Paris Agreement 2015. The PSB agreed to establish a steering group to develop this plan in January 2020, and will be seeking to involve the public in this process.

We are also working with our partners at the regional level in Gwent through the 'Climate Ready Gwent' programme to identify areas of action where we can collaborate and pool resources. For example, we have already been involved in a Gwent-wide fleet review and been part of a successful bid for funding to install electric vehicle charging points across Gwent, including in Blaenau Gwent. Also, identifying links to regeneration themes and projects taking place across the region such as Cardiff Capital Region City Deal, the Valleys Task Force and Tech Valleys.

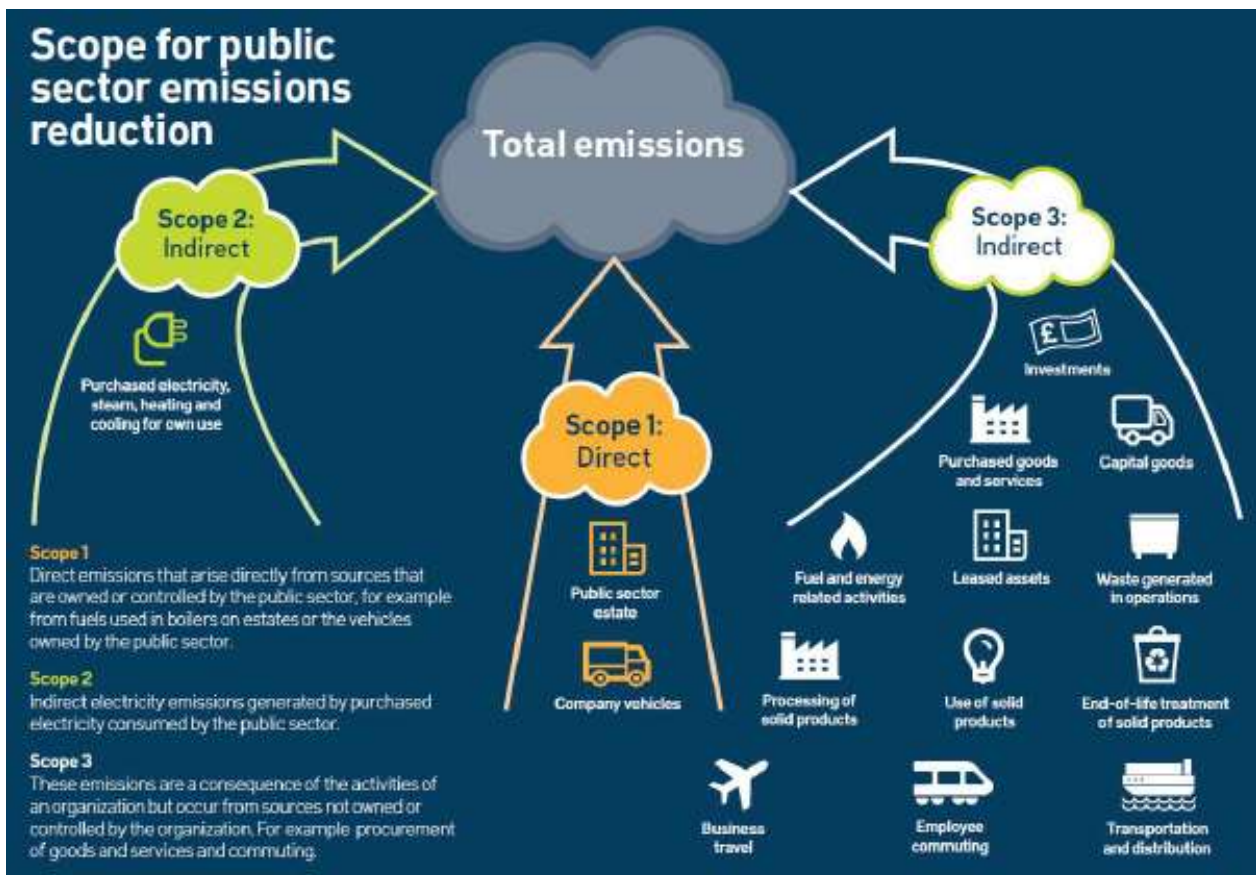


3. Data Driven

The first step in developing a more strategic approach to decarbonising was measuring the relative carbon impact of different areas of our operations, so we can focus on the most impactful areas. A central element of this data collection was calculating our carbon footprint, which is a standardised way of defining and reporting organisational emissions. We are also developing data about avoided emissions, calculating carbon savings generated by delivering services, for example, providing public transport and diverting municipal waste from landfill. Carbon footprint calculations only report emissions, so developing data about these avoided emissions is an important part of our data driven approach to carbon neutrality.

About our Carbon Footprint

Our carbon footprint was calculated following the example of NRW's Carbon Positive project, which was commissioned by Welsh Government to explore how the Welsh public sector could measure its carbon footprint. The project is based on the internationally recognised GHG (Greenhouse Gas) Protocol Corporate Standard. This approach divides an organisation's emissions into three scopes and a number of sub-categories, as shown below.



The methodology we used is outlined in detail as part of the supporting documents which are available with this plan to ensure the consistency and accuracy of future reporting.

Our initial footprint covers financial year 2018/19, a full 12-month period to include all seasonal variations in emissions. The extent of our carbon footprint was determined by two reporting boundaries, organisational and operational.

Our organisational boundaries include all emissions from assets, such as buildings and vehicles that we have day-to-day operational control of, whether we own or lease them (Scope 1 and 2 emissions). Assets we own but do not have operational control over are outside this boundary (e.g. buildings leased to businesses and other organisations).

Our wider operational boundaries include emissions both up and downstream, which are the result of our procurement and other organisations delivering services on our behalf (Scope 3 emissions).

Following NRW's example our data also includes carbon sequestration from Land Use, Land Use Change and Forestry (LULUCF) from land in our operational control. Sequestration represents the annual change in the net amount of carbon stored in different habitat types. In future years we may also be able to calculate the total carbon stored in our land. This carbon stock does not contribute to our ambition of carbon neutrality, but it is important as changes in land use could lead to large one-off releases of stored carbon.

Using our carbon data

We will update our carbon data, including the carbon footprint, on an annual basis, and will seek to make improvements in the quality and range of data included in these calculations.

There are three main purposes that the carbon data in this plan is required for:

- (i) calculating the relative size of the carbon emissions in different areas of the councils' operations;
- (ii) assessing the effectiveness of different forms of action; and

- (iii) monitoring our performance in reducing carbon emissions.

A range of data will need to be reported, because carbon footprint calculations alone cannot fulfil all three of these data functions in every areas of the council's operations. Therefore, developing and improving data to appraise options and manage performance will be important.

Data Quality

The figures presented in this plan represents a first attempt at systematically calculating the carbon impact of our operations. They are largely based on data that was already held in various parts of the organisation, but had not previously been brought together to calculate our carbon emissions.

Guidance from Welsh Government is expected soon about public sector carbon reporting and will be reflected in future calculations. However, given the urgency of decarbonisation we felt it was important to make this initial calculation to inform our plan.

The calculations applied to this data are based on publicly available methodologies and principles, which are available with this plan as supporting documents. As a consequence, we are confident we are well placed in relation to future Welsh Government guidance.

We also recognise that we are at the start of our data journey in relation to carbon and that this will be an ongoing process of improving the range and quality of data we use. This primary focus of this initial calculation has been on enabling comparison of the carbon impact of different areas of the council's operations.

The figure for sequestration is likely to be a significant underestimate as data for tree coverage was only available for our Local Nature Reserves, which are only a small part of our total land holdings.

Our Carbon Footprint for 2018/19, showed in CO₂ equivalent tonnes per year, is shown on the next page as an infographic.

Blaenau Gwent County Borough Council: Carbon Footprint 2018/19



Our emissions	72,093 t CO ₂ e /year
(763) t CO ₂ e /year Our sequestration	
Our net carbon footprint	71,330 t CO ₂ e /year

4. Our Transition Pathways

Our plan will take a transition based approach to reach carbon neutrality rather than set a series of organisation-wide interim carbon targets.

Each transition represents a coherent area of action with its own distinct low carbon technologies, business models and infrastructure. Breaking decarbonisation down into manageable parts, and working back from the final destination of carbon neutrality to identify the key actions required in each transition pathway.

Recognising these different pathways allows each transition to progress effectively, instead of forcing all areas to proceed at the pace of whichever area's actions are most difficult to achieve. Focusing on transitions, rather than targets, takes advantage of confidence in what can be done now, instead of being held back by fundamental uncertainties around what might be achieved in the future.

Transition pathways help address carbon lock-in, where decisions about infrastructure made now, can commit us to future carbon emissions for many years. Carbon lock-in can also have financial consequences, as we may become tied into purchasing increasingly expensive carbon based power sources and materials.

Decarbonisation in the public sector has so far mainly focused on areas with low levels of carbon lock-in, such as the energy efficiency of buildings and the development of renewable energy. In a number of other areas carbon lock-in is higher, with more systemic changes required, including; heating, procurement and the electrification of fleet. A long-term council-wide plan for multiple transitions is crucial to informing the investment needed to tackle carbon lock-in and realise the full potential financial savings associated with decarbonisation.

Each of our organisational transitions are part of a wider societal low carbon transition that we do not control. Ultimately, both elements will be necessary for us to achieve our ambition of carbon neutrality. If the wider legislative, financial and technological context is not sufficiently supportive some elements of these transitions will not be achievable by our actions alone. But similarly if the council does not plan ahead and take action these organisational transitions will not be achieved even if wider transitions do take place.

Overview of our Transition Pathways

Using the data generated calculating our carbon footprint we have identified nine transition pathways:

1. **Transport Direct** travel by our staff in corporate or their own vehicles, includes fleet, commuting and staff travel within work.
2. **Transport Commissioned** travel and transport by non- council staff delivering goods and services on our behalf, such as school transport, subsidised bus provision and onward transport for waste.
3. **Sequestration** absorption of carbon on land we own and manage, largely associated with woodland, urban trees and peatland.
4. **Procurement: Goods** which covers what we purchase as an organisation and includes key items such as clothing, food, IT, machinery, equipment and furniture.
5. **Procurement: Services** which covers the services we procure to deliver our functions such as schools and social services. This also includes investments such as pension schemes.
6. **Procurement: Works** which includes all construction and maintenance of our buildings and infrastructure.
7. **Electricity** which covers the electricity we purchase to run all our services. It includes key things such as street lighting, running our corporate buildings and schools. It also includes our use of renewable technologies.
8. **Heat** which includes our heating (and cooling) of our buildings.
9. **Waste** which covers the carbon impacts of our treatment of municipal waste, whether recycling, landfill or incineration.

Relationship of transitions to footprint scopes

The scopes and categories used in calculating our carbon footprint were developed to provide a standardised way of measuring organisations carbon impact. In contrast, the transitions are organised around the actions needed to reduce these emissions, which leads to different groupings.

For example, emissions from our fleet sit in scope 1 of our footprint alongside gas because both of these emissions are released directly by the council. However, decarbonising our fleet will require completely different actions to decarbonising our gas heating, therefore, fleet sits within the 'direct transport' transition with business travel and commuting, which are part of scope 3 in our footprint, but require similar decarbonisation actions.

The infographic below gives a summary of each transition, including both total CO₂ equivalent tonnes per year and the major sources of emissions within each transition, identified from our carbon footprint calculation. As well as what percentage of our total emissions each transition represents.

Additional information on three major challenges in reaching carbon neutrality for each transition pathway are outlined in the supporting documents to this plan.

Blaenau Gwent County Borough Council: Transitions Summary 2018/19

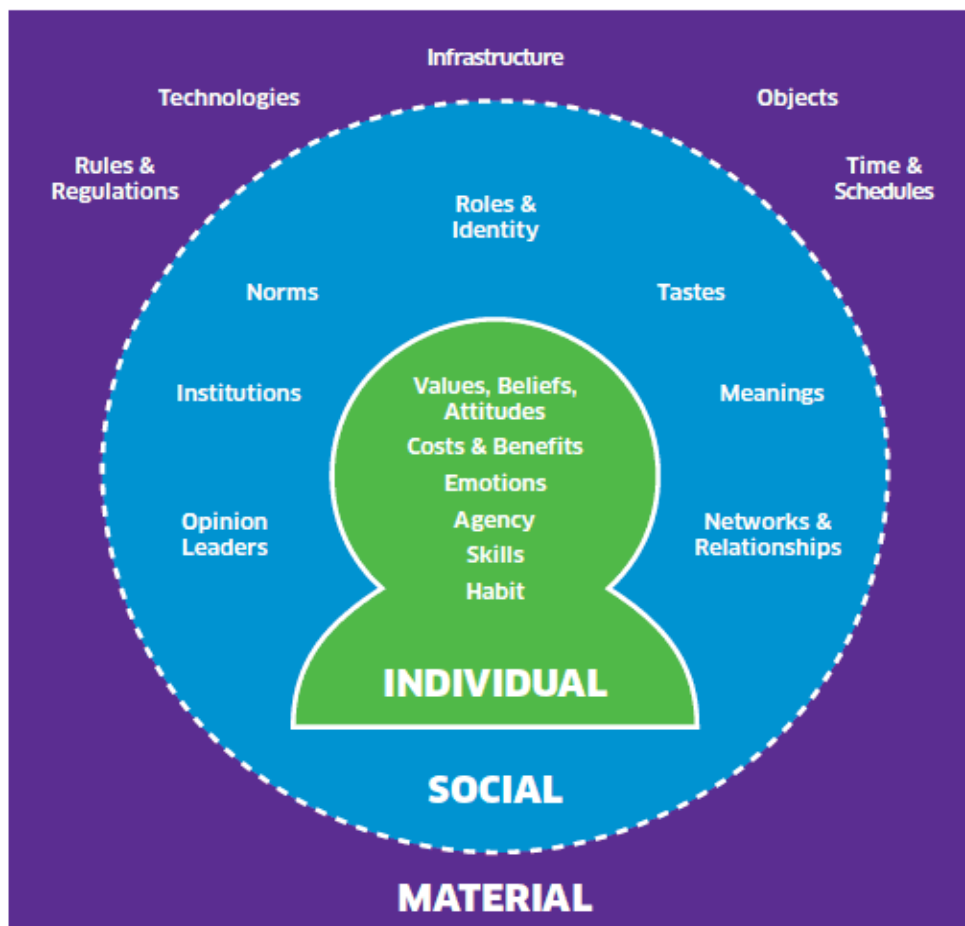


5. Low Carbon Framework

The Low Carbon Framework covers common elements that will be inform the delivery of all nine transitions, including:

Behaviour Change

Everyone at the council, including staff and elected members, will have a role to play in decarbonisation. This behaviour change programme will have to go beyond awareness raising and common generic actions. We will target specific behaviours, placing them in their wider context to support systemic change. This approach will be based on the Individual, Social and Material (ISM) Tool developed for local authorities to use in their climate change planning, as shown below. Further information on this tool is provided in the supporting documents to this plan.



Evidence shows successful behaviour change programmes for decarbonisation are the result of meaningful staff involvement combined with senior management commitment.

Just Transition

Decarbonisation is not only a technological transition but also a social transition. A just transition means ensuring that the benefits of decarbonisation are fairly distributed and supporting those who may lose out. A just transition is not only desirable but may be the only way decarbonisation can be achieved.

Changes within the council may create new working patterns and job roles, so it is important to involve staff in ensuring these are positive changes. Changes in service delivery will have different impacts on different groups, the benefits of these changes must be fairly distributed.

Co-Benefits

We will also consider how decarbonisation can deliver other benefits. The decarbonisation plan, as part of Bridging the Gap and council's Medium-term Financial Strategy, can help to identify both potential cost savings and priorities for investment. Changes in public service delivery need to link in with the Well-being of Future Generations Act, particularly the Sustainable Development Principle, ensuring the needs of the present are met without compromising the ability of future generations to meet their own needs.

Climate change is only one of a number of planetary environmental boundaries that are under severe pressure from human activity. In particular, biodiversity loss, which is now recognised as the sixth mass extinction event. Decarbonisation actions should also protect and enhance biodiversity, and be linked to our local Biodiversity Partnership and Action Plan.

6. Next Steps

We will set up a Delivery Board who will provide strategic overview and be supported by reporting and accountability mechanisms. The board will oversee the next steps, including:

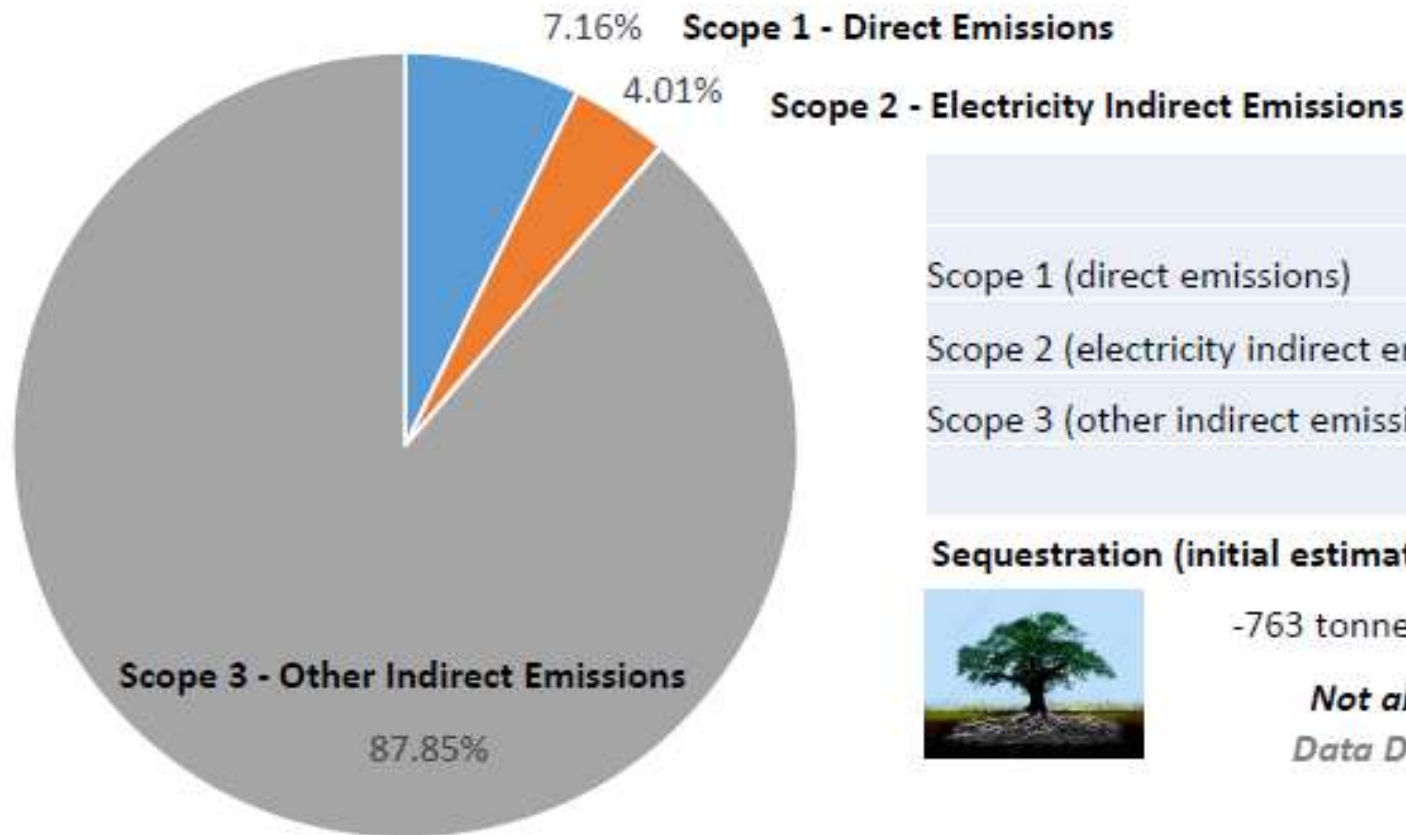
- Developing the nine transitions in detail and identifying priorities for action and areas which need further investigation.
- Further development of carbon data and integration into decision making and corporate performance management.
- Prioritising the need for investment and additional skills and capacities across different transitions (Including creating a central record of existing projects and staff delivering decarbonisation).
- Identify and begin delivery of demonstration projects, which will inform wider transitions. Including ensuring that learning from actions that are already underway is shared widely.
- Mainstreaming decarbonisation, by ensuring that all service areas have the resources needed to take ownership of delivering transitions and that consideration of decarbonisation is taking into account in policy development and changes in service delivery.

Blaenau Gwent County Borough Council Decarbonisation Plan



Supporting Documents

Blaenau Gwent Carbon Footprint 2018/19 Breakdown by Scope



	tonnes CO2 equivalent /year
Scope 1 (direct emissions)	5,159
Scope 2 (electricity indirect emissions)	2,891
Scope 3 (other indirect emissions)	64,043
	72,093

Sequestration (initial estimate based on LNRs)



-763 tonnes CO2 equivalent /year

*Not all our land holding
Data Development Action*

71,330 tonnes CO2 /year

Blaenau Gwent County Borough Council Carbon Footprint 2018/19	tonnes CO2e/year
Scope 1 (Direct Emissions)	5,159
Heating	4,143
Diesel and Petrol	1,016
Scope 2 (Electricity Indirect Emissions)	2,891
Scope 3 (Other Indirect Emissions)	64,043
Categories 1 and 2 -purchased goods and services	60,295
Category 3 -extraction, production & transportation of fuel & energy	771
Category 4 -upstream transportation & distribution (included in categories 1 & 2)	-
Category 5 -waste generated in operations (included in categories 1 & 2)	-
Category 6 -business travel	293
Category 7 -employee commuting & homeworking	2,200
Category 8 -upstream leased assets (None)	-
Category 9 -downstream transportation & distribution	484
Total Scopes 1, 2 and 3	72,093

Carbon Data Sources 2018/19

Decarbonisation Plan – Data Sources

Scope 1 – Direct Emissions

Burning of fossil fuels on-site as part of operations, this will be largely through heating and use of corporate fleet

Categories	What information have we got	Source of Information	Unit of measurement	What will this tell us	Department
Natural Gas	Detailed information on property portfolio including utility costs (Gas and Electric) and	<ul style="list-style-type: none"> Annual reports from CRC report which is being finalised October 2019. This will provide, per property, annual costs and consumption of energy. Ongoing property database development to support monitoring of the data requirements on a frequent basis 	<ul style="list-style-type: none"> Annual Cost Annual kwh consumption 	<ul style="list-style-type: none"> Efficiency and cost of each council-owned building in property portfolio 	Environment Resources
Diesel – Fleet	Detailed reports on vehicles including fuel costs, fuel usage, age of fleet, CO2 emissions	<ul style="list-style-type: none"> Odyssey Fuel Management System that can provide period based reports Costs provided via spend from budget management 	<ul style="list-style-type: none"> Cost Fuel Consumption Mileage 	<ul style="list-style-type: none"> Cost and CO2 per vehicle Consideration: Costs versus Carbon 	Environment Resources
Petrol – Plant and Machinery	Detailed reports on petrol usage	<ul style="list-style-type: none"> Odyssey Fuel Management System that can provide period based reports Costs provided via spend from budget management 	<ul style="list-style-type: none"> Costs Litres purchased 	<ul style="list-style-type: none"> Cost and CO2 per vehicle Consideration: Costs versus Carbon 	Environment Resources

Decarbonisation Plan – Data Sources

Scope 2 – Electricity Indirect Emissions

Emissions produced off-site from the use of electricity in operations

Categories	What information have we got	Source of Information	Unit of measurement	What will this tell us	Department
Electricity purchased	Detailed information on property portfolio including utility costs (Gas and Electric) and	<ul style="list-style-type: none"> Annual reports from CRC report which is being finalised October 2019. This will provide, per property, annual costs and consumption of energy. Ongoing property database development to support monitoring of the data requirements on a frequent basis. 	<ul style="list-style-type: none"> Annual Cost Annual kwh consumption 	<ul style="list-style-type: none"> Efficiency and cost of each council-owned building in property portfolio 	Environment
Street Lighting	Information on the amount it costs the Council to	<ul style="list-style-type: none"> Invoice information / budget cost code 	<ul style="list-style-type: none"> Annual Cost Annual kwh consumption 	<ul style="list-style-type: none"> Seasonality trends for street lighting costs 	Environment

Decarbonisation Plan – Data Sources

Scope 3 – Other Indirect Emissions

Categories	What information have we got	Source of Information	Unit of measurement	What will this tell us	Department
Category 1 and 2 Goods and Services	Detailed cost analysis of third party spend – ascertained from current budgeting information	<ul style="list-style-type: none"> • BTG Third Party Spend analysis, broken down into further cost code analysis to enable us to match the DEFRA 75 cost categories 	<ul style="list-style-type: none"> • Annual costs per category 	<ul style="list-style-type: none"> • Provide detailed analysis of the procurement list for category spend 	Resources
Category 3 Upstream Energy	No further information required as the data collected in Scope 1 and 2 for Gas and Electricity is used				
Category 4 Upstream transport and distribution	No further information required as the data collected in Scope 3 (categories 1 and 2 goods and services is used)				
Category 5 Waste	No further information required as the data collected in Scope 3 (categories 1 and 2 goods and services is used)				
Category 6 Business Travel	Costs for staff expenditure on business travel including mileage claims, rail and air travel	<ul style="list-style-type: none"> • Budget cost code analysis for the period 18/19 received from Resources 	<ul style="list-style-type: none"> • Annual costs per travel type – Car, Rail, Air 	<ul style="list-style-type: none"> • Cost analysis per travel type 	Resources
Category 7 Commuting and Home Working	Detail information on staff (anonymised) with home post code and designation and FTE to calculate mileage	<ul style="list-style-type: none"> • Information received from OD Trent system • Policy and Performance currently looking at info to calculate mileage per week by staff to place of work 	<ul style="list-style-type: none"> • Mileage travelled per week/year by staff • Potential by job type and department 	<ul style="list-style-type: none"> • Avg mileage per employee to work • Breakdown Dept. • Policy/behavioural change 	OD Policy and Performance
Category 8 Upstream leased assets	Initial identification would include Other Buildings utilised by the Council however as we have operational control costs for Gas and Electric will be included in Scope 1 and 2				
Category 9 Downstream Transport	Costs, volume and mileage of journeys for Home to School Transport, Bus Subsidy Services and Waste Distribution from Processing Plant to Treatment	<ul style="list-style-type: none"> • Home 2 School Transport – Transport Section that hold contracts data requirements • Bus Subsidy Services – Joint Transport Service that manage our contracts • Waste Distribution – Performance Team 	<ul style="list-style-type: none"> • Journeys • Passengers • Mileage • Costs • Bus Services • Location of Waste distribution • Tonnages / material type 	<ul style="list-style-type: none"> • Number of Journeys • Number of passengers • Average Mileage • Number of services • Location of Waste distribution • Local supply chain 	Transport Education Community Services Policy and Performance

Decarbonisation Plan – Data Sources

Sequestration

Categories	What information have we got	Source of Information	Unit of measurement	What will this tell us	Department
Sequestration	Area of tree coverage in local nature reserves	<ul style="list-style-type: none"> Council GIS mapping system 	<ul style="list-style-type: none"> Hectares of land 	<ul style="list-style-type: none"> Type of tree Habitat type 	Environment

Waste - Carbon Emissions Avoidance

Categories	What information have we got	Source of Information	Unit of measurement	What will this tell us	Department
Waste Disposal of municipal waste	<ul style="list-style-type: none"> Detailed breakdown of municipal waste information collected Quarterly and annual reports 	<ul style="list-style-type: none"> Waste Collection System Performance information collated and reported on by Corporate Performance Team, supported by Waste Team Waste breakdown of material type and the percentage of each treatment. Split of Household and Non-Household Waste 	<ul style="list-style-type: none"> Tonnes of waste by material type with percentage of breakdown by: <ul style="list-style-type: none"> Recycled, Incinerated and ; Landfilled 	<ul style="list-style-type: none"> Information by material type and the treatment of each category Identification of waste material that avoid the most carbon through recycling Identification of those material types that do not avoid carbon emissions 	Corporate Performance Waste Team

Transition Pathway - Three major challenges in reaching carbon neutrality

Transport

The number of ULEV (Ultra Low Emission Vehicles) on the road is beginning to take off and government has repeatedly brought forward deadlines for the end of sales of new petrol/diesel cars (including hybrids). Welsh government has made ambitious proposals for all new public sector vehicles to be ULEV by 2025 or 2030 for HGVs. Reflecting that ULEV options in the HGV market are currently very limited and high cost. Transport has been divided into two transitions:

1 Transport Direct		9%
Direct transport includes all work related travel by BGCBC employees (including travel to work), whether in their own, or in BGCBC fleet, vehicles.		
Challenge 1	Challenge 2	Challenge 3
ULEV Infrastructure. Replacing our entire fleet with ULEVs will require substantial capital investment. Particularly as even when ULEVs whole life cycle costs are lower, savings are the result of lower running costs, while up-front costs are higher. In addition, investment is also required to provide charging infrastructure for this fleet, in particular for a Central Depot replacement. The recent Gwent Fleet Review highlights the potential for collaborative public sector procurement.	Agile Working. In addition to reducing travel, both too and in work, changes such as home working and virtual meetings can also improve workplace efficiency, but technical support and cultural change are required to realise the full benefits. This plan has begun the process of using data to understand our staff travel patterns and requirements.	Commuting. Commuting miles are likely to remain substantial, particularly as many jobs have to be done in person. Charging infrastructure for staff vehicles is part of meeting this challenge, although home charging is likely to play a far larger role. However, the council will also have to support employees with the issues around upfront costs of ULEVs, as well as promoting and improving public and active transport options.


2 Transport Commissioned		1%
<p>Commissioned transport covers transport services we pay for (e.g. bus), deliveries to and from the council, and travel by non-BGCBC employees delivering services on our behalf. Public and school transport supported by the council produces overall carbon savings by avoiding car use.</p>		
Challenge 1	Challenge 2	Challenge 3
<p>ULEV Infrastructure. This transition will rely on a local charging network. Suppliers who provide significant levels of transport services will have to upgrade their fleet. Currently contracts for some bus services struggle to attract bids, given the high cost and limited availability of electric buses there are concerns about the capacity of the local market to respond.</p>	<p>Shortening supply chains. Using suppliers with local bases has the potential to significantly reduce travel distances. In many cases this might require developing local production and delivery capacity, which would have additional benefits in terms of strengthening our foundational economy.</p>	<p>Reducing number of journeys. Utilising data to identify opportunities to reduce the number of journeys required to deliver products to the council and to deliver services on our behalf. Maximising these potential reductions may require wider changes in areas such as procurement processes, storage capacity and service delivery models.</p>


3 Sequestration		-1%
<p>Carbon sequestration removes emissions from the atmosphere, these negative emissions are crucial to achieving carbon neutrality. In addition, as land owner the council is responsible for substantial carbon stocks already captured, trees and peatland are the main two natural carbon stores. Both these land types in Wales have been badly degraded as carbon stores over a number of years by deforestation and peatland ‘improvement’ for agriculture (now often abandoned). Deindustrialisation in Blaenau Gwent has resulted in another wave of landscape change, we now have the highest proportion of woodland coverage of all Welsh local authorities.</p>		
Challenge 1	Challenge 2	Challenge 3
<p>Improve digital mapping and data availability. Trees rate of carbon sequestration varies significantly with species type, management and age. The initial figure in this plan is a very rough estimate for a small element of the council’s landholdings (LNRs). A complete picture of current tree stock is key to understanding the carbon impacts of our current landholdings.</p>	<p>Right tree, in the right place. Current national rates of tree planting are falling well short of ambitious government targets, which reflect that Welsh (and Blaenau Gwent) tree coverage is still well below the European average. However, it is vital that tree planting efforts not only consider the number of trees planted but also the most suitable trees and locations. In order to maximise not just carbon capture but co-benefits to air quality, biodiversity and climate adaptation.</p>	<p>Peatland. Even less data is currently available about the size and condition of our peatland holdings. Peat soils are a major carbon sink, but those which have previously been ‘improved’ for agriculture or forestry may well be releasing carbon. It is important we understand our potential for peatland restoration.</p>

Procurement: Overall


Procurement emissions make up a larger proportion of our footprint than the more familiar scope 1 and 2 emissions combined. Like scopes 1 and 2 these emissions are largely ultimately the result of the use of gas, electricity and oil, but they are spread across a wide range of goods and services from different suppliers, both upstream and downstream of the council. The proportion of our emissions coming from procurement is in line with other public and private sector organisations. Influencing others to reduce these emissions is a significant new challenge for BGCBC. Given the extent of these emissions, procurement has been broken down into three transitions, but there are also challenges that are common to all three:

Challenge 1	Challenge 2	Challenge 3
<p>Calculating Carbon Neutrality. The council will continue to deliver a range of services, which will lead to some emissions even if the carbon intensity of these activities is reduced. In many areas (from waste disposal to public transport) these services generate overall carbon savings outside our footprint. Procurement footprint measurements are also not suitable for calculating carbon neutrality for the public sector as a whole (due to double counting issues).</p>	<p>Performance Measurement. Our procurement footprint calculations rely entirely on national averages of carbon intensity. This method can generate a useful baseline procurement footprint and enable the targeting of high carbon areas. However, it cannot function as an ongoing monitoring tool for carbon reduction activity. Identifying specific measures for these high carbon areas will be a priority.</p>	<p>Strategic Direction. Clear policy objectives and priorities are needed to make performance measures meaningful. The flexibility of public sector procurement is limited by cost and regulatory pressures, so early strategic direction and high level buy in will be required to decarbonise procurement.</p>

 4 Procurement: Goods		7%
Challenge 1	Challenge 2	Challenge 3
Computers and Office Equipment. In addition to the energy efficiency of IT equipment, the carbon impact of its manufacture is significant. It is important procurement considers how to maximise reuse, refurbishment, useful life and waste recovery from these products.	Food and Drink. Seasonality, health and waste (including utensils and packaging) are all important factors for carbon impact. A more plant based diet has the greatest potential for reductions. There are also important fairness issues around prices paid to farmers.	Collaboration. Common supply chains and combined purchasing power can give public sector organisations more influence. A lot of previous public sector work on sustainable procurement, including developing standards and guidance, has taken place on a regional basis. This previous work also identified challenges 1 and 2 as priorities for the public sector.

 5 Procurement: Services		62%
Challenge 1	Challenge 2	Challenge 3
<p>Education and Social Care. Although the carbon intensity of these services is low, because they are our two largest service areas their total impact is significant. In both areas there are a number of local providers, who will all face similar issues, and for many of whom the council is their largest or only customer, giving us scope to influence them and promote collaboration.</p>	<p>Investments. Divestment of pension funds is a rapidly growing movement that demonstrates public leadership by withdrawing financial support for fossil fuels. The council does not directly control The Greater Gwent (Torfaen) Pension Fund but can influence it to further reduce its climate impact, as well as assessing our other investments.</p>	<p>Identify Carbon Hot Spots. Our footprint provides a broad overview of impacts, further analysis and development of data to identify actionable carbon hot spots within our value chains should be a priority. This means identifying specific actions with their own specific performance measures.</p>

6 Procurement: Works		10%
Challenge 1	Challenge 2	Challenge 3
<p>Whole Life Costing. Decisions should reflect the full cost of buildings or other infrastructure over their working life, both financial and carbon. Carbon costs include both the carbon released during construction, and the use of carbon during the building's life (and beyond).</p>	<p>New Buildings. Building standards are evolving rapidly as zero carbon new build is becoming a reality. The council is already using environmental schemes such as BREEAM for major construction programmes like 21st Century Schools, and our ambition should be to lead the way. Buildings must also be flexible to respond to rapidly changing service delivery requirements, while still delivering zero carbon performance.</p>	<p>Maintenance. In addition, to the retrofitting programme required by the heat transition, regular maintenance is important to maintaining energy efficiency standards. There is also potential to reduce the carbon impact of maintenance works.</p>

 Electricity	5%	
<p>This transition is now well underway, with the grid becoming increasingly green as a variety of forms of renewable power are installed (solar, wind, hydro). Energy efficiency is also improving, with the council making substantial investments through programmes like Re:fit. Low carbon electricity will also play a key area in decarbonising other areas such as heating and transport, placing pressure on supply.</p>		
Challenge 1	Challenge 2	Challenge 3
<p>Procurement of Electricity. Welsh Government ambition for all public sector buildings to be supplied with 100% renewable electricity by 2020. High standards for green electricity are important so that this procurement creates new renewable capacity, rather than simply redistributing existing capacity.</p>	<p>Renewable Generation. BGCBC is exploring the potential for renewable generation through initiatives like our Energy Prospectus. Installed capacity in Blaenau Gwent is currently among the lowest across all Welsh local authorities. Grid capacity and load balancing will also play an important role in local generation.</p>	<p>Demand Reduction. Even with 100% renewable power, energy efficiency measures such as efficient appliances, better use of data and automated saving measures, as well as staff behaviour change, will be important.</p>



Heat

7%

Decarbonising space and water heating (and cooling) in BGCBC’s buildings will be part of a wider transition away from a national heating system based on a standardised gas grid. It is very early in this transition but it seems clear that the switch will not be to a single technology, but involve a range of alternatives such as district heating networks, heat pumps, hydrogen and solar thermal to fit local circumstances.

Challenge 1

Replacement of Gas Based Infrastructure. With much of BGCBC’s existing infrastructure (gas boilers) reaching the end of its life, we will need to make decisions about replacements that will lock in emissions for years to come. These changes may require the entire heating system to be modified (radiators, plumbing etc.)

Challenge 2

Retrofit Existing Buildings. The majority of heating will take place in existing buildings. A comprehensive retrofitting programme is crucial to raise performance standards. Particularly as reduced emissions from some low carbon heat technologies are dependent on good building performance.

Challenge 3

Demand Reduction. Improved heating controls and use of data can reduce heating demand, particularly by allowing more fine grained control of temperature in different parts of buildings to match the time and type of use.



Waste

-11%

Significant progress has been made in this transition towards the Welsh Government objective of a Zero Waste Wales in 2050. This is an area where substantial carbon savings are already being made by BGCBC.

Challenge 1

Waste Streams. Looking to achieve a number of challenging targets for treatment of materials, through our Waste Management and Recycling Strategy 2018-2025, including minimum 70% reuse and recycling/compost, 80% source separation and maximum 5% landfill and 30% energy from waste.

Challenge 2

Circular Economy. Involves moving beyond traditional waste management to prevent materials from entering the waste stream in the first place. For example, our new HWRC centre is part of intercepting potential waste for reuse. Also involves eliminating unnecessary packaging and single use products.

Challenge 3

Behaviour Change. Upstream public behaviour has a large impact on the volume and type of waste entering our waste system. Not just at the point of waste disposal, but in consumer choices made prior to this.

Behaviour and the ISM Tool in the Climate Change Plan

Transformational change across all sectors of society is necessary for the achievement of climate change targets and associated objectives, such as the reduction of fuel poverty. Infrastructural and technological measures are crucial for our transition to a low carbon Scotland, but the impact of many of these measures depends heavily on the extent to which people adopt and use them. It is therefore vital that policy makers understand how and why people behave the way that they do in order to design cost-effective interventions. Incorporating behaviours into policies requires particular insights and understanding. Officials and analysts developed the ISM (Individual, Social, Material) tool to make these insights and understandings more accessible for policy makers.

Why use ISM?

- In order to successfully influence behaviour it is crucial to recognise that all behaviour is contextualised within the values and attitudes that we hold; the habits we have; the people around us; and the tools and infrastructure available to us in our day-to-day lives. For this reason, a package of interventions will generally be more successful in influencing behaviour than one element alone. The ISM tool can be used to see where interventions need to be targeted.

How to use ISM?

- This is a practical tool, that shortcuts complex theory and can be used throughout the policy process.
- ISM starts from a 'live' challenge and identifies the relevant factors and influences in their context (individual, social or material). When used in a workshop setting, it is an effective engagement tool, with all of the people involved in a specific challenge participating. This approach means that issues are identified which may not emerge through a desk-top approach. Progress can be measured over time by looking at changes in the key factors and the end behaviour.
- It is often described as 'a head, in a circle, in a square' as shown below. Each shape represents a context, and within each shape there are the factors that influence each context.



- The individual context includes individuals' values, attitudes and skills. Influencing behaviour change at the individual level involves making the sustainable choice the easy, default choice.
- The social context includes social norms, people's networks and relationships, and the influence of opinion leaders. Influencing behaviour change at the social level involves building common cause (shared values) and supporting the development of positive social norms.
- The material context includes infrastructure, technology and regulations, and the times and schedules of everyday life. Influencing behaviour change at the material level involves supporting the development of technology and infrastructure, considering regulation where appropriate and influencing softer factors such as people's schedules.

Our ISM approach

- We are embedding the ISM approach across policy development work in the Scottish Government and other public bodies. We: held two launch events in June 2016 (internal and external audiences); are integrating ISM into policy training material; and the Sustainable Scotland Network (SSN) is supporting its use with public bodies.
- A contractor will deliver up to 20 ISM workshops across the draft Climate Change Plan policy areas to inform policy development and implementation. A number of workshops have already taken place, and more detailed information will be provided to the Scottish Parliament when the draft Climate Change Plan is laid in January 2017.

Carbon Literacy Glossary

Adaptation – Action that helps cope with the effects of climate change - for example construction of barriers to protect against rising sea levels, or conversion to crops capable of surviving high temperatures and drought.

Avoided Carbon – Estimated on the basis of comparative impacts of all system-wide changes in emissions or removals occurring because of the activity or service compared to a base scenario where the activity or service does not exist.

Carbon Emissions/Impact – Amount of CO₂e released into the atmosphere.

Carbon Footprint - The amount of carbon emitted by an individual or organisation in a given period of time.

Carbon Lock-in – The difficulty created in attempting to introduce low carbon technologies caused by existing infrastructure's reliance on dominant fossil fuel-based energy systems.

Carbon Neutral – A process where there is no net release of CO₂. The process would be carbon neutral if the amount taken out of the atmosphere and the amount released were identical.

CO₂ – Carbon dioxide is a gas in the Earth's atmosphere. It occurs naturally and is also a by-product of human activities such as burning fossil fuels. It is the principal greenhouse gas produced by human activity.

CO₂e - Six greenhouse gases are limited by the Kyoto Protocol and each has a different global warming potential. The overall warming effect of this cocktail of gases is often expressed in terms of carbon dioxide equivalent - the amount of CO₂ that would cause the same amount of warming.

Decarbonisation – Removal of carbon emissions producing processes from a sector or industry. In most areas decarbonisation is known to be technically feasible, but there are high costs associated with a transition to low carbon infrastructure and ways of working.

Electrification – Powering a system by electricity, in many cases switching from a previous power source. This carbon reduction benefits of electrification are dependent on electricity being generated from low carbon sources.

Greenhouse Gasses – Natural and industrial gases that trap heat from the Earth and warm the surface. The Kyoto Protocol restricts emissions of six greenhouse gases: natural (carbon dioxide, nitrous oxide, and methane) and industrial (perfluorocarbons, hydrofluorocarbons, and sulphur hexafluoride).

Mitigation - Action that will reduce man-made climate change. This includes action to reduce greenhouse gas emissions or absorb greenhouse gases in the atmosphere.

Offsetting - A particular form of sequestration used to compensate for emissions of CO₂ by participating in, or funding, efforts to take CO₂ out of the atmosphere. Offsetting often involves paying another party, somewhere else, to save emissions equivalent to those produced by your activity. The UK Committee on Climate Change recommends that offsetting should not be used as part of achieving carbon targets, except as an emergency last resort, due to significant doubts about its effectiveness and fairness.

Paris Agreement - Is a 2015 agreement setting out how countries will meet their obligations under the international treaty on climate change, the United Nations Framework Convention on Climate Change (UNFCCC). Its central aim is to keep global temperature rise this century well below 2°C above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5°C. All countries must set out their contributions to this target, called nationally determined contributions (NDCs)

Sequestration – Long term removal of CO₂ from the atmosphere, for example, in organic material, particularly in peatland and forests.

Scopes – Are an internationally recognised way of classifying carbon emissions produced by an organisation, developed through the Greenhouse Gas Protocol.

Scope 1 - Direct emissions from sources that are owned or controlled by the organisation, for example, emissions from combustion in owned or controlled boilers, vehicles, etc.

Scope 2 - Emissions from the generation of electricity that is purchased or otherwise brought in from outside the organizational boundary.

Scope 3 - Emissions that are a consequence of the activities of the organisation, but occur from sources not owned or controlled by the organisation. These can be both upstream, e.g. the procurement of goods and downstream, the delivery of services by others on behalf of the organisation.

Transition - System transitions are transformative changes in the methods of producing, selling, transporting and using goods and services. An historical example would be the replacement of horse drawn carriages with cars.