

Public Document Pack

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To: Cllr Alasdair Ibbotson (Chair)

Councillors: Gillian Brockley, Steve Copple, Mared Eastwood, Chrissy Gee,
Ian Hodge, Roz Mansell, Allan Marshall, Carolyn Preece, Dan Rose,
Jason Shallcross and Sam Swash

12 July 2023

Dear Sir/Madam

NOTICE OF REMOTE MEETING
CLIMATE CHANGE COMMITTEE
TUESDAY, 18TH JULY, 2023 at 2.00 PM

Yours faithfully

Steven Goodrum
Democratic Services Manager

The meeting will be live streamed onto the Council's website. The live streaming will stop when any confidential items are considered. A recording of the meeting will also be available, shortly after the meeting at <https://flintshire.public-i.tv/core/portal/home>

If you have any queries regarding this, please contact a member of the Democratic Services Team on 01352 702345.

A G E N D A

1 **APOLOGIES**

Purpose: To receive any apologies.

2 **DECLARATIONS OF INTEREST**

Purpose: To receive any Declarations and advise Members accordingly.

3 **MINUTES** (Pages 5 - 10)

Purpose: To confirm as a correct record the minutes of the meeting held on 23 May 2023.

4 **CLIMATE CHANGE PROGRAMME COMMUNICATION & ENGAGEMENT PLAN** (Pages 11 - 32)

Purpose: To adopt the Communication & Engagement Plan for the Climate Change Programme.

5 **LOCAL AREA ENERGY PLAN UPDATE** (Pages 33 - 76)

Purpose: To receive an update on the development of the 'Flintshire County Energy Plan' and contribute to the stakeholder engagement.

6 **FEASIBILITY OF BIOREACTORS FOR GRASS ARISING / FOOD WASTE PROPOSED BY COUNCILLOR ROSE** (Pages 77 - 80)

Purpose: To receive a report on the opportunities and constraints with use of anaerobic digestion for grass arisings.

7 **PLANNING CHANGES TO INCORPORATE REQUIREMENTS FOR PASSIVHAUS/SOLAR/EV CHARGING PROPOSED BY COUNCILLORS ROSE AND MANSELL** (Pages 81 - 86)

Purpose: To receive a report on the opportunities and constraints present in current planning policy in relation to incorporation of carbon reduction methods.

8 **UPDATE ON HYDROGEN HUB PROPOSED BY COUNCILLOR EASTWOOD** (Pages 87 - 88)

Purpose: To receive an update on the development of the 'Hydrogen Hub' in providing a source of hydrogen for Flintshire's future energy needs.

9 **UPDATE ON INQUIRIES**

Purpose: To receive an update on the public inquiries.

10 **FORWARD WORK PROGRAMME ITEMS AND PURPOSES** (Pages 89 - 94)

Purpose: To populate the Forward Work Programme for the Climate Change Committee.

Please note that there may be a 10 minute adjournment of this meeting if it lasts longer than two hours

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CLIMATE CHANGE COMMITTEE **23 MAY 2023**

Minutes of the Climate Change Committee of Flintshire County Council held as a remote meeting on Tuesday, 23 May 2023

PRESENT: Councillor Alasdair Ibbotson (Chairman)

Councillors: Gillian Brockley, Steve Copple, Mared Eastwood, Chrissy Gee, Ian Hodge, Allan Marshall, Carolyn Preece, Dan Rose and Sam Swash

SUBSTITUTES: Councillors: Bernie Attridge (for Roz Mansell) and Rob Davies (for Jason Shallcross)

CONTRIBUTORS: Cabinet Member for Climate Change and Economy and Programme Manager for Climate Change and Carbon Reduction

IN ATTENDANCE: Democratic Services Manager and Democratic Services Officer

1. APPOINTMENT OF VICE-CHAIR

Councillor Mared Eastwood nominated Councillor Allan Marshall as Vice-Chair of the Committee and was seconded by Councillor Rob Davies.

As there were no further nominations, the proposal was put to the vote and carried.

RESOLVED:

That Councillor Allan Marshall be appointed Vice-Chair of the Committee.

2. DECLARATIONS OF INTEREST

None.

3. MINUTES

The minutes of the meeting held on 28 March 2023 were approved, as moved and seconded by Councillors Mared Eastwood and Allan Marshall.

RESOLVED:

That the minutes be approved as a correct record.

4. REACHING OUT TO WIDER COMMUNITY ON CLIMATE CHANGE

Councillor David Healey introduced the draft Communication & Engagement Plan for the Climate Change Programme to agree the approach for

engaging with the public and in particular, young people. He welcomed the recent appointment of Ben Turpin as project officer in the Climate Change team.

The Programme Manager for Climate Change and Carbon Reduction shared a presentation on the draft Plan which detailed its purpose, guiding principles and compliance with Equality, Inclusion and Welsh Language standards. Different stakeholder groups and engagement levels were identified and activities would be monitored by the Climate Change team with accompanying evolving action plans to underpin the success of the programme.

The Committee was invited to suggest further activities under the following headings, in addition to those outlined in the presentation.

Advocacy and Engagement

Councillor Chrissy Gee referred to a previous door-to-door exercise which had proved successful in encouraging more residents to recycle.

Councillor David Healey said that target areas should be identified where it would be desirable for residents to change behaviour. Whilst information was available on the website, he felt that the message could be delivered in a more accessible way through cartoon-style graphics that could have a wider appeal. He also commented on the previous practice of distributing key messages within Council Tax correspondence.

The importance of public engagement was acknowledged by Councillor Bernie Attridge who suggested that the Communications team could be involved in supporting community events, visiting schools etc, to reach residents who did not access the Council's website.

Councillor Mared Eastwood suggested pre-written articles and sound-bites that Members could upload to their webpages/newsletters to spread a consistent message. She also suggested a celebration board to promote achievements in carbon reduction.

It was suggested by Councillor Steve Copple that Town and Community Councils could assist in spreading key messages and that nominated Climate Change 'champions' at local level could help with publicity at schools and events.

After speaking about steps he had taken to measure his own recycling rate, Councillor Allan Marshall asked whether it was feasible to publish real-time data on the website to show areas of good and poor performance.

Councillor Ian Hodge said that a forthcoming litter-picking exercise in his area would help to engage with younger people and raise awareness of environmental issues. He supported the use of posters to highlight environmental initiatives, provided they were kept up-to-date to maintain interest, and suggested the creation of a cartoon-style Flintshire recycling mascot.

Councillor Dan Rose stressed the importance of quoting statistics to reinforce key messages, as demonstrated in the open space management presentation shared at the workshop in January. He said that publishing area recycling data could be problematic due to the varying demographics and suggested that the Council could engage with current partners such as Bionet on local events.

Councillor Carolyn Preece agreed with the need for consistent and concise messages spanning all climate control issues. In respect of events, she suggested engagement with social media groups such as Mold Plastic Reduction and Eco representatives of primary and secondary schools.

When asked by the Programme Manager, around half of the Committee indicated that they would feel comfortable speaking to the public about climate change without undertaking further training.

Key Messages

The Chairman felt it was important to clarify that actions within the plan would not achieve net zero but would seek to reduce emissions with the involvement of a wider effort beyond the Climate Change team and senior officers. He said that there needed to be acceptance at all levels in order to instigate change.

Councillor Copple agreed that change would only be brought about by everyone playing their part.

Councillor Rose said that individuals could be asked not just to consider changes in their own lives but also identify opportunities across their businesses and organisations which could have a bigger impact.

Objectives

Councillor Healey said that specific key behaviour changes should be identified - in addition to recycling - noting that some may have financial implications. He also suggested that a catchphrase may help to promote changes.

Councillor Eastwood said that publicising a series of 'did you know?' quick-win messages would help to raise awareness of everyday actions to mitigate climate change. She also commented that some residents were interested to hear what the Council was doing to tackle climate change.

Councillor Sam Swash said that a quiz would help to identify knowledge gaps.

The Chairman stated that the approach to engagement must recognise that consumer behaviour changes alone would not solve the crisis, without the necessary infrastructure and policies in place.

Councillor Copple said that consumers should be encouraged to voice their concerns to influence the actions of suppliers, organisations etc.

The Programme Manager encouraged all Members to sign up to Climate Change e-newsletter (which includes an information section and summary of projects/events) and promote it to residents. She agreed to share a link following the meeting.

In concluding the item, Councillor Healey thanked Members for their contributions to the discussion.

5. THERMAL ENERGY UTILISING FORMER COAL MINES

Councillor Allan Marshall presented his report on thermal energy, following discussion at the previous meeting on the potential use of the Milwr Tunnel water run-off for a hydro-electric scheme.

The report made reference to renewable energy strategies, the cost implications of heat pumps and energy saved by reducing boiler flow temperatures. The report also outlined potential access to geothermal energy sources across Flintshire and was supported by hyperlinks to published materials. Information was also shared on gravity energy storage systems which could be suitable for disused quarries.

In summary, Councillor Marshall proposed that the Committee recommended that Cabinet and the Environment & Economy Overview & Scrutiny Committee take note of the report and widen their scope on what represented renewable energy capture systems in Flintshire.

The proposal was seconded by Councillor Steve Copple who supported the suggestion for the Council to explore the energy crisis further.

Councillor Carolyn Preece referred to a recent meeting which had promoted good practice examples of energy initiatives implemented by other councils.

In welcoming the report, Councillor David Healey welcomed further consideration of geothermal energy sources and tidal lagoons.

Councillor Marshall thanked the Committee for its comments. On being put to the vote, the recommendation was carried.

RESOLVED:

That the Climate Change Committee resolves to recommend to Cabinet and the Environment & Economy Overview & Scrutiny Committee to take note of the above report and widen their scope on what represents renewable energy capture systems in Flintshire.

6. CLIMATE CHANGE INQUIRIES PROGRESS

The Programme Manager for Climate Change and Carbon Reduction provided an update on progress with the inquiries which had been impacted by resource issues.

The scoping had previously been approved by the Committee, including the desire to seek responses from the public. Due to this, the launch was to be adapted to meet inclusivity standards, ensuring there were opportunities for all to contribute. The scoping information and request for information would be promoted on the website internally and externally. In addition to circulating to elected Members, details would be publicised with professional networks and included on the Climate Change e-bulletin and social media in conjunction with a press release.

7. FORWARD WORK PROGRAMME

The current forward work programme was received for consideration.

The Programme Manager requested that Members who had submitted topics for future consideration also provide the purposes for those items.

8. MEMBERS OF THE PRESS IN ATTENDANCE

None.

(The meeting started at 2pm and ended at 3.05pm)

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Chairman

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CLIMATE CHANGE COMMITTEE

Date of Meeting	18 th July 2023
Report Subject	Climate Change Communication and Engagement Plan
Cabinet Member	Collective Responsibility
Report Author	Climate Change Project Officer (Climate Change Programme)
Type of Report	Operational

EXECUTIVE SUMMARY

In February 2022, the Council adopted its Climate Change Strategy where actions are arranged into five themes, one being Behaviour. Behaviour change is key to decarbonisation through applying Climate Change thinking at all levels of an organisation, promote efficient habits and maximise the effectiveness of interventions.

The Climate Change Communication and Engagement Plan sets out a framework, principles and recommendations to plan and deliver activities that inform and engage with both internal and external stakeholders to drive behaviour change. It is supported by annual action plans which record activity details, assigns ownership, provides monitoring data and reviews to support future improvement.

RECOMMENDATIONS

1	To adopt the Climate Change Communication and Engagement Plan.
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REPORT DETAILS

1.00	EXPLAINING THE REPORT
1.01	<p>Background</p> <p>The Council adopted its Climate Change Strategy in February 2022, with actions designated across five themes, one being Behaviour. Behaviour change is key to decarbonisation through applying Climate Change thinking at all levels of an organisation, promote efficient habits and maximise the effectiveness of interventions.</p>
1.02	<p>Purpose</p> <p>The Climate Change Communication and Engagement Plan sets a framework for how Flintshire County Council's Climate Change Programme will communicate and engage with both internal and external stakeholders, informing them of the Council's activities and progress, and driving behaviour change to support the reduction of its own and the wider county's greenhouse gas emissions. Furthermore, it is to ensure such activities meet the requirements of relevant laws and standards (e.g. Equality Act, 2010)</p>
1.03	<p>The Plan sets out the key messages of the climate change programme, and its objectives.</p> <ul style="list-style-type: none"> • Establish the need for urgent climate action • Identify the key behaviour changes that are required • Identify and address stakeholder barriers such as knowledge and policy • Provide the public a platform to engage with the programme at their convenience • Outline communication and engagement activity for the purposes of 'keeping informed' so stakeholders understand why and how progress is being made • Outline communication and engagement activity for the purposes of 'behaviour change' by influencing and encouraging carbon reduction behaviours while providing a platform for residents and other stakeholders to shape council strategy and action.
1.04	<p>The Plan will be monitored and maintained by the Climate Change team, with steer and advocacy from the Climate Change Committee and Cabinet member for Climate Change.</p>
1.05	<p>A stakeholder analysis has been performed to to identify who the key stakeholders of the programme are, and how we can ensure they are effectively communicated and engaged in the programme.</p>
1.06	<p>A number of existing resources have been identified to support the delivery of the Plan, with identification of some additional resources that would assist in effective delivery of the Plan, eg. Internal webpages for employees on climate action, where necessary.</p>
1.07	<p>There are a number of methods that can be adopted to measure the success of the Plan including social media interactions, webpage visits, event attendee numbers, e-newsletter subscribers, etc.</p>
2.00	RESOURCE IMPLICATIONS
2.01	<p>Small revenue costs will be required for activity materials, to be considered on an activity basis</p>

2.02	Staff time to plan, prepare and carry out activities will also be required and may involve other work programmes such as Biodiversity and Countryside and Access.
2.03	Online technologies will be required to provide diverse and engaging content (e.g., questionnaires), which can also provide monitoring data.

3.00	CONSULTATIONS REQUIRED / CARRIED OUT
3.01	The plan has been scrutinised by Climate Change Committee, and the feedback from this has been included in this final document as Appendix 1 .

4.00	RISK MANAGEMENT	
4.01	<p>Increased engagement with stakeholders raises the risk of excluding those with protected characteristics and who use Welsh language. The plan provides key principles to comply with the Equality Act 2010 and Welsh Language Standards, as well as more detailed guidance for inclusion as an appendix.</p> <p>Additionally, risk also arises from communicating topics which are socially or politically sensitive. This will be considered with the climate change team when planning such activities.</p>	
4.02	Ways of Working (Sustainable Development) Principles Impact	
	Long-term	<p>Positive: Informing stakeholders and promoting climate action through behaviour change compliments the Council's climate change strategy and supports the net zero carbon targets of the Council (2030) and Welsh Government (2050).</p> <p>Additionally, stakeholders can be informed of and be more prepared for the unavoidable impacts of climate change and have a greater understanding of interventions they might be consulted on.</p>
	Prevention	<p>Positive: Increased climate action benefits from behaviour change will help to mitigate greater impacts of climate change that Council services may otherwise have to address in the future (weather extremes), and also ensure communities become more resilient</p>

	Integration	Positive: Becoming net zero carbon integrates with the following priorities under the Council Plan; Green Council, Ambitious Council and Supportive Council. It integrates with the public service board objectives in the Environment priority of the Wellbeing Plan as well as the Smart Access to Energy project in the North Wales Growth Deal. It also integrates with the Environment (Wales) Act 2016 and Welsh Government's decarbonisation of the public sector agenda.
	Collaboration	Positive: The Communication and Engagement Plan promotes engaging with both internal and external stakeholders (schools, landowners, other portfolios) to inform and promote decarbonisation through behaviour change. Additionally, the Council may be informed of improvements to its own climate change strategy.
	Involvement	Positive: The involvement of key stakeholders is key for engagement and to drive decarbonisation.
4.03	Well-being Goals Impact	
	Prosperous Wales	Positive: Engaging with stakeholders should promote investment to decarbonise with additional benefits of energy and cost savings, job creation, improved infrastructure, and use of land.
	Resilient Wales	Positive: Resilience can be increased through reduced energy demand and systems at risk of cost volatility. Activities such as tree planting can increase resilience to local weather extremes.
	Healthier Wales	Positive: Promoting behaviour change and climate action can help address climate anxiety through positive participation.

		Additionally, resulting cleaner air from decarbonisation in transport due to changing habits and choices also brings health benefits.
	More equal Wales	Neutral: No impact identified.
	Cohesive Wales	Positive: Activities that are conducted within community spaces can help bring people together for a common cause.
	Vibrant Wales	Positive: All communication and engagement content will be bilingual, promoting visibility and use of the Welsh language
	Globally responsible Wales	Positive: Supporting decarbonisation and other climate action will help mitigate climate change and meet local authority, national and international goals.

5.00	APPENDICES
5.01	Appendix 1 – Climate Change Communication and Engagement Plan 2023-25

6.00	LIST OF ACCESSIBLE BACKGROUND DOCUMENTS
6.01	Contact Officer: Ben Turpin – Climate Change Project Officer Telephone: 01352 703393 E-mail: ben.turpin@flintshire.gov.uk

7.00	GLOSSARY OF TERMS
7.01	Decarbonisation Intervention – An action that is done to reduce the carbon footprint of an activity, material or product Five Themes – Buildings, Mobility & Transport, Procurement, Land Use and Behaviour Change Net Zero Carbon – To reduce carbon emissions and balance any that remain with carbon dioxide removal activities.

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Climate Change Programme

Communication and Engagement Plan 2023-2025

DRAFT

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This is a live document that will be revised periodically to outline communication and engagement activity, key messages, and stakeholder analysis.

Revision No.	Date	Changes
0.1	15/05/2023	Draft document
0.2	11/07/2023	Amends made to draft following Climate Change Committee feedback

Introduction

This plan has been created to set a framework for how Flintshire County Council's Climate Change Programme will communicate and engage with both internal and external stakeholders, informing them of the council's activities and progress, and driving behaviour change to support the reduction of its own and the wider county's greenhouse gas emissions.

This Communication and Engagement Plan will be relevant for the 2023-2025 period aligning with the Climate Change Strategy's review date. At this point it will be reviewed for effectiveness and improved for the following years leading up to the Council's net zero target of 2030 (2025-2030).

This Communication and Engagement Plan will be supported by annual action plans which will record the following:

- Stakeholder analysis
- Calendar of External Events
- Plan of Communication activities
- Plan of Engagement activities

Setting the scene

Flintshire County Council has set the 2018/19 period as its carbon footprint baseline year with emissions of 46.4 kt CO₂e (excluding land sequestration) and has a net zero carbon target of 2030 as required for the public sector under the Welsh Government.

According to the Department of Business, Energy and Industrial Strategy, in the same period (2018) the carbon footprint of the county of Flintshire stood at 1,877.2 kt CO₂, meaning the Council was responsible for approximately 3% of the total county's greenhouse gas emissions.

Welsh Government have set a net zero carbon target of 2050 for Wales as a nation.

Why do we need a Communication and Engagement Plan?

Climate change's significance, broadness and basis in science presents many barriers to individuals, including complex and often mis-used terminology, fear, and feelings of powerlessness. This plan will work to make climate change more accessible for more people, breaking down barriers for action.

Carbon reduction activities within the Council will only have limited effect without significant behavioural change from internal stakeholders. Motivation, knowledge, and skills are all key to increasing participation, with leadership sustaining such activities that become routine and the norm.

Finally, "around a third of the UK's emissions are dependent on sectors that are directly shaped or influenced by local authority, practice, policy or partnerships" (UK Climate Change Committee, 2020), putting the Council in a particularly unique position to support Welsh Government's net zero carbon target of 2050.

Through well-planned, thorough, and appropriate communication and engagement activities, stakeholders will have the motivation, knowledge, and tools to take ownership for climate action and collaborate with the council influencing its own programme.

Definitions

For the purpose of this plan, the following definitions have been given.

Communication

To inform others of activities and progress relating to the council's climate change programme and improve the knowledge base of stakeholders.

Engagement

Provision of activities for the Council to motivate, improve the knowledge of and upskill all stakeholders while providing opportunities for residents to influence and shape the Council's own Climate Change programme.

Consultation

A formal process prescribed to receive stakeholder feedback on planning and documentation.

The Council

Refers to Flintshire County Council and its collective departments such as planning, housing, transport, and countryside services.

Key Messages

The below points detail key items relating to the council's position on climate change and its Climate Change Strategy which are relevant for this communication and engagement plan.

- In December 2019, the Council committed to the resource and support of a carbon reduction strategy to realise the ambition to become net zero carbon by 2030.
- In February 2022, Flintshire County Council adopted and published its first Climate Change Strategy which details how the council will decarbonise its own assets and services, and commits to actions to decarbonise beyond its own assets and services within the wider county.
- Behaviour change is key to the council and wider county meeting net zero targets of 2030 and 2050 respectively and it must be made desirable to do so.
- All key emission sources across the council of buildings, fleet, business travel, staff commuting, waste and procurement are subjected to behaviour change improvements.
- Behaviour change applies to policy and decision makers as well as what individuals do on a day-to-day basis.
- Council departments will all play a role in reducing carbon emissions internally and providing an external influence. Departmental collaboration will be a key internal focus as part of behaviour change.
- Members of the public have a variety of barriers limiting action on climate change of which the council recognises and accepts. The council will encourage and support public advocacy where possible to influence policy makers to remove such barriers.
- To meet net zero carbon, the programme will require an increase in the amount of carbon absorbed by the Council's owned and operated land. This could include creation of new planting schemes as well as restoration and management of existing woodlands, peatlands, and other habitats.

- *Emissions in Wales reduced by 40% in 2020, exceeding the target of a 27% reduction on a 1990 baseline. This is an important step on our journey towards a cleaner, greener Wales. While we must continue shouldering our global responsibility to protect our precious planet for future generations, the Welsh Government cannot work in silo to confront the climate and nature emergencies. Everybody in Wales has started to realise the benefits of change, and now is not the time to rest. The 2020s must be the decade of action. Reducing emissions more in this decade than in any previous ten-year period will be an uphill challenge and we may need to take difficult choices. But, if we are to see a cleaner, stronger, and more prosperous Wales, it is a challenge we can only face together. (Julie James MS, June 2022)*

Objectives

The following objectives have been set for this communication and engagement plan to achieve behaviour change from stakeholders.

- Establish the need for urgent climate action
- Identify the key behaviour changes that are required
- Identify and address stakeholder barriers such as knowledge and policy
- Provide the public a platform to engage with the programme at their convenience
- Outline communication and engagement activity for the purposes of ‘keeping informed’ so stakeholders understand why and how progress is being made
- Outline communication and engagement activity for the purposes of ‘behaviour change’ by influencing and encouraging carbon reduction behaviours while providing a platform for residents and other stakeholders to shape council strategy and action.

Guiding Principles

This section details the principles the plan will follow to ensure compliance and best practice to achieve the objectives set out in Section 3.

Core Principles

The core principles below show how the Council will take the lead in climate and carbon reduction action and inspire and support stakeholders to do the same. These effectively mirror the 4 E’s (Exemplify, Engage, Enable and Encourage) as introduced in the Welsh Government’s consultation document “Climate Change - A Strategy for Public Engagement & Action (2022-2026)”.



Image 1 Core Principles graphic taken from FCC’s Climate Change Strategy

Equality and Inclusivity

In order to comply with the Equality Act 2010, the Council will ensure communication and engagement opportunities are inclusive to all and that people with protected characteristics (age, disability, gender, reassignment, marriage and civil partnership, pregnancy and maternity, race, religion or belief, sex, and sexual orientation) do not experience any barriers to engage. This will involve utilising the FCC's Integrated Impact Assessment, inclusive images and language, as well as using different methods to reach and engage with people who are seldom heard.

Additionally, all engagement activities, including meetings, events and publicity will be available in Welsh and comply with the Welsh language standards. Links should be made with relevant Welsh medium organisations to ensure Welsh speakers are involved.

Appendix 2 further details Equality and Inclusivity methods.

Public Engagement Principles

Third Sector Support Wales has introduced "The National Principles for Public Engagement in Wales" which are a set of ten principles for engaging with the public and service users. The principles aim to guide the way engagement is carried out to make sure it is good quality, open and consistent and will be followed for all communication and engagement activities conducted by the climate change programme.

- Design your engagement to make a difference
- Invite people to get involved if they choose to
- Plan and deliver your engagement in a timely and appropriate way
- Work with relevant partner organisations
- Provide jargon free, appropriate, and understandable information
- Make it easy for people to take part
- Ensure people benefit from the experience
- Ensure the right resources and time are in place for your engagement to be effective
- Let people know the impact of their contribution
- Learn and share to improve your engagement

Governance

Plan Ownership

The individuals and groups below have been involved in the development of the communication and engagement plan to ensure it is effective and compliant to the set guiding principles as described in Section 4.

Plan Role	Name	Council Position
Advocate at Cabinet Level	ClIr David Healey	Cabinet Member for Climate Change
Review Ownership and Plan Delivery	Climate Change Committee	Climate Change Committee
Plan Author and Delivery	Climate Change Team	Climate Change Team
Policy Compliance	Fiona Mocko	Policy and Partnerships
Communication Support	Gillian Watkins	Communications Officer

Role of the Climate Change Committee

- Advocate the Climate Change Programme
- Engage with internal and external stakeholders
- Add value to the communication and engagement plan

Action Plan Monitoring

Progress of the action plan will be continuously monitored during weekly Climate Change Team meetings, informing the team of activities ahead, successes, feedback, proposed improvements, and barriers.

Communication and Engagement Plan Review

Review of this communication and engagement plan will start in April 2025 at the earliest by the Climate Change Programme Team and Climate Change Committee.

Action Plan Review

An annual review of the action plan will take place in line with the annual programme progress report. This will include a review of completed activities which will help to build an action plan for the upcoming year, working in collaboration with schools, relevant Council teams and external partners.

Stakeholders

Key Stakeholders

- Elected members
- Climate Change Committee
- Chief Officer Team
- Climate Change Officer Themed Working groups
- FCC Education & Youth (School Improvement, School Place Planning & Provision)
- FCC Housing & Communities (housing programme)
- FCC Planning, Environment and Economy (Climate Change, Countryside & Access, Biodiversity, Planning Strategy, Enterprise & Regeneration)
- FCC Streetscene & Transportation (Regulatory Services, Highway Network, Streetscene Service)
- FCC Agricultural Tenants
- FCC Partners (Aura, Newydd, Clwyd Pension Fund, etc.)
- Town & Community Councils
- Schools / Young People
- Flintshire Residents
- Flintshire Businesses
- Flintshire Landowners
- Environmental Organisations and Third Sector groups (E.g., NRW, NWWT)
- Other Public Sector organisations
- Welsh Government

Stakeholder Analysis

To enable the Council to be efficient and effective in its communication and engagement activities, a stakeholder analysis must be undertaken for each new annual action plan to understand ever-changing stakeholder interests, influences, motivators, barriers and support. This activity is recorded in the communication and engagement action plans.

The **image below** shows how stakeholders can be categorised based on their perceived Interest and Influence relating to climate change action, giving direction in how they should be addressed within this plan.



Image 3 Analysis method for determining how stakeholders should be managed based on interest and influence. Where possible, stakeholders can be encouraged to increase their interest to become Key Players or Defenders.

Such considerations to take from this analysis are;

- Frequency of activities
- Methods of communication and engagement
- Level of current knowledge and involvement (those with greater interest may well already have a strong knowledge base)

Communication, Engagement and Consultation Tools and Resources

Communication Methods		
Type	Existing resource	Resource required
Web sources	Council news webpage Infonet Council Climate Change Webpage Dedicated programme email Local Climate Adaptation Tool (LCAT)	Internal webpages for the Council employees Online public engagement page
Electronic sources	Stock imagery on Pexels.com Project photos maintained within Climate Change team	Investigate additional graphics for promotion (e.g. mascot)
Email groups	Climate Change Committee group Themed Officer Working Groups Councillor email group Various SMT email groups All staff email group Local press Periodic electronic newsletter to circa. 1k readership	Promotion of subscription to e-newsletter to keep readership updated and informed on progress and events and opportunities to engage and shape the programme.
Social media / hashtags	Corporate Twitter Countryside and Coast Twitter, Facebook & Instagram accounts Nationally recognised hashtags - #spacefornature #saynomow #climatechange #togetherforourplanet #copXX #plantmoretrees #netzero	Corporate Facebook Page Flintshire Hashtags - #greenerflintshire #decarbflints
Posters & Infographics	Noticeboards Bathroom Cubicles School Noticeboards Community Centre Noticeboards	Recycling bins Computer Lock Screen
Collaborative / Regional Authorities	Welsh Government Energy Service Public Services Board Flintshire Local Voluntary Council (FLVC) Regional and Pan-Wales Climate Officer Groups LAEP Groups	
Internal Teams	All internal team meetings including:	FCC Youth Council,

and Forums	Countryside & Access Regeneration Planning Streetscene Communications	
Routine Council Activities	Annual Council Tax Letters Streetscene Recycling Collections Payslips	

Engagement Methods		
Type	Existing Resource	Resource Required
Online Tools	WWF My Footprint iNaturalist Seek What3Words	
Existing Events, Teams and Forums	Countryside & Access Events (Wepré & Greenfield Valley) Friends Group Events School Pupil Committees (requires identifying) Regeneration Team Local Business Forums School Eco-councils Deeside Decarbonisation Forum Deeside Business Forum Community Council Events	FCC Youth Council Local Business Forums (town-based)
Routine Council Activities	E.g Kerbside recycling Collections, tree planting, litter picks, etc.	

Consultation Methods		
Type	Existing Resource	Resource Required
Online	Survey applications Events Booking Microsoft Teams / Zoom	Microsoft Forms (surveys and questionnaires)
In-person Climate Change Team	Dedicated Meetings Focus Groups	Tablets

Table 1 Breakdown of resources which FCC can use or require to enable varied and effective methods of communication, engagement, and consultation

Monitoring and Measuring Success

Measurement of greenhouse gas emissions both in the council and across the county can be used as an indicator of success for communication and engagement; however, exact baselines for county-

wide emissions do not exist, and impacts of behavioural engagement are often seen over a longer time period. More detailed and immediate methods to measure success are shown below and will be recorded in the Communication and Engagement Action Plan for each year.

- Social Media Interaction: Number of likes, comments, sharing, retweets, timeline views
- Link clicks: More active engagement usually forms part of a call to action.
- Webpages: Number of visitors to the Climate Change webpages and time retained within the pages.
- Subscription: Number of subscribers to the e-newsletter and number of opens of the newsletter.
- Surveys and Questionnaires: Number or percentage of respondents, types of responses received
- Press coverage: Where the press release has been picked up by the local newspapers for coverage. Whether the press release has been adapted, and overall tone of the newspaper's coverage (negative, neutral, positive).
- Events and Webinars: Numbers of people attending and feeling or 'vibe' of the event (negative, neutral, positive).

Resources

<https://www.gov.wales/net-zero-wales>
<https://www.flintshire.gov.uk/en/PDFFiles/Climate-Change/Climate-Change-Strategy-2022-2030.pdf>
<https://www.gov.uk/guidance/equality-act-2010-guidance>
<https://www.welshlanguagecommissioner.wales/public-organisations/welsh-language-standards>
<https://www.gov.wales/written-statement-climate-change>
<https://www.kotterinc.com/methodology/8-steps/>
<https://infonet.flintshire.gov.uk/en/Document-Repository/Chief-Executives/Communications/National-Principles-for-Public-Engagement-in-Wales.pdf>
https://twitter.com/FlintshireCC?ref_src=twsrc%5Egoogle%7Ctwcamp%5Eserp%7Ctwgr%5Eauthor
<https://www.facebook.com/people/Flintshire-Countryside-and-Coast/100063265507690/>
https://twitter.com/FCCcountryside?ref_src=twsrc%5Egoogle%7Ctwcamp%5Eserp%7Ctwgr%5Eauthor
<https://www.instagram.com/flintshirecountrysideandcoast/?hl=en>
<https://www.theccc.org.uk/>
<https://www.theccc.org.uk/publication/land-use-policies-for-a-net-zero-uk/>
<https://www.theccc.org.uk/wp-content/uploads/2019/10/Behaviour-change-public-engagement-and-Net-Zero-Imperial-College-London.pdf>
<https://lcat.uk/>

Appendix 1 – Communication & Engagement Activity Plan

Month	Date	Event	Link
April		Earth Day	www.earthday.org
May	1 May > 30 May	No Mow May	
		Plantlife Every Flower Counts Survey	https://www.plantlife.org.uk/everyflowercounts/
		International Compost Awareness Week	https://www.compostfoundation.org/ICAW/ICAW-Home
		Walk to School Week	https://www.livingstreets.org.uk/products-and-services/projects/walk-to-school-week
	20-May	World Bee Day	https://www.worldbeeday.org/en/
June	29 May - 6 June	National Children's Gardening Week	https://www.childrensgardeningweek.co.uk/
	30 May - 5 June	Bike Week	https://www.cyclinguk.org/bikeweek
	05-Jun	World Environment Day	http://www.worldenvironmentday.global/
	17-Jun	Clean Air Day	https://www.cleanairday.org.uk/
		Let It Bloom	
		30 Days Wild - Wildlife Trusts	https://www.wildlifetrusts.org/30DaysWildStayWild
July	03-Jul	International Plastic Bag Free Day	https://zerowasteurope.eu/products/plastic-bag-free-day/
	28-Jul	World Nature Conservation Day	
August	9 - 15 August	National Allotments Week	https://www.nsalg.org.uk/news-events-campaigns/national-allotments-week/
	9 - 13 August	Shop Local Week	https://www.gov.uk/government/news/eight-reasons-to-shop-local-this-week-to-help-the-high-street-bounce-back
September	22-Sep	World Car Free Day	https://www.livingstreets.org.uk/about-us/our-work-in-action/world-car-free-day
	20 - 27 Sep	Recycle Week	https://www.recyclenow.com/recycle-week-2020
October		International Walk to School Month	https://www.livingstreets.org.uk/get-involved/campaign-with-us/international-walk-to-school-month
November		Wales Climate Week	https://gov.wales/wales-climate-week
December			
January		RSPB Big Garden Birdwatch	https://www.rspb.org.uk/get-involved/activities/birdwatch/
February			
		Earth Hour	https://www.earthhour.org/

1. Notable national dates to engage with

Engagement Details											Apr	May	Jun	Jul
Title	Topic	Stakeholder	Stakeholder	Stakeholder	Owner/s	Objective	Details, Targets & Monitoring	Review						
Earth Day	Engagement on various topics	Flintshire residents			MS	Promote Earth Day and activities which can help build public knowledge	Bug hunt, recycling and carbon footprint (WWF) activities with the public at both Greenfield and Wepre No targets	L:\FCC Fileshare_02\SC HMON\Climate Change Programme\Mollie\Event Reviews\Earth Day Event Review.docx	22					
World Bee Day at Wepre Park	Bees and Climate Change	Flintshire residents			MS / BT	Raise awareness of climate risks to bees	Planting activity, creating pots from newspaper and planting sunflower seeds, promoting the need for more pollinating plants. Also inform public of key climate impacts affecting bees No public individuals engaged with	Events\Events Reviews\Bee Day Event Review.docx		20				
Hawarden High Youth Engagement	Promotion and Knowledge Building	Schools / young people	Elected members		BT/ AE	Promote FCC's Climate work and engage with students to build knowledge on climate change and impacts on LGBT+ community	Hawarden high school students are holding an LGBT+ event and will be inviting students from other Flintshire High schools. Part of the day they are planning a market place for around 290 students aged 11-17. Engage with the students with activities, discussion sessions, questionnaires, expectations No. students engaged with (activities)	Events\Events Reviews\Hawarden High Pride.docx			5 & 27			
Denbigh and Flint Show	Promotion and Knowledge Building	Flintshire residents	Flintshire Landowners	Schools / Young People	AE / BT	Promote FCC's Climate work and engage with public to build knowledge on climate change	No. public engaged with each activity				5 & 19			
Carbon Literacy	Education	Elected members			AE / BT	Deliver FCC's Carbon Literacy course to Councillors. FCC target of 80% councillors attended course.	% Councillors Trained (2023-2024 target is 80%)							
Wales Nature Week	Waiting on Theme	Flintshire Residents	Flintshire Businesses	Waiting on Theme	Waiting on Theme	Waiting on Theme	Meeting with FCC environment teams to discuss engagement					24 to 25		

2. Example spreadsheet for planning and delivery of communication and engagement activities. Coloured columns to the right indicate the dates which an activity is held. Green is allocated for completed activities (which are supported by a review document) and Red is allocated for activities yet to happen.

Appendix 2 – Ensuring Inclusion during Engagement and Consultation

Publicity - Effective publicity is needed to ensure as many people are reached as possible, including those considered 'who are seldom heard', for example, older people, younger people, people who do not speak English or Welsh, Gypsies and Travellers, people who are Deaf. Consider different communication methods to reach a wider audience.

Images and language - Use inclusive images that reflect diverse communities, and the language used will not be a barrier for people with limited understanding of English/Welsh or who have limited literacy levels. Information should be jargon free, appropriate and understandable and in different formats and languages if needed. Formats like Easy Read, British Sign Language (BSL) should be considered. Provide translations if a particular group is to be engaged (e.g. Eastern European languages).

Techniques and methods – Consider the techniques and methods used for engagement such as the location, timing and accessibility of the venue. Using only digital methods will create barriers for people who do not have access to the internet.

Events – If providing food/refreshments, consider what food and drink to provide for different diets and cultures, including seating/ tables, comfort, crockery and cutlery and drinking straws.

Equality monitoring – Including equality monitoring will help identify any issues/concerns/ feedback from specific groups, and also help identify groups that have not been involved or have not responded. Additional activities may be needed to ensure excluded groups are reached. The 2021 [Census](#) results reflect the profile of the local community. A list of useful contacts is available on the [Infonet](#).

Welsh language – Welsh must be equal to English in everything that is done. Full details of how to comply with the Welsh language standards are available on the [Infonet](#). Some of the relevant standards include Events and Consultation:

Events:

If more than one person is invited to a meeting, all individuals must be asked whether they would like to use the Welsh Language in the meeting. If least 10% of those invited say they wish to contribute in Welsh, a simultaneous translator must be provided.

If a meeting is arranged that is open to the public, ensure a simultaneous translation service from Welsh to English is available at the meeting and verbally inform those present (in Welsh) that they are welcome to use the Welsh Language and that a simultaneous translation service is available.

Publicity material, letters, invitations and notices for meetings open to the public should be bilingual and include the following wording 'You are welcome to contribute to the meeting in English or Welsh / 'Bydd croeso i chi gyfrannu i'r cyfarfod yn Gymraeg neu Saesneg.' The agenda and any accompanying papers or documents should also be bilingual.

If simultaneous or consecutive translation facilities are used at meetings, inform attendees (in Welsh) that translation facilities are available 'You are welcome to contribute to the meeting in English or Welsh / 'Bydd croeso i chi gyfrannu i'r cyfarfod yn Gymraeg neu Saesneg. 'An interpretation service is available/ Mae gwasanaeth cyfieithu ar gael.

Written material at a meeting that is open to the public, ensure that the material is displayed in Welsh and that Welsh language is not treated text less favourably than the English language text.

Consultation

When carrying out consultation activities relating to policy decisions, seek views on the effects that the policy decision would have on :

- (a) opportunities for persons to use the Welsh language, and
- (b) treating the Welsh language no less favourably than the English language.

Consider and seek views on, how the policy under consideration could be formulated or revised so that it would:

have positive effects, or increased positive effects, on

- (a) opportunities for persons to use the Welsh language, and
- (b) treating the Welsh language no less favourably than the English language.

not have adverse effects, or so that it would have decreased adverse effects, on

- (a) opportunities for persons to use the Welsh language, and
- (b) treating the Welsh language no less favourably than the English language..

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Cynllun Ynni Ardal Leol

Gweithdy opsiynau strategol

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Mehfin 2023

Local Area Energy Planning

Strategic options workshop

June 2023

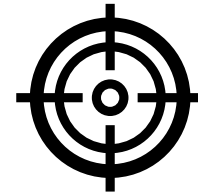
Agenda Item 5



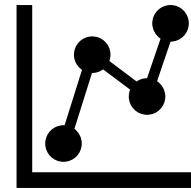
Pwrpas y gweithdy

Rôl y rhanddeiliad a phwrpas y gweithdy

(i) Adolygu a chytuno ar linell sylfaen y system ynni lleol, h.y. y galw (adeiladau, trafndiaeth, diwydiant); y seilwaith (rhwydweithiau trydan a nwy, storio); a'r cyflenwad (ynni adnewyddadwy, carbon isel arall)



(ii) Adolygu a chytuno ar y blaenoriaethau ar gyfer Cynllun Ynni Ardal Leol, h.y. nodweddion pob elfen o'r system ynni y dylid eu cyflawni'n lleol



(iii) Trafod senarios posibl i'w defnyddio wrth fodelu Cynllun Ynni Ardal Leol



Purpose of workshop

Stakeholder's role and purpose of workshop









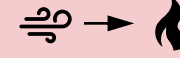


(i) Review the local energy system baseline, i.e. demand (buildings, transport, industry); infrastructure (electricity and gas networks, storage); and supply (renewables, other low carbon)

(ii) Consider the priorities for the LAEP, i.e. the specifics for each energy system element that should be undertaken locally

(iii) Discuss potential scenarios to be used in the LAEP modelling

Trafodaethau grŵp

Termau a diffiniadau allweddol

Technoleg	Diffiniad	Symbol	Effeithlonrwydd
Teithio llesol	Math o deithio gan bobl sy'n cynnwys cerdded neu feicio		-
Treulio anaerobig	Prosesu biomas (deunydd planhigion) yn fio-nwy (methan) y gellir ei ddefnyddio ar gyfer gwresogi a/neu gynhyrchu trydan		0.4
Boeler biomas	Cynhyrchu gwres drwy losgi tanwydd pren (e.e. logiau, naddion coed) mewn boeler		0.7
Uchafswm o ran y galw	Dyma faint o gapasiti sydd ar gael mewn MW yn y grid trydan y gallai datblygiadau newydd, cerbydau trydan, pypiau gwres ei gysylltu hefyd		
Electroleiddiwr	Defnyddio trydan i hollti dŵr yn hydrogen ac ocsigen		0.65
Gwynt arnofiol	Defnyddio gwynt i droi tyrbin i gynhyrchu trydan gan ddefnyddio strwythurau sy'n arnofio ar y môr		0.18
Uchafswm cynhyrchu	Dyma faint o gapasiti sydd ar gael mewn MW yn y grid trydan y gall generaduron adnewyddadwy ei gysylltu hefyd		
Ffotofoltäig daear	Mae'n trosi golau'r haul yn drydan gan ddefnyddio celloedd ffotofoltäig sydd wedi'u gosod ar y ddaear		0.12
Pwmp gwres	Mae'n defnyddio system cyfnewid gwres i gymryd gwres o'r aer/tir ac yn cynyddu'r tymheredd i gynhesu adeiladau		2.5
Storio gwres	Storio ynni thermol i'w ryddhau'n ddiweddarach, gan ddefnyddio trydan neu thermo-gemegion yn aml		0.75
Trydan dŵr	Defnyddio dŵr sy'n disgyn rhwng dwy gronfa ddŵr i droi tyrbinau i gynhyrchu trydan		0.35



Breakout room discussion

Key terminology and definitions





















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Technology	Definition	Symbol	Efficiency
Active travel	Transport powered by human activity, such as walking or cycling		-
Anaerobic digestion	Processes biomass (plant material) into biogas (methane) that can be used for heating and/or generating electricity		0.4
Biomass boiler	Generate heat by burning wood-based fuel (e.g. logs, chippings) in a boiler		0.7
Demand headroom	This is the amount of available capacity in MW in the electricity grid that new developments, EV, heat pumps could connect too		
Electrolyser	Use electricity to split water into hydrogen and oxygen		0.65
Floating wind	Harness wind to turn a turbine to generate electricity using floating structures offshore		0.18
Generation headroom	This is the amount of available capacity in MW in the electricity grid that renewable generators can connect too		
Ground PV	Converts solar radiation into electricity using photo-voltaic cells mounted on the ground		0.12
Heat pump	Uses a heat exchange system to take heat from air/ground and increases the temperature to heat buildings		2.5
Heat storage	Stores thermal energy to be released at a later time, often using electricity or thermo-chemicals		0.75
Hydroelectricity	Use water falling between two reservoirs to turn turbines to generate electricity		0.35

Trafodaethau grŵp

Termau a diffiniadau allweddol

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Technoleg	Diffiniad	Symbol	Effeithlon- rwydd
Boeler hydrogen	Boeler sy'n gweithio yn yr un modd â boeler nwy traddodiadol, ond sy'n cael ei bweru gan nwy hydrogen	 → 	0.84
CCGT Hydrogen	Mae tyrbinau nwy cylch cyfun (CCGT) yn cyfuno tyrbîn nwy hydrogen â thyrbîn stêm	 → 	0.4
OCGT Hydrogen	Mae tyrbinau nwy cylch agored (OCGT) yn dyrbinau nwy hydrogen syml heb unrhyw ddull o adfer gwres gwastraff	 → 	0.54
Diwygio methan	Mae stêm tymheredd uchel yn adweithio â methan i ffurfio hydrogen	 → 	0.72
SMR Niwclear	Mae adweithyddion modiwlwr bach (SMRs) yn adweithyddion niwclear sydd â chapasiti o dan 300 MWe.	 → 	0.35
Gwynt ar y tir	Defnyddio gwynt i droi tyrbîn i gynhyrchu trydan ar y tir	 → 	0.18
Gwres o wrthiant	Cynhyrchu gwres drwy basio cerryntau trydanol drwy wifrau	 → 	1
Ôl-osod	Uwchraddio perfformiad adeilad, er enghraifft, gosod mwy o inswleiddio neu ffenestri dwbl	 → 	-
Ffotofoltäig ar ben to	Mae'n trosi golau'r haul yn drydan gan ddefnyddio celloedd ffotofoltäig sydd wedi'u gosod ar ben to adeilad	 → 	0.12
Nwy carthion	Mae micro-organebau mewn carthion yn cynhyrchu nwyon fel methan y gellir ei ddefnyddio fel gwres a/neu i gynhyrchu trydan	 → 	0.58



Breakout room discussion

Key terminology and definitions

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Technology	Definition	Symbol	Efficiency
Hydrogen boiler	A boiler that operates in the same way as a traditional gas boiler, but powered by hydrogen gas	 → 	0.84
Hydrogen CCGT	Combined-cycle gas turbines (CCGT) combine a hydrogen gas-fired turbine with a steam turbine.	 → 	0.4
Hydrogen OCGT	Open-cycle gas turbines (OCGT) are simple hydrogen gas-fired turbines with no waste heat recovery.	 → 	0.54
Methane reformation	High temperature steam reacts with methane to form hydrogen	 → 	0.72
Nuclear SMR	Small modular reactors (SMRs) are nuclear reactors with capacity lower than 300 MWe.	 → 	0.35
Onshore wind	Harness wind to turn a turbine to generate electricity on land	 → 	0.18
Resistance heating	Generate heat by passing electrical currents through wires	 → 	1
Retrofit	Upgrading the performance of an existing building, such as installing more insulation or double glazing	 → 	-
Rooftop PV	Converts solar radiation into electricity using photo-voltaic cells mounted on the roof of a building	 → 	0.12
Sewage gas	Micro-organisms in sewage produce gases such as methane that can be used to heating and/or generating electricity	 → 	0.58



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Cyflwyniad gan
Gyngor Sir y Fflint
Y Cyngorydd David
Healey

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Introduction from
Flintshire County
Council Cllr David
Healey



Rhaglen

1. Croeso a threfniadau
2. Trosolwg o'r Cynllun Ynni Ardal Leol (gan gynnwys sesiwn holi ac ateb)
3. Y llinell sylfaen; y polisi lleol; a chynhyrchu, allyriadau a'r galw am system ynni lleol
Adolygu'r llinell sylfaen – “beth ydyn ni wedi'i fethu?”
4. Opsiynau strategol – opsiynau/amrywiadau allweddol i'w hystyried ar gyfer senarios – 2 grŵp trafod
 - Y galw yn lleol (ar draws pob sector a defnyddiwr)
 - Y system ynni lleol – cynhyrchu a seilwaith lleol yn unig
6. Senarios lleol posibl o ran y galw / system ynni
7. Crynodeb
8. Beth all rhanddeiliaid ei ddisgwyl nesaf

Agenda

1. Welcome and housekeeping
2. LAEP overview (incl Q&A)
3. Baseline, local policy and local energy system demand, generation and emissions
4. Review of baseline - "what have we missed?"
5. Strategic options - key options/variables to consider for scenarios – 2 breakout groups
 - *Local demand (across all sectors and users)*
 - *Local energy system - local generation and infrastructure only*
6. Local possible scenarios for demand / energy system
7. Summary
8. What stakeholders can expect next



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Trosolwg o'r Cynllun Ynni Ardal Leol

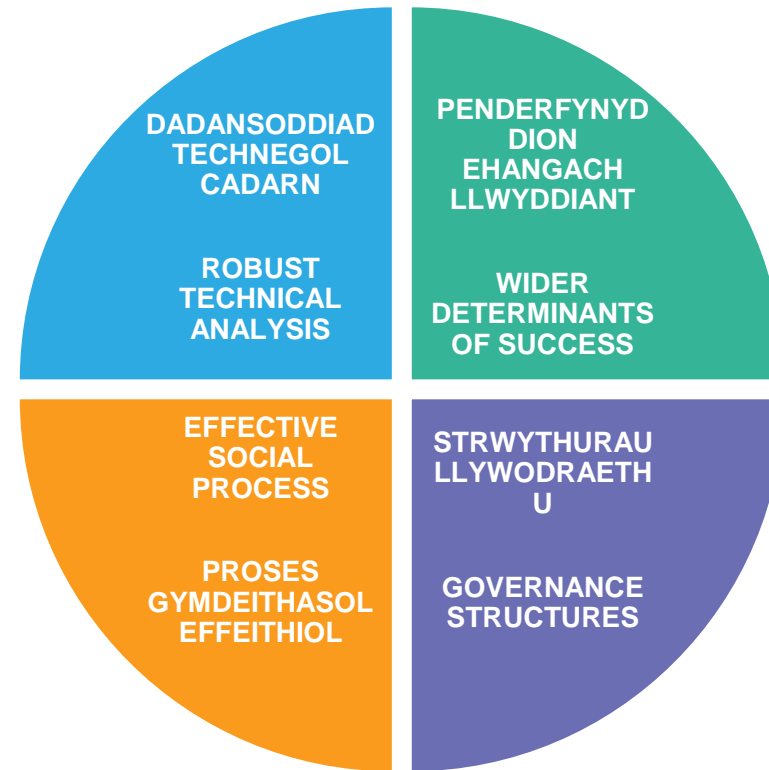
LAEP Overview



Beth yw Cynllunio Ynni Ardal Leol?

What is Local Area Energy Planning?

Proses sy'n ystyried y **system ynni cyfan** mewn ardal leol, sydd â'r potensial i **lywio, siapio a galluogi** agweddau allweddol ar y newid i system ynni carbon **sero net**.



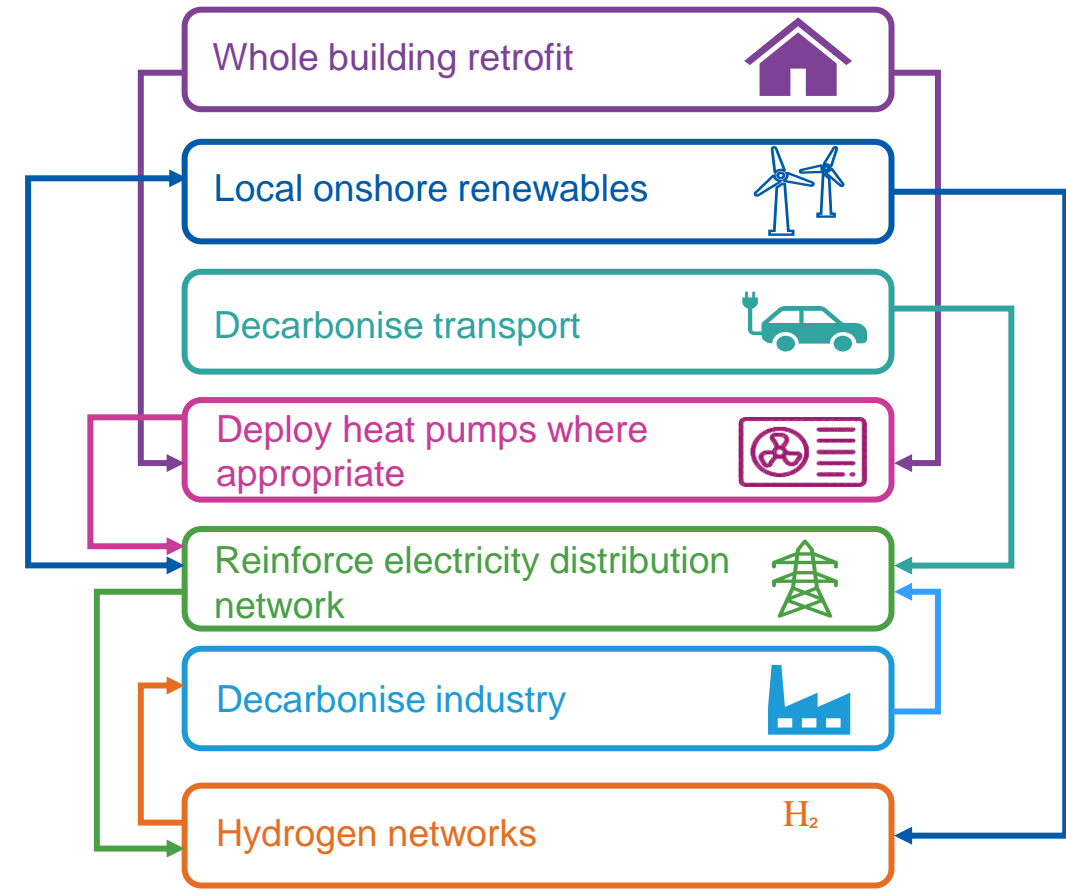
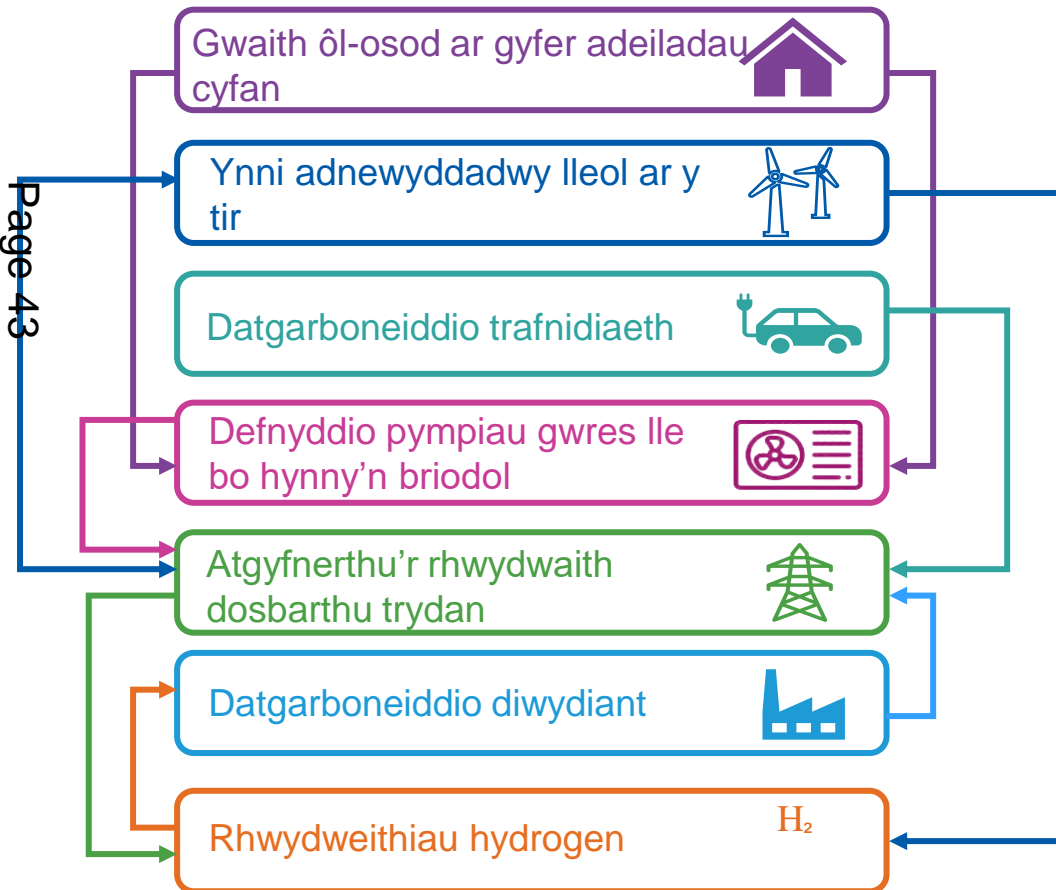
A process considering the **whole energy system** in a local area, which has the potential to **inform, shape and enable** key aspects of the transition to a **net zero** carbon energy system.



Beth yw eich system ynni lleol?

What is your local energy system?

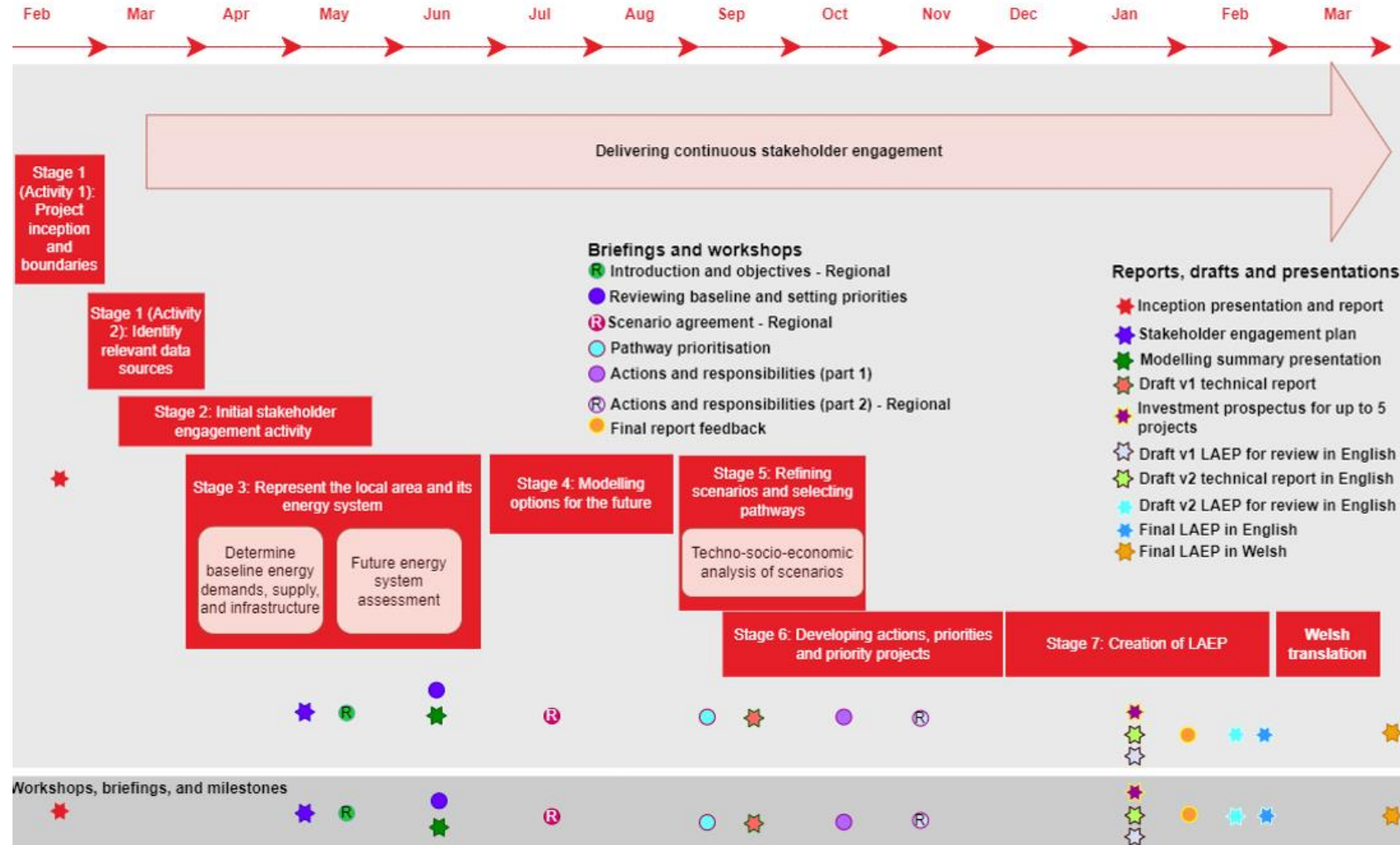
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Trosolwg o'r dull

Method overview





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Y llinell sylfaen a'r cyd-destun

Baseline and context



Allyriadau carbon sylfaenol

Baseline carbon emissions

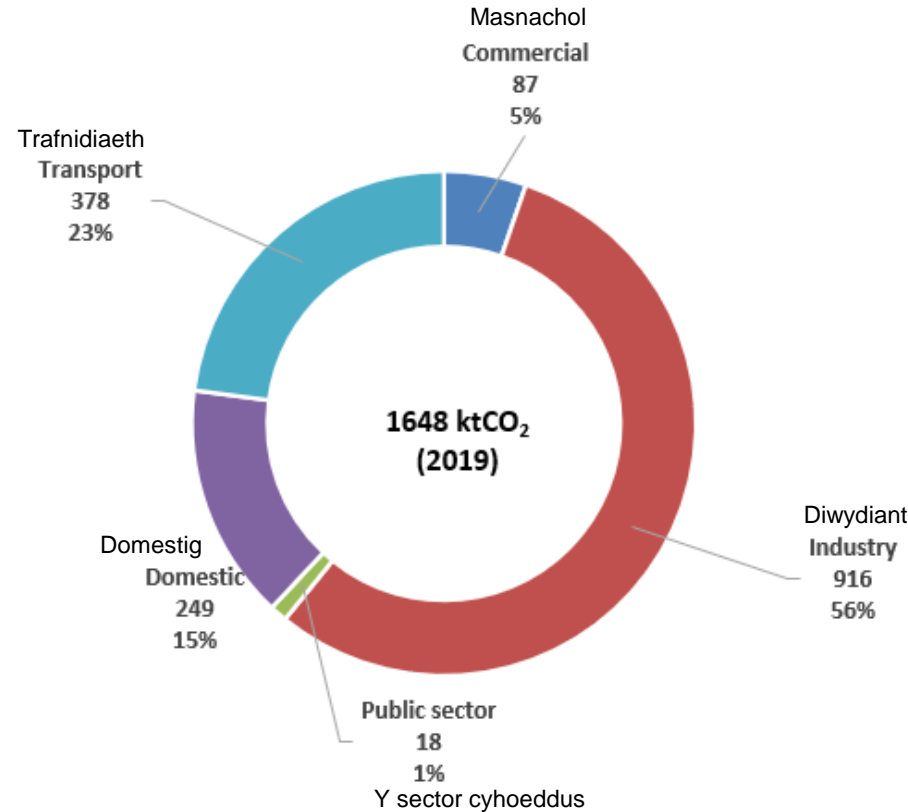
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Roedd Sir y Fflint yn cyfrif am 7% o allyriadau carbon Cymru yn 2019 gyda 10.6 tCO₂ y pen

Mae allyriadau Sir y Fflint yn lleihau dros amser

Y sectorau sy'n gyfrifol am yr allyriadau carbon mwyaf yn 2019:

- 56% diwydiant
- 23% trafnidiaeth
- 15% domestig



Flintshire accounts for 7% of Wales's carbon emissions in 2019 with 10.6 tCO₂ per capita

Flintshire's emissions are reducing over time

Largest carbon emission sectors in 2019:

- 56% industry
- 23% transport
- 15% domestic



Defnydd ynni sylfaenol – diagram Sankey

Baseline energy use – Sankey diagram

- Mae diagram “Sankey”, wrth ddarllen o’r chwith i’r dde, yn dangos sut mae gwahanol ffynonellau ynni (h.y. tanwydd ac adnoddau ynni adnewyddadwy) yn diwallu gwahanol fathau o alw drwy fectorau ynni neu dechnolegau trosi.
- Mae diagramau Sankey yn ffordd o ddarlunio sut mae ynni’n trosglwyddo rhwng ffynonellau a’r galw drwy gludwyr.
- Mae diagramau Sankey yn cael eu llunio i raddfa ac maen nhw’n ddefnyddiol i nodi llifoedd ynni mawr neu fach.
- Mae ochr chwith y diagram yn cynrychioli’r gwahanol ffynonellau ynni, gan gynnwys technolegau cynhyrchu a’r hyn a fewngludir o’r grid cenedlaethol.
- Mae ochr dde’r diagram yn cynrychioli’r galw terfynol am bob fector ynni: y galw am wres, y galw am drydan, y galw am drafnidiaeth.

- A “Sankey” diagram, when read from left to right, shows how different energy sources (i.e., fuels and renewable energy resources) meet various types of demand via energy vectors or conversion technologies.
- Sankey diagrams are a way of visualising energy transfers between sources and demands via carriers.
- Sankey diagrams are drawn to scale and are helpful to identify large or small energy flows.
- The left hand side of the diagram represents the different energy sources, including generation technologies and imports from the national grid
- The right hand side of the diagram represents the final demands for each energy vector: heat demand, electricity, demand, transport demand.



Defnydd ynni sylfaenol – diagram Sankey

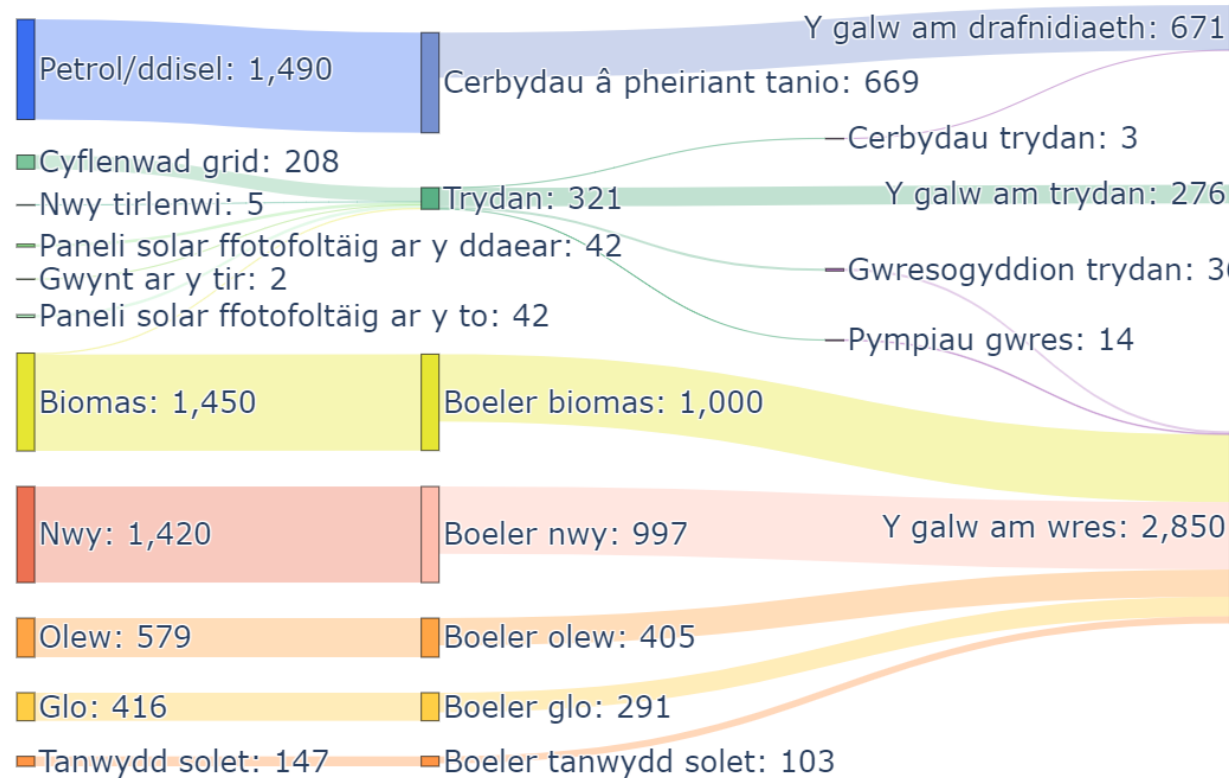
Defnydd ynni sylfaenol – diagram Sankey (mewn GWh y flwyddyn, 2019)

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Mae bron yr holl alw am drafnidiaeth yn cael ei ddiwallu gan injans tanio petrol neu ddisel

Y grid cenedlaethol sy'n cyflenwi'r rhan fwyaf o'r trydan (65%)

Mae'r rhan fwyaf o'r galw am wres yn cael ei ddiwallu gan raniad bron yn gyfartal o foeleri nwy ffosil a biomas (70%)



Tair system ynni bron ar wahân ar gyfer trydan, gwres a thrafnidiaeth

Colledion aneffeithlonrwydd rhwng ffynonellau ynni a'r galw

Gwresogi yw'r gydran fwyaf o'r galw am ynni (75%)

Ffynonellau:

Ystadegau BEIS - defnyddio tanwydd ar gyfer trafndiaeth ffyrdd is-genedlaethol, Ystadegau BEIS - defnyddio nwy a thrydan ar lefel is-genedlaethol, Amcangyfrifon BEIS - eiddo nad ydynt wedi'u cysylltu â'r rhwydwaith nwy, Trydan adnewyddadwy yn ôl awdurdod lleol, BEIS



Baseline energy use – Sankey diagram

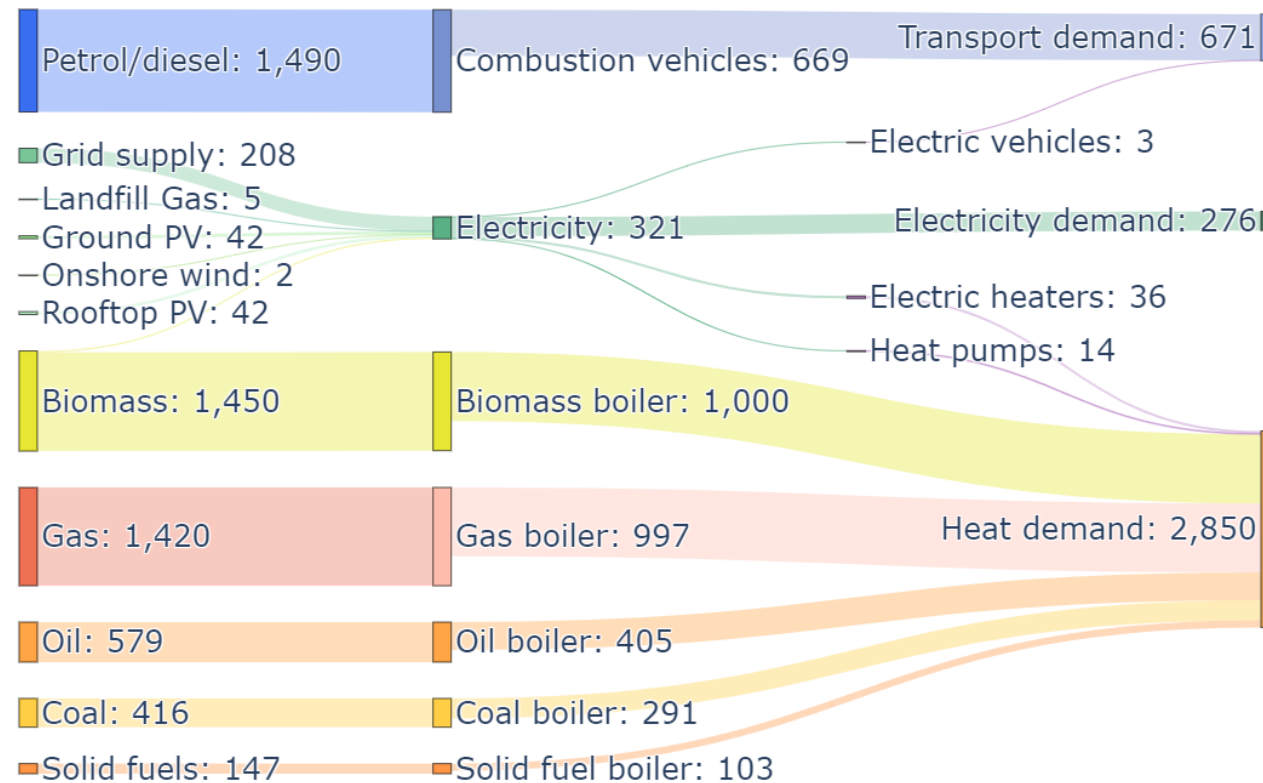
Baseline energy supply/use – Sankey diagram (in GWh per year, 2019)

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Almost all transport demand met by petrol or diesel combustion engines

Majority of electricity supplied by the national grid (65%)

Majority of heating demand met by an almost-equal split of biomass and fossil gas boilers (70%)



Three near-isolated energy systems for each of electricity, heat, and transport

Inefficiency losses between energy source and demand

Heating comprises the largest component of energy demand (75%)

Sources:

BEIS Sub-national road transport fuel consumption statistics, BEIS Sub-national gas and electricity consumption statistics, BEIS Estimates of properties not connected to the gas network, BEIS Renewable electricity by local authority



Ystadegau allweddol y system ynni yn 2019 (1)

Y Cyd-destun



Cyfran yr eiddo preswyl gydag EPC D ac is: 58%



Y galw am ynni yn uchel iawn o safbwynt adeiladau preswyl: 72,000 o gyfeiriadau domestig; 6,000 o rai annomestig

Y Cyflenwad



Ynni gwynt ar y tir: 1.8 MW



Solar PV: 53.1 MW



Capasiti tanwydd ffosil: 14 MW

Key stats of the energy system in 2019 (1)

Context



Proportion of domestic properties with EPC D and below: 58%



Highly residential energy demand: 72,000 domestic addresses; 6,000 non-domestic

Supply



Onshore wind: 1.8 MW



Solar PV: 53.1 MW





Fossil fuel capacity: 14 MW





Ystadegau allweddol y system ynni yn 2019 (2)

Y Galw



-  Cyfran ddomestig o gyfanswm y defnydd o nwy: 45%
-  Cyfran ddomestig o gyfanswm y defnydd o drydan: 21%

Seilwaith



-  Cyfran yr eiddo sydd ddim ar y grid nwy: 18%
-  Cyfran yr eiddo sydd ddim ar y grid nwy sy'n defnyddio olew neu LPG i wresogi: 62%

Key stats of the energy system in 2019 (2)

Demand

-  Domestic proportion of total gas consumption: 45%
-  Domestic proportion of total electricity consumption: 21%

Infrastructure

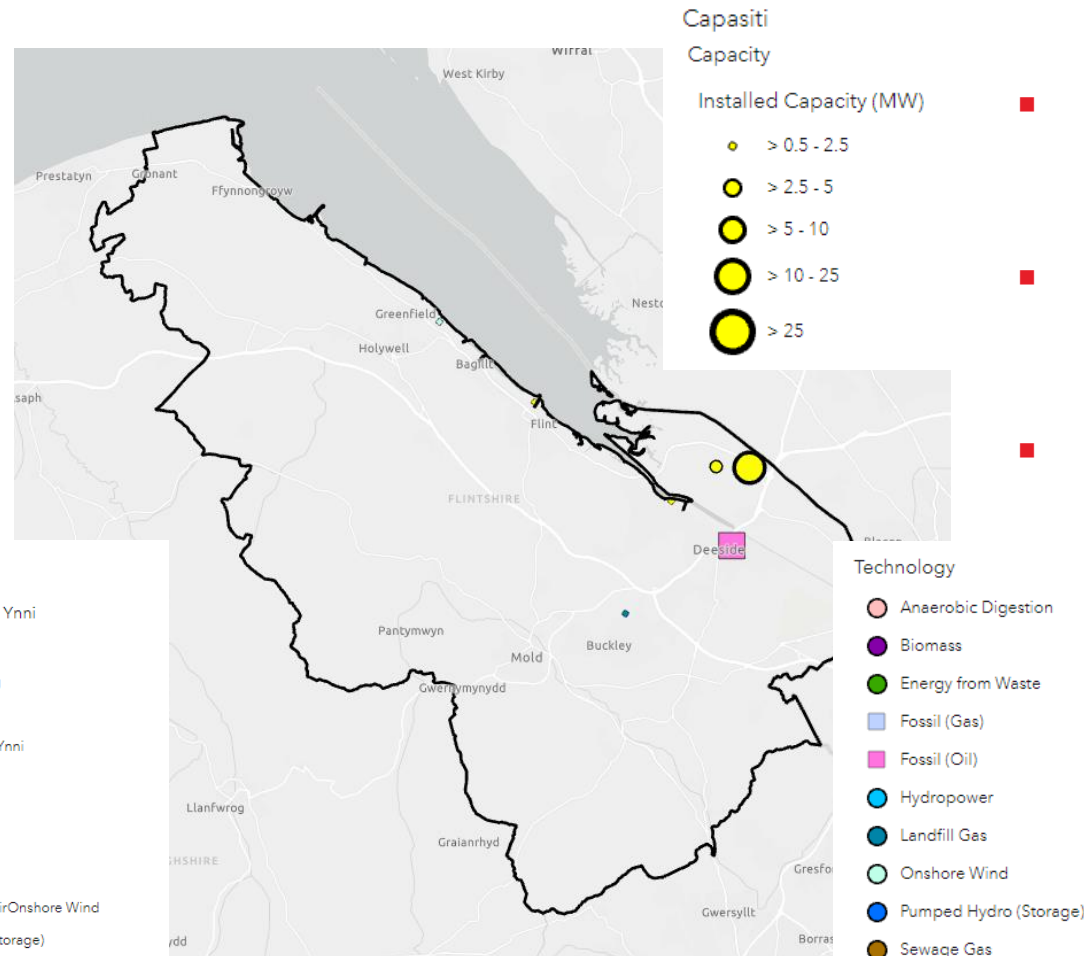
-  Proportion of properties off the gas grid: 18%
-  Proportion of off-gas properties that use oil or LPG for heat: 62%



Cyflenwad – cynhyrchu'n lleol

Supply – local generation

- Rhan fwyaf o drydan yn cael ei gyflenwi gan y grid cenedlaethol (65%)
- Lefel sylweddol o ynni adnewyddadwy yn cael ei gynhyrchu, sy'n cael ei ddominyddu gan 53.1 MW o solar PV
- 14 MW yn cael ei gynhyrchu gan danwyddau ffosil



- Majority of electricity supplied by the national grid (65%)
- Significant renewable energy generation dominated by 53.1 MW of solar PV
- 14 MW generated by fossil fuels



Seilwaith – Tai

- 72,000 o gyfeiriadau domestig a 6,000 o gyfeiriadau annomestig
- Stoc dai eithaf newydd, gyda 72% o dai wedi cael eu hadeiladu ar ôl 1930
- Cyfran isel o fflatiau (9%)
- Cyfran isel o dai cymdeithasol (16%)
- Mae'r niferoedd sydd wedi'u cysylltu â'r grid nwy yn Sir y Fflint (82%) yn eithaf tebyg i gyfartaledd Cymru (79%)
- Mae llai yn ardal Orllewinol y rhanbarth wedi'u cysylltu â'r grid nwy nag yn yr ardal Ddwyreiniol
- Cymhareb fawr o ran y galw am nwy:trydan yn y sector domestig, sy'n awgrymu lefelau gwael o inswleiddio

Infrastructure - Housing

- 72,000 domestic addresses and 6,000 non-domestic addressees
- Relatively new housing stock with 72% built after 1930
- Low proportion of flats (9%)
- Low proportion of social housing (16%)
- Flintshire has similar connectivity to the gas grid (82%) as the Wales average (79%)
- West of region is less connected to the gas grid than the East
- Large gas:electricity demand ratio for domestic sector, suggests poor levels of insulation

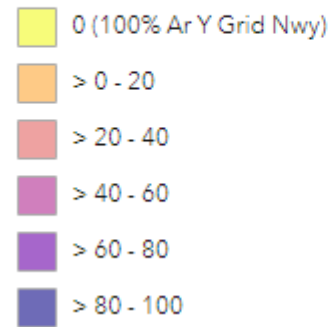


Seilwaith – Tai

Infrastructure - Housing

Oddi Ar Y Grid Nwy

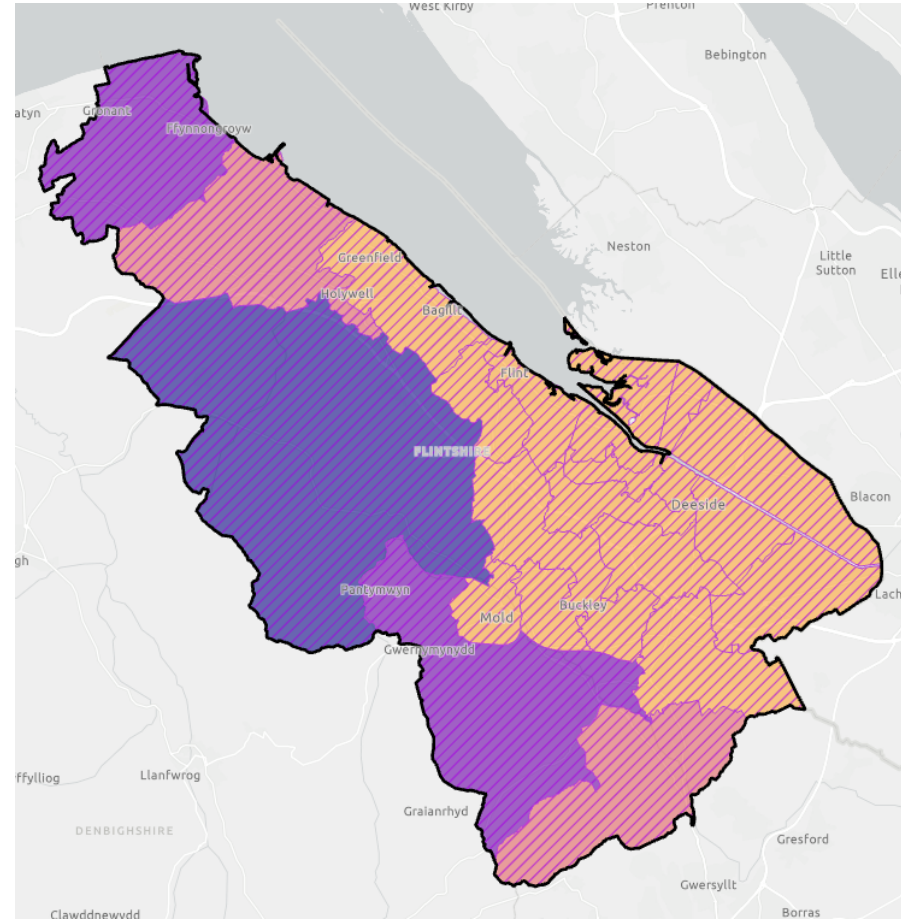
% Amcangyfrifedig O Eiddo Oddi Ar Y Grid Nwy



Oddi Ar Y Grid Nwy

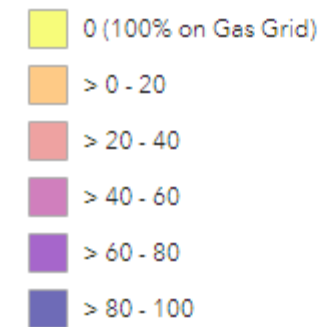
Prif Fath O Wresogi

Prif Fath O Wresogi Oddi Ar Y Grid Nwy



Off Gas Grid

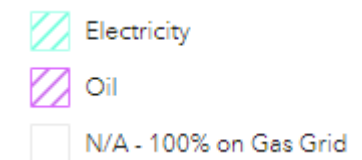
Estimated % of Properties Off Gas Grid



Off Gas Grid

Main Heating Type

Off Gas Grid Main Heating Type





Y Galw – Gwres

- Mwy o alw am wres yn rhan ddwyreiniol yr ardal
- Llwythi diwydiannol mawr mewn sawl man
- Galw mawr – nad yw'n cael ei ddangos yma – am danwyddau eraill, fel biomas, olew a glo. Mae'r tanwyddau hyn yn ffurfio cyfran sylweddol o'r galw diwydiannol a masnachol am wres (tua 74%)
- Ardal ddiwydiannol Glannau Dyfrdwy yw canolbwynt llawer o'r galw am wres a llwythi pwynt (point loads)

Demand - Heat

- Higher heat demand in the east of the area
- Multiple points of significant industrial loads
- Not shown here, is the significant demand for other fuels, notably biomass, oil and coal – these fuels form a significant proportion of industrial and commercial heating demand (approx. 74%)
- Much of the heat demand and point loads are centred around the Deeside industrial zone



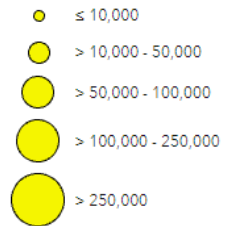
Y Galw – Gwres

Demand - Heat

Gwres/Nwy

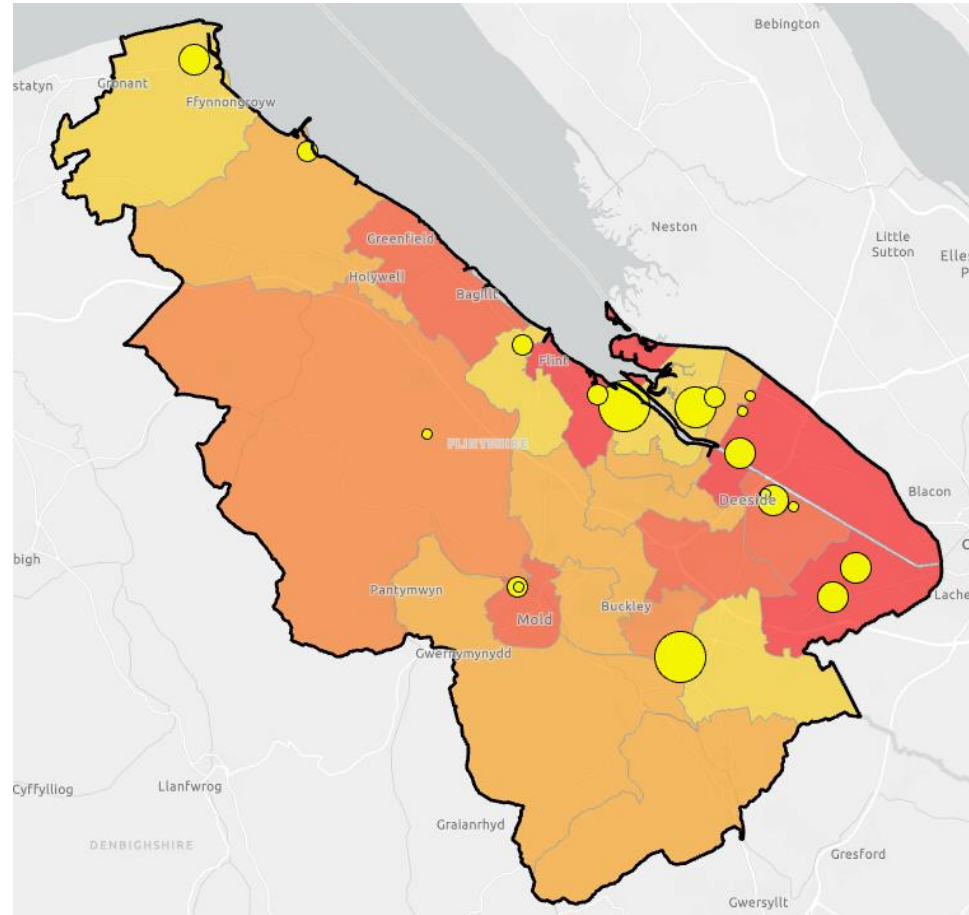
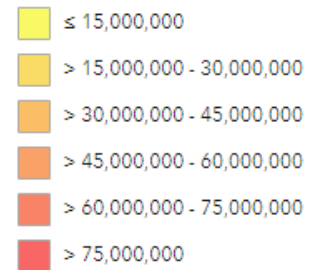
Llwythi Diwyddiannol Mawr

Defnydd Cyferth O Nwy Naturiol (kWh Gros CV)



Defnydd O Wres

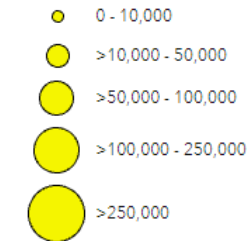
kWh



Heat/Gas

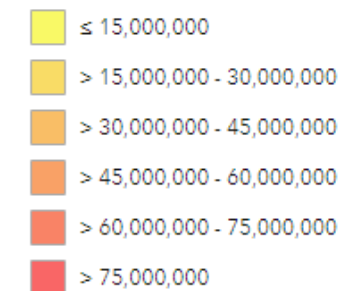
Major Industrial Loads

Equivalent Natural Gas Consumption (kWh gross CV)



Heat Consumption

kWh





Y Galw – Trydan

- Mae'r galw am drydan wedi'i wasgaru'n gymharol gyfartal
- Mae mwy o alw mewn ardaloedd diwydiannol (sef Glannau Dyfrdwy), ac mewn rhai ardaloedd lle mae llai wedi'u cysylltu â'r grid nwy.

Demand - Electricity

- Demand for electricity is fairly evenly spread
- There is greater demand in industrial zones (namely Deeside), as well as some areas which are less connected to the gas grid.



Y Galw – Trydan

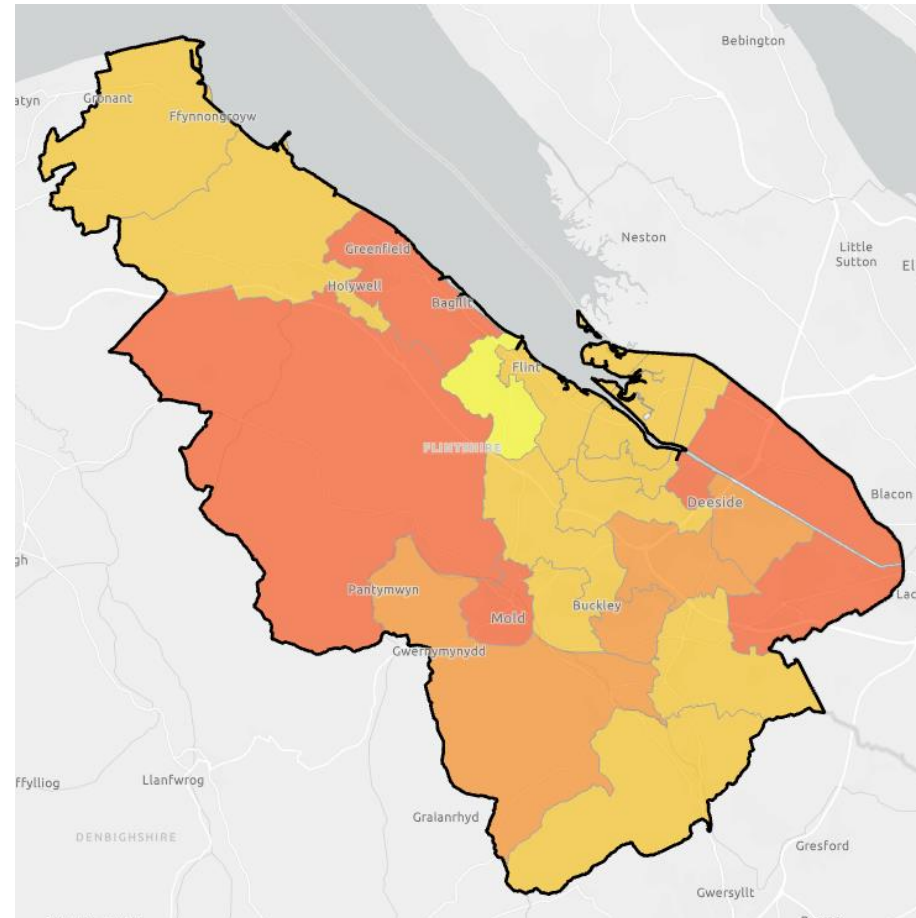
Demand - Electricity

Defnydd O Drydan

Defnydd O Drydan

Cyfanswm Defnydd (kWh)

- ≤ 10,000,000
- > 10,000,000 - 15,000,000
- > 15,000,000 - 20,000,000
- > 20,000,000 - 25,000,000
- > 25,000,000



Electricity Consumption

Electricity Consumption

Total Consumption (kWh)

- ≤ 10,000,000
- > 10,000,000 - 15,000,000
- > 15,000,000 - 20,000,000
- > 20,000,000 - 25,000,000
- > 25,000,000



Y Galw – Trafnidiaeth

- Galw mawr o ran trafndiaeth ar y ffordd ar draws yr ardal gyfan
- Mae'r manau gwefru'n brin, a gerllaw trefi mae'r rhan fwyaf ohonyn nhw
- 0.24% o'r cerbydau wedi'u cofrestru sy'n gerbydau trydan/hybrid, o'i gymharu â gwerth Cymru gyfan, sef 1%
- Er ei bod yn anodd gwahanu'r galw, ardaloedd yr A55 ac A494 yw canolbwynt y galw uwch o ran trafndiaeth.

Demand - Transport

- High road transport demand across the whole area
- Charge points are relatively few and mostly near towns
- 0.24% of registered vehicles are electric/hybrid compared to a Wales-wide value of 1%
- Although difficult to disaggregate, higher demand for transport is focussed on areas with the A55 and A494 running through it.



Y Galw – Tradnidiaeth

Demand - Transport

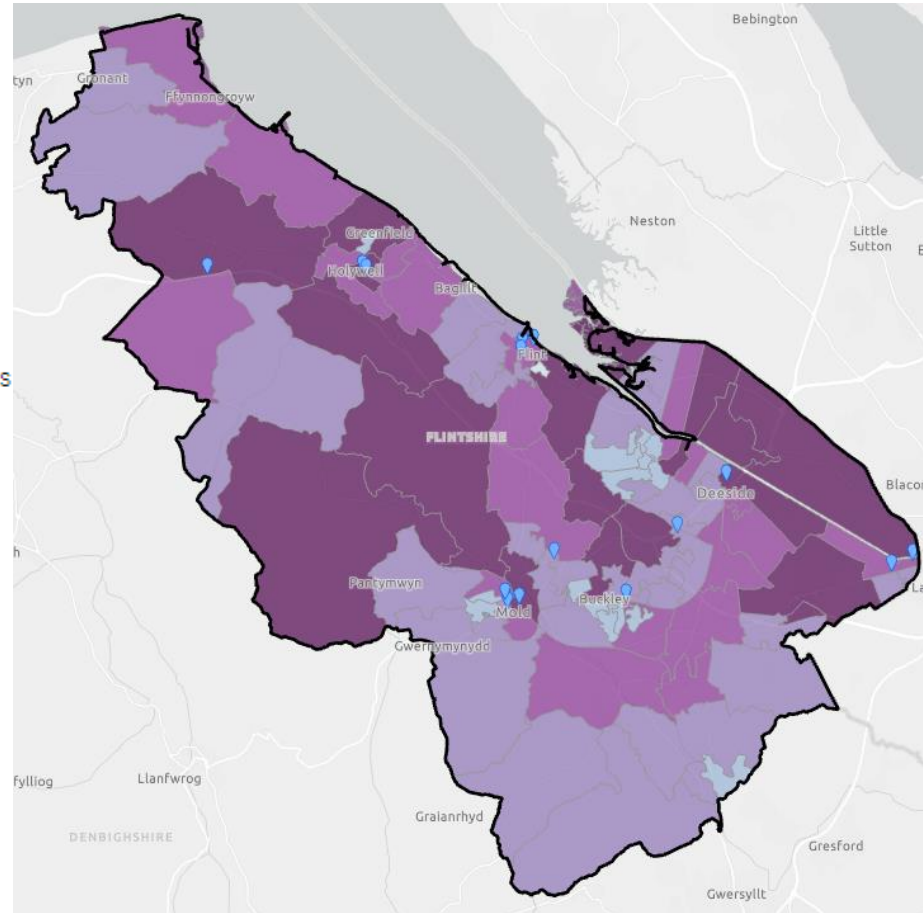
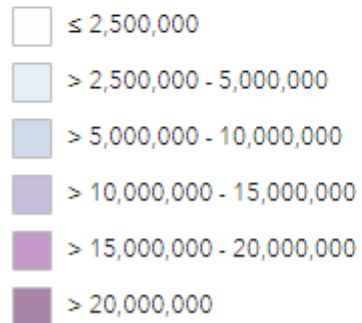
Trafnidiaeth

Mannau Gwefru Cyhoeddus Ar Gyfer Cerbydau Trydan

Page 60

Trafnidiaeth

Defnydd Blyneddol fesul Ardal Gynnyrch Ehangach Haen Is (kWh)



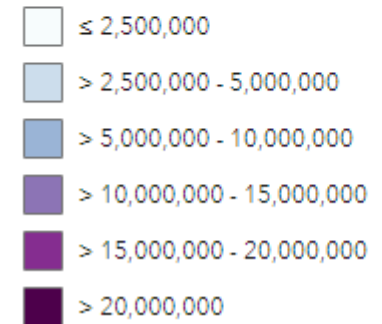
Transport

Public EV Charge Points



Transport

Annual Consumption per LSOA (kWh)





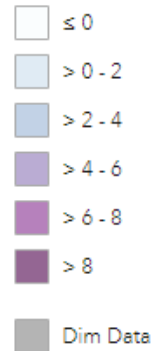
Seilwaith

Infrastructure

Gofod Ar Gyfer Galw

Gofod Ar Gyfer Galw Fesul Ardal Gynnyrch Ehangach Haen Ganol

MW



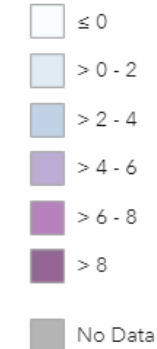
Uchafswm o ran y Galw

Mae'r uchafswm o ran y galw yn dangos y capasiti sydd ar gael i gysylltu datblygiadau newydd, pypiau gwres a cherbydau trydan. Mae'r lliwiau tywyllach yn dangos lle mae mwy o gapasiti ar gael

Demand Headroom

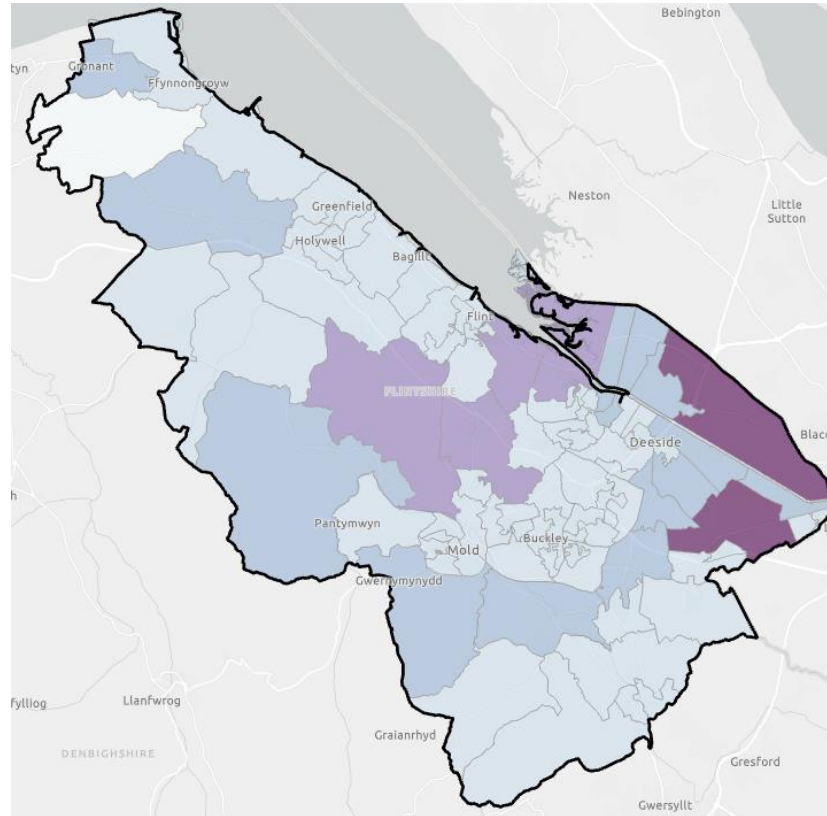
Demand Headroom per LSOA

MW



Demand Headroom

The demand headroom shows the capacity available for new developments, heat pumps and EV to connect, the darker colours show where there is more available capacity





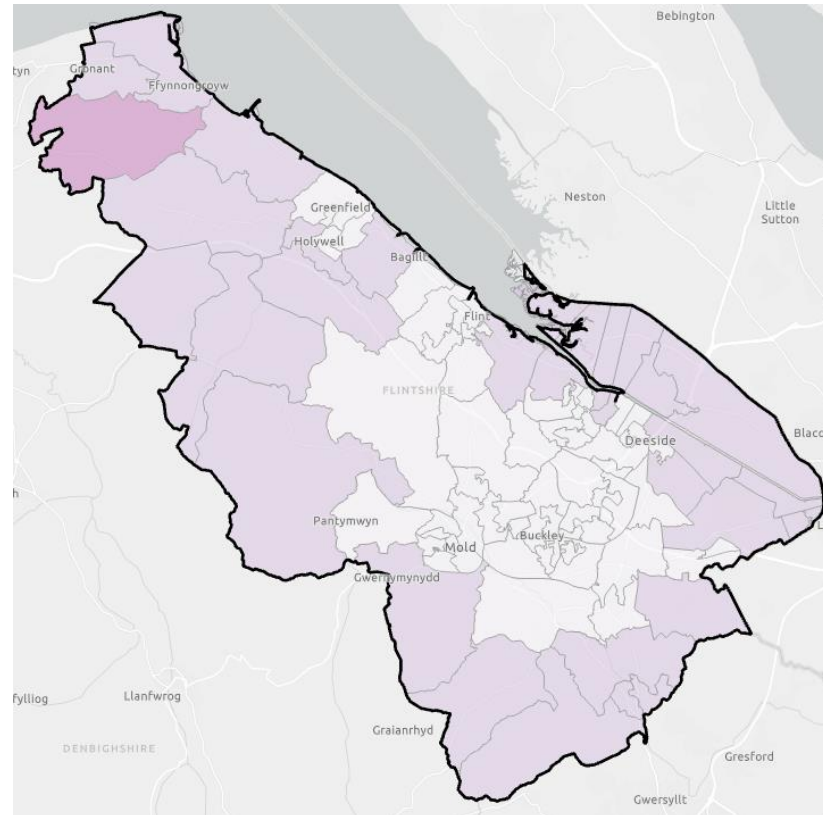
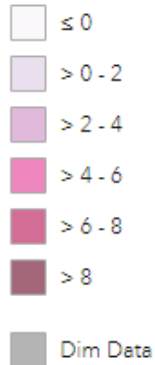
Seilwaith

Infrastructure

Gofod I Gynhyrchu

Gofod I Gynhyrchu Fesul Ardal Gynnyrch Ehangach Haen Ganol

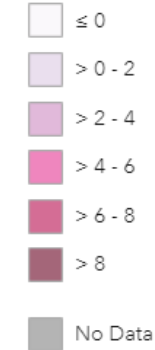
MW



Generation Headroom

Generation Headroom per LSOA

MW



Uchafswm Cynhyrchu

Mae'r uchafswm cynhyrchu yn dangos yr ardaloedd lle mae capasiti ar gael i gysylltu ynni adnewyddadwy. Mae'r lliwiau tywyllach yn dangos lle mae mwy o gapasiti ar gael

Generation Headroom

The generation headroom shows areas where there is available capacity for renewables to connect, the darker colours show where there is more available capacity



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Opsiynau strategol

Strategic options



Adolygiad sylfaenol o'r system ynni



- Y cyd-destun economaidd-gymdeithasol
- Effeithlonrwydd ynni'r stoc adeiladau bresennol

- Gofynion domestig ac annomestig adeiladu
- Gofynion diwydiannol
- Gofynion trafndiaeth

- Seilwaith trydan
- Rhwydweithiau gwresogi
- Cynhyrchu ynni'n lleol

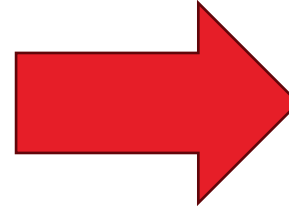
Energy system baseline review



- Socioeconomic context
- Existing building stock energy efficiency

- Domestic & non-domestic building demands
- Industrial demands
- Transport demands

- Electricity infrastructure
- Heat networks
- Local energy generation



Dadansoddi'r system ynni yn y dyfodol



- Y cyd-destun economaidd-gymdeithasol yn y dyfodol

- Gofynion domestig ac annomestig adeiladu yn y dyfodol
- Gofynion diwydiannol yn y dyfodol
- Gofynion trafndiaeth yn y dyfodol

- Uwchraddio seilwaith trydan yn y dyfodol
- Rhwydweithiau gwresogi yn y dyfodol
- Cynhyrchu ynni'n lleol yn y dyfodol
- Rhwydweithiau hydrogen yn y dyfodol

Future energy system analysis



- Future socioeconomic context

- Future domestic & non-domestic building demands
- Future industrial demands
- Future transport demands

- Future electricity infrastructure upgrades
- Future heat networks
- Future local energy generation
- Future hydrogen networks



Grŵp trafod y galw

Opsiynau strategol posibl

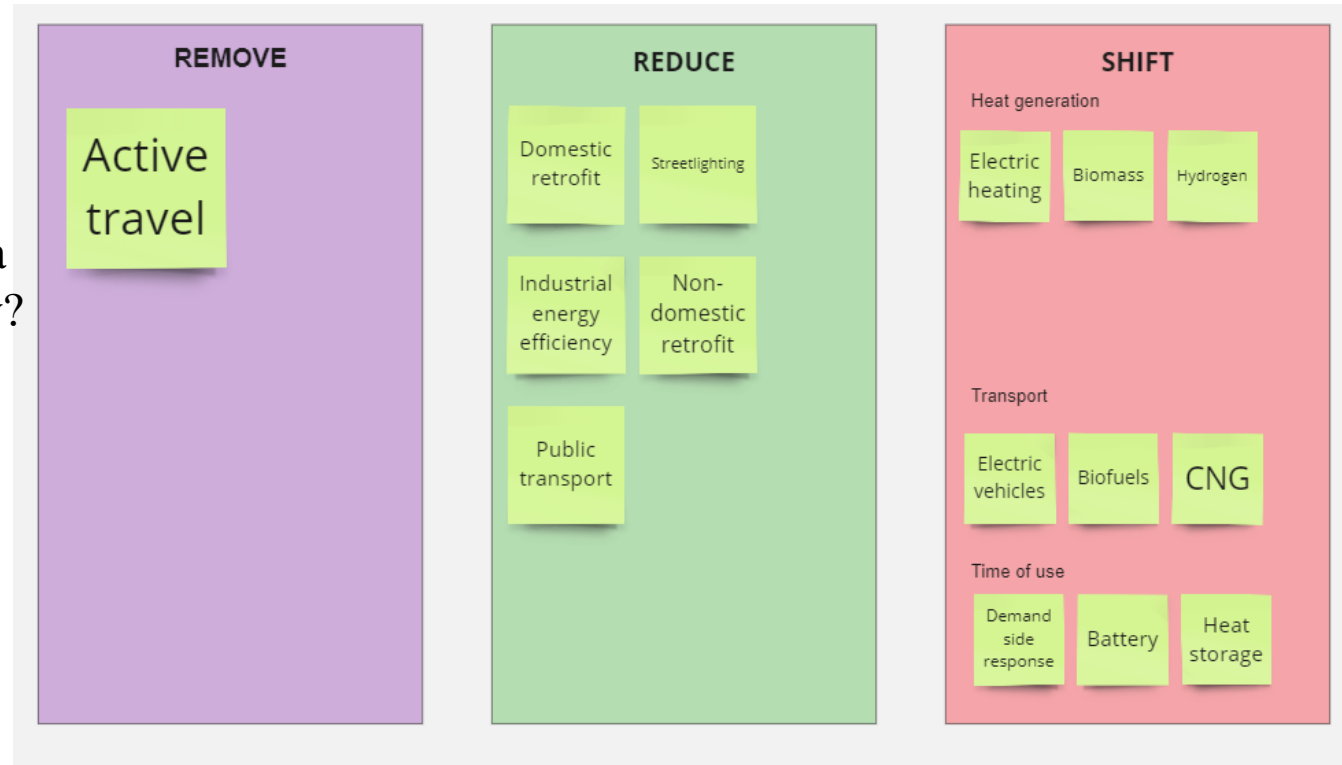
Demand breakout

Potential strategic options

Pa rai o'r rhain sy'n fwyaf perthnasol i Sir y Fflint?
 A oes unrhyw beth ar goll a fyddai'n effeithio ar y galw?
 Pa brosiectau sydd ar y gweill / sydd wedi'u hymrwymo?

Beth yw'r opsiynau a allai gyfrannu at newid yn y galw lleol o bob rhan o'r system ynni?

- Camau cyflym ymlaen
- Dim llawer o ofid
- Tymor hwy



Which of these are most relevant for Flintshire?
 Is there anything missing that would impact demand?
 What projects are underway / committed?

What are the options that could contribute to a change in local demand from across the energy system?

- Quick wins
- Low regrets
- Longer term



Grŵp trafod cynhyrchu / seilwaith

Opsiynau strategol posibl

Generation / infrastructure breakout

Potential strategic options

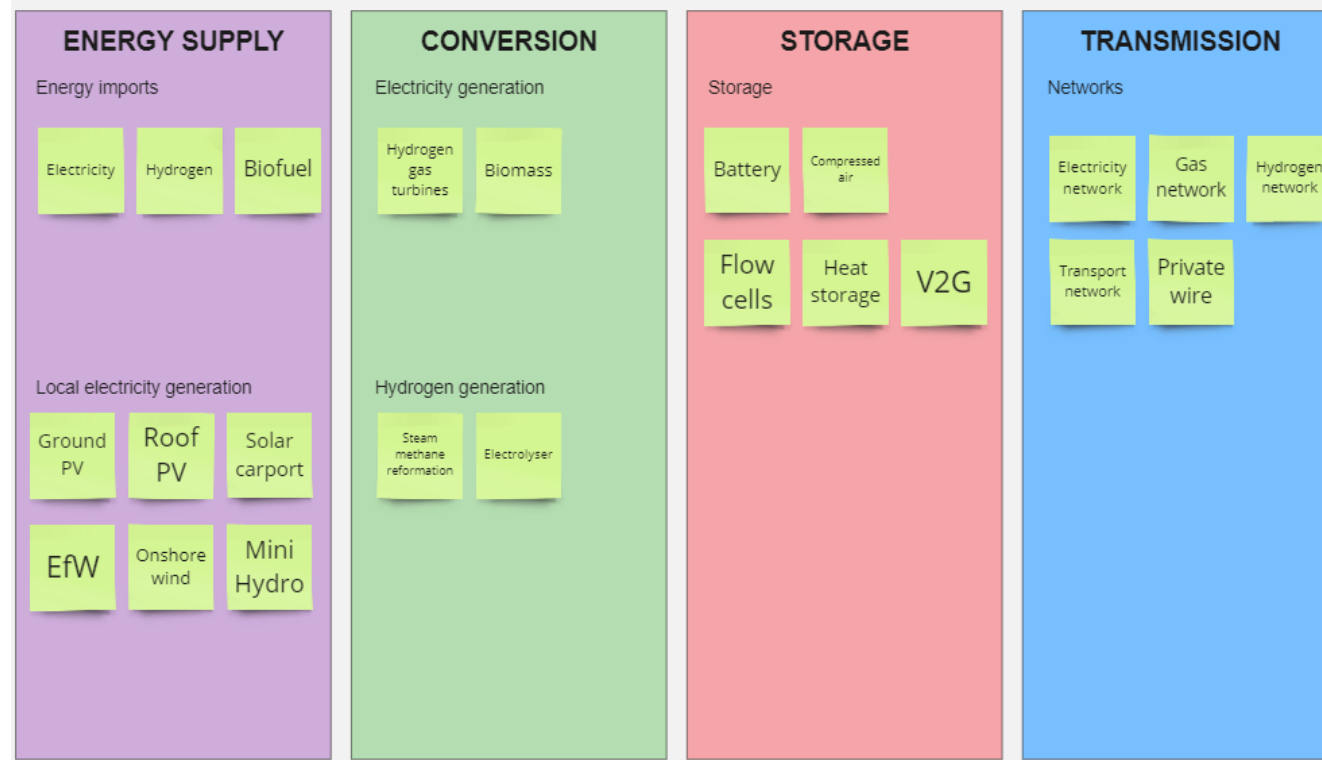
Pa rai o'r rhain sy'n fwyaf perthnasol i Sir y Fflint?

Paes yna unrhyw beth ar y goll?

Pa brosiectau sydd ar y gweill / sydd wedi'u hymrwymo?

Beth yw'r opsiynau a allai gyfrannu at newid yn y seilwaith / cynhyrchu lleol o bob rhan o'r system ynni?

- Camau cyflym ymlaen
- Dim llawer o ofid
- Tymor hwy



Which of these are most relevant for Flintshire?

Is there anything missing?

What projects are underway / committed?

What are the options that could contribute to a change in local generation / infrastructure from across the energy system?

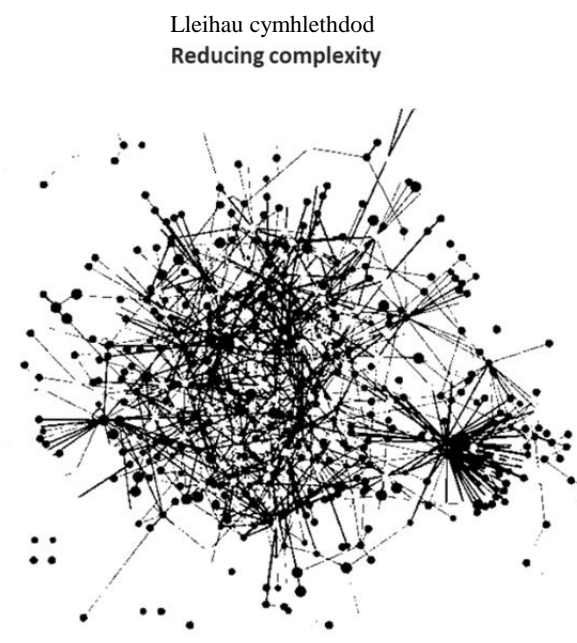
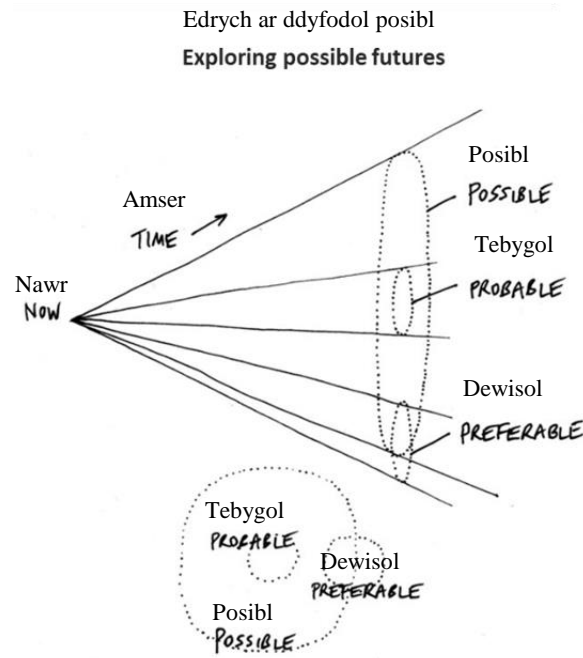
- Quick wins
- Low regrets
- Longer term



Pam ydyn ni'n defnyddio senarios?

- Allwn ni ddim rhagweld y dyfodol
- Rydyn ni'n defnyddio senarios i archwilio gwahanol opsiynau posibl yn y dyfodol
- Mae profi'r rhain yn ein helpu i ddeall effaith y mathau hyn o ddyfodol
- Yna gallwn ddatblygu cynlluniau cadarn sy'n ystyried yr ansicrwydd y gwyddom sy'n bodoli

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- We can't predict the future
- We use scenarios to explore different potential futures
- Testing these help us to understand the impact of these futures
- We can then develop robust plans that take into account the uncertainty that we know exists



Beth yw senarios?

What are scenarios?

Senarios

*Profi gwahanol fathau o ddyfodol
(e.e. gwahanol fathau o alw,
mathau o danwydd)*

Scenarios

*Testing different futures (e.g.
different demands, fuel types)*

Sensitifrwydd

*Profi ffactorau critigol yn y senario
mwyaf ansicr (e.e. costau)*

Sensitivities

*Testing critical factors in the most
uncertain scenario (e.g. costs)*

Modelau optimeiddio

*Y set “orau” o atebion i gyrraedd
sero net ym mhob senario*

Optimisation modelling

*“Best” set of solutions to get to net
zero in each scenario*

Gweithdy i randdeiliaid

*Trafod sut mae cyrraedd y set hon o
atebion – llwybrau a chamau
gweithredu*

Stakeholder workshop

*Discuss how to get to this set of
solutions – pathways and actions*

Senarios ar gyfer modelu

Beth rydyn ni'n ceisio ei wneud

Mae ein gwaith modelu wedi'i ddylunio i ateb cwestiynau penodol fel:

- Faint o gynhyrchu lleol sydd ei angen arnom? A oes angen i ni sicrhau'r swm gorau o ynni adnewyddadwy ym mhob senario?
- Faint o le storio lleol sydd ei angen arnom? Sut dylid dosbarthu hyn?
- Faint o alw am ynni y gall fod ei angen arnom mewn gwahanol senarios?
- Faint o hydrogen sydd ei angen mewn gwahanol senarios ac a yw hyn yn debygol yn fy ardal leol?
- Faint o fuddsoddiad sydd ei angen mewn seilwaith i gyrraedd sero net?



Scenarios for modelling

What are we trying to achieve

Our modelling is designed to answer specific questions such as:

- How much local generation do we need? Do we need to maximise the amount of renewables in all scenarios?
- How much local storage do we need? How should this be distributed?
- How much dispatchable energy demand could we need in different scenarios
- How much hydrogen is needed in different scenarios and is this likely in my local area?
- How much investment is needed in infrastructure to reach net zero?



Senarios sy'n gyson yn genedlaethol

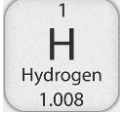





Nationally consistent scenarios

<p>Gwneud dim</p> <p>Page 73 yn ystyried polisi wedi'i ymrwymo (h.y. gwahardd ar feir petrol/diesel, gwahardd ar boeleri nwy)</p>	<p>Sero net cenedlaethol</p> <p>Yn adlewyrchu'r targed sero net ar gyfer Cymru (2050). Ystyried targedau allyriadau canolradd sydd wedi'u pennu gan Lywodraeth Cymru.</p>	<p>Do nothing</p> <p>Considers committed policy (i.e. ban on petrol/diesel cars, ban on gas boilers)</p>	<p>National net zero</p> <p>Reflects net zero target for Wales (2050). Considering intermediate emissions targets set by Welsh Government.</p>
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Sesiwn ar y cyd – trafod senarios

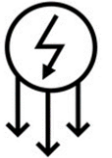
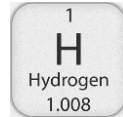
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<p>Hydrogen</p> <p>Yn ystyried mwy o hydrogen na thrydaneiddio – er enghraifft hydrogen ar gyfer cartrefi, trafnidiaeth hydrogen</p> 	<p>Galw isel</p> <p>Yn ystyried y galw isaf posibl (byddai hyn yn cynnwys llawer o ôl-osod, llawer o drosi i deithio llesol, twf isel yn y boblogaeth, ac ati)</p> 
<p>Ynysedig</p> <p>Yn ystyried system nad yw'n mewnforio nac yn allforio trydan, felly mae cydbwysedd rhwng y cynhyrchu a'r galw</p> 	<p>Busnes fel arfer</p> <p>Yn ystyried anghenion lleol a chynlluniau a pholisiau cenedlaethol, gan ragweld sut gallai'r system ynni edrych yn 2050 ar sail tueddiadau cyfredol parhaus</p> 
<p>Sero net 2030</p> <p>Yn ystyried targed sero net 2030, lle mae ardal yr awdurdod lleol yn cyrraedd sero net erbyn 2030</p> 	<p>Galw mawr</p> <p>Yn ystyried y galw mwyaf posibl (byddai hyn yn cynnwys ychydig o ôl-osod, ychydig o drosi i deithio llesol, twf mawr yn y boblogaeth, ac ati)</p> 



Combined session – discuss scenarios

<p>Hydrogen Considers a higher amount of hydrogen than electrification – for instance hydrogen for homes, hydrogen transport</p>	<p>Low demand Considers the lowest potential demand (this would include high retrofit, high conversion to active travel, low population growth, etc)</p>
<p>"Islanded" Considers a system that does not import or export electricity, therefore generation is balanced with demand</p>	<p>Business as usual Considers existing local and national plans and policies, predicting what the energy system could look like in 2050 based on continuing current trends</p>
<p>Net zero 2030 Considers a net zero 2030 target, where the local authority area reaches net zero by 2030</p>	<p>High demand Considers the highest potential demand (this would include low retrofit, low conversion to active travel, high population growth, etc)</p>





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Y camau nesaf

Next steps



Y camau nesaf

Gweithdy heddiw:

- Cam 3 – Gweithdy opsiynau a blaenoriaethau strategol ym mis Mehefin 2023

Page 74

Gweithdai nesaf:

- Cam 5 – Gweithdy blaenoriaethu llwybrau ym mis Medi 2023, i gyflwyno allbynnau'r gwaith modelu a phenderfynu ar lwybrau tymor byr/tymor hir 'dim gofid'
- Cam 6 – Gweithdy camau gweithredu a chyfrifoldebau ym mis Hydref 2023, i gyflwyno blaenoriaethau'r Cynllun Ynni Ardal Leol a chyd-greu'r camau gweithredu lleol sydd eu hangen ar gyfer pob un
- Cam 8 – Adborth ar yr adroddiad drafft ym mis Chwefror 2024, i adolygu'r adroddiad drafft ac i gefnogi'r gwaith o lunio'r map llwybr a'r argymhellion

Next steps

Today's workshop:

- Stage 3 – Strategic options and priorities workshop in July 2023

Next workshops:

- Stage 5 – Pathway prioritisation workshop in September 2023, to present the outputs of the modelling and to determine 'no regrets' short-term/long-term pathways
- Stage 6 – Actions and responsibilities workshop in October 2023, to present the LAEP priorities and co-create the local actions required for each
- Stage 8 – Draft report feedback in Feb 2024, to review draft report and support shaping the routemap and recommendations



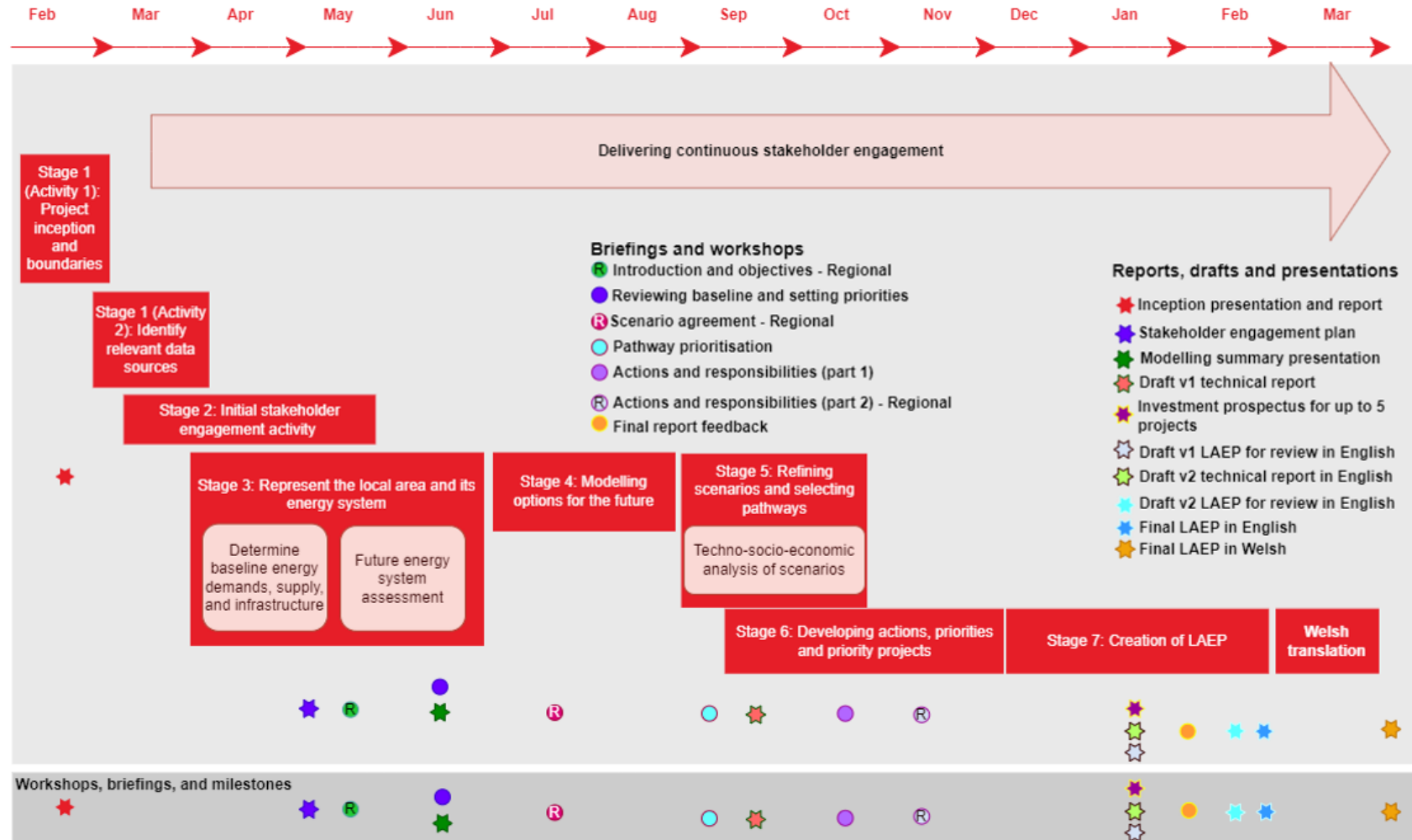
Llywodraeth Cymru
Welsh Government



ARUP

Y camau nesaf

Next steps



ARUP

Bioreactors, in the form of anaerobic digestion systems, are capable of processing plant materials and other food wastes into energy, heating and electricity, which can then be sold off to the national grid as natural gas. It is thought that around 100 million tonnes of organic waste are produced in the UK every year which is suitable for anaerobic digestion systems. If this was to be utilised on a large scale, it holds the potential to generate approximately 10-20 TWh of heat and power. Moreover, the Renewable Energy Association states that if all the UK's domestic food waste was processed by anaerobic digestion, it would be able to generate enough electricity for 350,000 homes. Contextually, the Drax power station, the UK's largest power station, currently produces around 14 TWh using biomass pellets in the form of wood and plant materials. In turn, anaerobic digestion can be used as an effective form of renewable energy.

Feasibility of anaerobic digestion systems in relation to the use of grass cuttings

As of April 2023, there are currently 615 plants that generate a total of 557,931 kWe, with sites existing across Wales. Biogen, for example, have a plant in Denbighshire that generates 1MW of renewable energy from 22,500 tonnes of food waste collected from Flintshire, Denbighshire and Conwy. The Flintshire Biodiversity officer has previously approached Biogen to request the possibility of use of grass cuttings in the facility but was informed that *"this isn't something we would be able to accept into our WAEN site. Grass is not suitable for the AD Process, and should be going to a compost site if possible."*

Recently, there has been a proposal for an anaerobic digestion plant in Flintshire however, lack of any further progress regarding this initial proposal by February 2023 suggests the proposal will not progress to planning application.

Case Studies

It is also important to look at existing case studies surrounding the use of anaerobic digestion systems in order to assess its applicability to Flintshire.

- A 2017 academic paper found that grass cuttings from sport fields “could be a suitable co-substrate in bio-energy generation.”

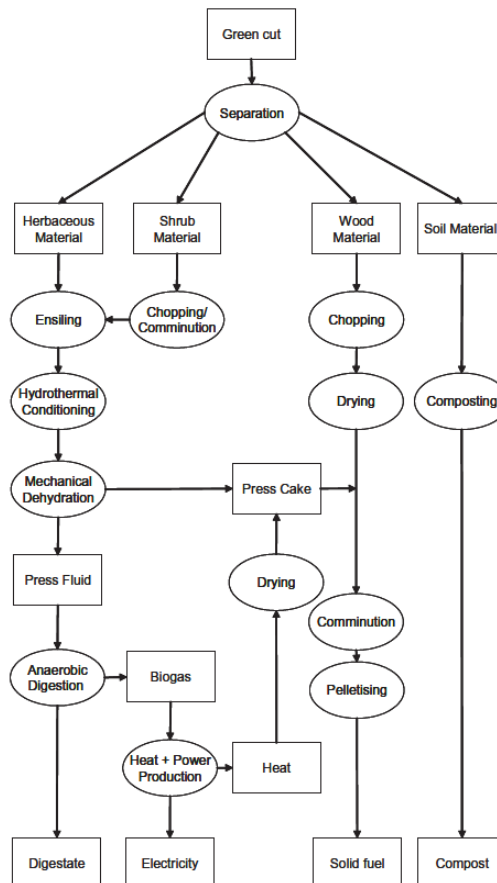


Figure One: Flow chart of separation and processing of green cut material

- Another research paper from the University of Leeds in collaboration with Lincolnshire County Council found that road-verge grass has the potential to be used as a feedstock for anaerobic digestion to produce low carbon energy and to improve the biodiversity of the verges.

The paper concluded, “In the Lincolnshire case study, it was found that there was enough verge grass within transportation distances of 20 km of farm-fed AD plants to replace 6% of the county’s AD feedstock demand. AD operators interviewed were willing to use up to 25% grass in their plants and pay more

than the estimated harvesting cost, suggesting that harvesting may be financially viable without subsidies.”

- Although capable of producing renewable energy, we understand that anaerobic digestion has been informally explored by Denbighshire County Council, with the investigations suggesting that the total costs to create and maintain a site, as well as environmental issues with transporting cuttings may limit the overall effectiveness of an anaerobic digestion system.

The use of biogas that is created in anaerobic systems does release CO₂ into the atmosphere, forming concerns around the ethical use of this type of equipment. However, this can arguably be offset due to the idea that biogas produced will replace fossil fuels when used for heat, power and also for powering transport.

Anaerobic digestion systems are not commonly used as a way of generating energy in the UK, but its renewable potential and application for different substrates may mean it becomes more mainstream. From initial research it does seem feasible that an anaerobic digester may be able to take a proportion of grass cuttings alongside other non grass waste but that the facility would need to be built with this substrate in mind. Further more detailed research would be required.

References

An assessment of road-verge grass as a feedstock for farm-fed anaerobic digestion plants: <https://www.sciencedirect.com/science/article/pii/S0961953420301045>

Using Grass Cuttings from Sports Fields for Anaerobic Digestion and Combustion: <https://www.mdpi.com/1996-1073/10/3/388>

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CLIMATE CHANGE COMMITTEE

Date of Meeting	18 July 2023
Report Subject	The planning policy context to help facilitate renewable energy development and carbon reduction
Cabinet Member	Lead Member for Climate Change
Report Author	Service Manager Strategy
Type of Report	Strategic

EXECUTIVE SUMMARY

In future Wales The National Plan 2040, the Welsh Government consider that Wales is abundant in opportunities to generate renewable energy and they are committed to maximising this potential. Generating renewable energy is a key part of the commitment to decarbonisation and tackling the climate emergency.

The National Plan contains policies 17 and 18 specifically, that promote the development of renewable and low carbon energy development at both the national and local scales.



National Planning Guidance as set out in Planning Policy Wales (edition 11) (PPW) then sets the context for the planning system to make its contribution to this agenda, when it states *“the planning system should secure an appropriate mix of energy provision, which maximises benefits to our economy and communities whilst minimising potential environmental and social impacts. This forms part of the Welsh Government’s aim to secure the strongest economic development policies, to underpin growth and prosperity in Wales, recognising the importance of decarbonisation and the sustainable use of natural resources, both as an economic driver and a commitment to sustainable development”*.



PPW also sets the context for how this facilitation role should be transposed into local planning policies, via the Local Development Plan (LDP). Having recently been found sound following Examination, and adopted by the Council, the LDP contains a range of policy interventions that allow this national ambition for renewable energy generation and carbon reduction to be implemented at the local level. Supported by a Renewable Energy Assessment, the LDP policies do not preclude consideration of proposals for any type of renewable generation, but at the same time also focus on what are the more significant and likely forms to be implemented, given the various environmental, spatial, and deliverability considerations involved.

RECOMMENDATIONS

1	That Members note the content of this report and the planning framework available to facilitate renewable energy development and carbon reduction via the planning system.
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REPORT DETAILS

1.00	Explaining the planning policy context for renewable energy and carbon reduction development
1.01	<p>There is a clear commitment in Wales by the Welsh Government to finding deliverable and permanent solutions to mitigate the climate emergency. This includes the generation of renewable and low carbon energy from a range of potential sources to achieve ambitious targets that have been set. These targets specify:</p> <ul style="list-style-type: none"> • For 70% of electricity consumption to be generated from renewable energy by 2030. • For one gigawatt of renewable energy capacity to be locally owned by 2030. • For new renewable energy projects to have at least an element of local ownership from 2020.
1.02	<p>The Welsh Government consider that the planning system has a key role to play in helping to facilitate this type of development and has set out a policy context at the national level via Future Wales the National Plan 2040, to define how this can be achieved. There are a range of policies in the National Plan that aim to promote sustainable development and carbon reduction, but policies 17 and 18 in particular, set the national context in relation to renewable energy and low carbon development:</p> <p> Policy 17 – Renewable and Low Carbon Energy and Associated Infrastructure </p> <p>The Welsh Government strongly supports the principle of developing renewable and low carbon energy from all technologies and at all scales to meet our future energy needs.</p> <p>In determining planning applications for renewable and low carbon energy development, decision-makers must give significant weight to the need to meet Wales' international commitments and our target to generate 70% of consumed electricity by renewable means by 2030 in order to combat the climate emergency.</p> <p>In Pre-Assessed Areas for Wind Energy the Welsh Government has already modelled the likely impact on the landscape and has found them to be capable of accommodating development in an acceptable way. There is a presumption in favour of large-scale wind energy development (including repowering) in these areas, subject to the criteria in policy 18.</p> <p>Applications for large-scale wind and solar will not be permitted in National Parks and Areas of Outstanding Natural Beauty and all proposals should demonstrate that they will not have an unacceptable adverse impact on the environment.</p> <p>Proposals should describe the net benefits the scheme will bring in terms of social, economic, environmental and cultural improvements to local communities.</p> <p>New strategic grid infrastructure for the transmission and distribution of energy should be designed to minimise visual impact on nearby communities. The Welsh Government will work with stakeholders, including National Grid and Distribution Network Operators, to transition to a multi-vector grid network and reduce the barriers to the implementation of new grid infrastructure.</p>

	<p> Policy 18 – Renewable and Low Carbon Energy Developments of National Significance </p> <p>Proposals for renewable and low carbon energy projects (including repowering) qualifying as Developments of National Significance will be permitted subject to policy 17 and the following criteria:</p> <ol style="list-style-type: none"> 1. outside of the Pre-Assessed Areas for wind developments and everywhere for all other technologies, the proposal does not have an unacceptable adverse impact on the surrounding landscape (particularly on the setting of National Parks and Areas of Outstanding Natural Beauty); 2. there are no unacceptable adverse visual impacts on nearby communities and individual dwellings; 3. there are no adverse effects on the integrity of Internationally designated sites (including National Site Network sites and Ramsar sites) and the features for which they have been designated (unless there are no alternative solutions, Imperative Reasons of Overriding Public Interest (IROPI) and appropriate compensatory measures have been secured); 4. there are no unacceptable adverse impacts on national statutory designated sites for nature conservation (and the features for which they have been designated), protected habitats and species; 5. the proposal includes biodiversity enhancement measures to provide a net benefit for biodiversity; 6. there are no unacceptable adverse impacts on statutorily protected built heritage assets; 7. there are no unacceptable adverse impacts by way of shadow flicker, noise, reflected light, air quality or electromagnetic disturbance; 8. there are no unacceptable impacts on the operations of defence facilities and operations (including aviation and radar) or the Mid Wales Low Flying Tactical Training Area (TTA-7T); 9. there are no unacceptable adverse impacts on the transport network through the transportation of components or source fuels during its construction and/or ongoing operation; 10. the proposal includes consideration of the materials needed or generated by the development to ensure the sustainable use and management of resources; 11. there are acceptable provisions relating to the decommissioning of the development at the end of its lifetime, including the removal of infrastructure and effective restoration. <p>The cumulative impacts of existing and consented renewable energy schemes should also be considered.</p>
1.03	<p>Policy 18 deals specifically with larger scale proposals for renewable development where above a generating threshold of 10MW, such proposals would be dealt with directly by the Welsh Government under the Developments of National Significance (DNS) process. Such proposals would typically relate to larger solar farms or wind farms but could also include energy from waste development and district heating proposals for example. The key point is that these policies set the context for both national planning guidance, and policies at the local level to follow.</p>
1.04	<p>National Planning Guidance is set out in Planning Policy Wales (Edition 11) (PPW) and amongst other things this provides guidance on how to transpose the national planning policy framework to the local level. PPW guides how local planning authorities (LPAs) should approach the topic of renewable and low carbon energy development and how this should be captured in locally specific planning policies. Energy in a planning context is considered in section 5 of the guidance.</p>
1.05	<p>A specific requirement of PPW is for LPAs to carry out a Renewable Energy Assessment utilising a Welsh Government toolkit, that aims to assess the potential that exist for renewable generation over a plan period for various sources. The Council uses specialist consultants AECOM to carry out this assessment and this was submitted as part of the LDP evidence base to the Examination of the plan along with accompanying maps. Whilst the assessment reviewed the potential for a range of renewable generation sources, the main potential identified relates to Energy from Waste given the level of existing installed capacity in Flintshire, and the potential for solar farm development where a number of solar areas of search are identified in the LDP and defined by policy EN13.</p>
1.06	<p>A key point for Members to note from the above national planning policy context is that whilst the Welsh Government have set ambitious targets for renewable energy generation by 2030, much of the policy context is ‘supportive of the principle’ or ‘encourages’ rather than ‘requires’ the provision of renewable and low carbon energy in new development. The significance of this is that the LDP policies cannot in effect go beyond these principles to absolutely require these via its policies at the local level, given that as part of the examination of the plan the LDP needs to retain and demonstrate conformity with PPW and the national plan policies.</p>
1.07	<p>In terms of the relevant policies in the LDP, the plan has been found to be sound by the Inspectors following Examination and has been adopted. The</p>

	<p>policies within it therefore are deemed to be compliant with national policy and guidance and are fixed for the duration of the plan period. Any change to policy could only be done if national policy changed and this was sufficient to trigger a review of the plan.</p>												
1.08	<p>The LDP seeks to bring about sustainable development and in doing so has regard to climate change considerations, in terms of the sustainable location of development and means of travel as well as more detailed considerations such as the siting and orientation of development to maximise solar gain. There are a series of policies that help facilitate these principles:</p> <table border="1"> <thead> <tr> <th>Policy</th> <th>Key consideration</th> </tr> </thead> <tbody> <tr> <td>STR4: Principles of Sustainable Development, Design and Placemaking</td> <td>This policy seeks to promote the creation of new sustainable places where criterion vii. Specifically states that <i>'all development should incorporate where possible on-site energy efficiency and renewable energy generation'</i></td> </tr> <tr> <td>STR14: Climate Change and Environmental Protection</td> <td>This policy seeks to mitigate the effects of climate change and criterion v. specifically seeks to do this by <i>'encouraging energy efficient development, environmentally acceptable renewable and zero/low carbon energy generation and combined heat and power and communal/district heating networks'</i></td> </tr> <tr> <td>PC4: Sustainability and Resilience of New Development</td> <td>This policy seeks to locate development sustainably to reduce the impacts of development. It includes at criterion a. that development should be <i>'sustainably located and accessible to non-private car means of travel, so as to reduce carbon emissions'</i>; it also requires at criterion e. that development should <i>'incorporate renewable energy technologies and carbon sinks where appropriate'</i>.</td> </tr> <tr> <td>EN12: New Development and Renewable and Low Carbon Energy Technology</td> <td>This policy states that new development is required to <i>'maximise the potential for renewable or low carbon energy technology'</i>. It does this by setting thresholds for development (100 residential units or 1,000 sqm of commercial/industrial floorspace) and requiring developers to submit an Energy Assessment with their applications to look at the feasibility of incorporating low carbon or renewable energy technology or connecting to nearby renewable or low carbon energy sources or neat networks.</td> </tr> <tr> <td>EN13: Renewable and Low Carbon Energy Development</td> <td>This policy specifies types of renewable development that will be permitted, and defines a set of criteria that any development will need to satisfy to be approved. This</td> </tr> </tbody> </table>	Policy	Key consideration	STR4: Principles of Sustainable Development, Design and Placemaking	This policy seeks to promote the creation of new sustainable places where criterion vii. Specifically states that <i>'all development should incorporate where possible on-site energy efficiency and renewable energy generation'</i>	STR14: Climate Change and Environmental Protection	This policy seeks to mitigate the effects of climate change and criterion v. specifically seeks to do this by <i>'encouraging energy efficient development, environmentally acceptable renewable and zero/low carbon energy generation and combined heat and power and communal/district heating networks'</i>	PC4: Sustainability and Resilience of New Development	This policy seeks to locate development sustainably to reduce the impacts of development. It includes at criterion a. that development should be <i>'sustainably located and accessible to non-private car means of travel, so as to reduce carbon emissions'</i> ; it also requires at criterion e. that development should <i>'incorporate renewable energy technologies and carbon sinks where appropriate'</i> .	EN12: New Development and Renewable and Low Carbon Energy Technology	This policy states that new development is required to <i>'maximise the potential for renewable or low carbon energy technology'</i> . It does this by setting thresholds for development (100 residential units or 1,000 sqm of commercial/industrial floorspace) and requiring developers to submit an Energy Assessment with their applications to look at the feasibility of incorporating low carbon or renewable energy technology or connecting to nearby renewable or low carbon energy sources or neat networks.	EN13: Renewable and Low Carbon Energy Development	This policy specifies types of renewable development that will be permitted, and defines a set of criteria that any development will need to satisfy to be approved. This
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		policy refers to the solar Search Areas identified in the plan.
1.09	<p>Despite the ambitious intentions of Welsh Government in terms of addressing the impacts of climate change, in practical terms there is for example presently no requirement via the planning system for solar panels to be installed on new homes. Also, electric vehicle charging points are only required in national policy at a rate of 10% of all parking spaces for commercial development (Future Wales policy 12 and LDP policy PC5) with no requirement for installation in new homes. To attempt to do so via local policies would have met with objections from developers in terms of not acting reasonably and in line with national policy requirements. There are also practical constraints to this in that the present electrical supply infrastructure can only facilitate the installation of home chargers of a certain capacity as faster charging speeds would require a significantly greater capacity connection from the mains.</p>	
1.10	<p>As well as some of the limitations on how the planning system can facilitate the provision of renewable and low carbon energy in new development, the way energy efficiency is incorporated into construction is not directly the remit of the planning system. Several years ago, the planning system in Wales sought to address the energy efficiency of new development through a certification process called Code for Sustainable Homes, and an equivalent for non-residential development known as BREEAM. It was a cumbersome and time-consuming process which slowed down the planning system and was not assisted by planning officers lacking the skills to adjudicate on such matters. These matters were therefore subsequently incorporated into Building Regulations. Whilst there is no specific policy or requirement for Passivhaus developments in Wales for example, this does not mean that they cannot be considered as a sustainable form of development and meet the Building Regulation requirements for 'excellent' in terms of energy efficiency. At the small scale, installation of solar panels on individual properties or ground or air source heat pumps do not necessarily require planning consent and would therefore be classed as permitted development.</p>	
1.11	<p>Whilst there are constraints on the planning policy framework as set out above in this report and not every type or source of renewable energy, energy efficient, or low carbon development is specifically covered, there is still a general range of sufficient flexibility within the policies to allow for their positive consideration. This depends on scale, location and context which are covered by the policies in the LDP and allow for each case to be considered on its individual merits.</p>	

2.00	RESOURCE IMPLICATIONS
2.01	<p>The adopted LDP provides guidance to Development Management, Members of Planning Committee, plan users and developers, and third parties in terms of what development can take place where and in what circumstances. An adopted plan also facilitates an efficient development management process.</p>

3.00	IMPACT ASSESSMENT AND RISK MANAGEMENT
3.01	The LDP was subject to a comprehensive sustainability appraisal and strategic environmental assessment which were part of the evidence base considered at the Examination. Its renewable energy policies were also informed by the completion of a Renewable Energy assessment in line with the requirements of PPW.

4.00	CONSULTATIONS REQUIRED/CARRIED OUT
4.01	N/A

5.00	APPENDICES
5.01	None

6.00	LIST OF ACCESSIBLE BACKGROUND DOCUMENTS
6.01	These are all contained within the body of the report.

7.00	CONTACT OFFICER DETAILS
7.01	Contact Officer: Andy Roberts, Service Manager Strategy Telephone: 01352703211/07920701241 E-mail: andy.roberts@flintshire.gov.uk

8.00	GLOSSARY OF TERMS These are provided corporately on the Infonet (link) and maintained by the Executive Office
8.01	

Title: Update on Hydrogen Hub
Briefing for Climate Change Committee
Date: Tuesday, 18th July 2023

Background

One of the projects being delivered as part of the Low Carbon Energy Programme for the North Wales Growth Deal is the development of the hydrogen hub. The intention is that the programme will unlock the benefits of developing low carbon energy projects within the region, positioning North Wales as a leading location for the low carbon energy sector.

Our region's unique characteristics and natural resources offer the potential to develop projects that create new jobs, reduce carbon emissions, and contribute to achieving net-zero by 2050. The Growth Deal has allocated £86 million to this programme, with additional investment of £441 million envisaged from mixed public and private sources.

The hydrogen hub project aims to help kickstart the low carbon hydrogen economy in North Wales by supporting and delivering a hydrogen hub. The hub will include the supply and use of hydrogen, with up to £11.2m Growth Deal capital going towards enabling demand, converting today's fossil-fuelled organisations into hydrogen customers of tomorrow.

An early market engagement exercise was undertaken in June-July 2022, whose purpose was to assess the market's appetite, capacity and capability to deliver the project in partnership with Ambition North Wales.

The responses to the early market engagement have helped to develop the project and design a competitive process for bringing on board an organisation to deliver the project and develop the business case. The responses revealed that several companies are already carrying out their own analysis of potential locations for a hydrogen production/storage facility using mapping technology to create a heat map for hydrogen to identify demand, transport, renewable energy availability, industrial demand, electricity infrastructure and other variables.

Industrial clusters that offer the opportunity to identify and secure early demand would be of potential interest and in particular, areas of land close to solar, offshore wind or hydropower that enable direct connection to renewable assets could be of significant interest, as would the availability of sufficient water resources, grid connectivity and a good road network (A roads preferred) for access to customers and distribution. Sites offering planning advantages, such as brownfield, vacant and derelict sites and not in very close proximity to residential property would be of benefit to the market. The proximity of major transport or industrial off-takers would be advantageous and sites that have good access to future large-scale potential consumers of hydrogen such as marine, aviation, and industrial demand will also add interest.

Next Steps:

Ambition North Wales has now launched a competitive bidding process, known as the hydrogen sponsor challenge, which seeks to appoint an organisation (or organisations) to develop the business case for a hydrogen hub in North Wales. The competition is live on the website now - [Ambition North Wales | Hydrogen Sponsor Challenge](#) and applications close in September 2023, so bidders will have nearly three months to prepare and submit an application. The successful bidder will also support the deployment of low carbon hydrogen to kickstart the hydrogen economy in the region and achieve the low carbon energy programme's targets of investment, jobs, GVA and carbon reduction. The competition will run over the summer with the application window closing on 11th September 2023 with the outcome of bids expected subsequently and a recommendation to the Economic Ambition Board scheduled for December 2023.

Glossary

GVA = In economics, gross value added is the measure of the value of goods and services produced in an area, industry or sector of an economy. While GDP measures the total value of products and services a country manufactures or delivers, GVA measures the value added to product to enhance their worth.

Off-takers = this is the party who buys the product being produced by the project or who uses the services being sold by the project (for example electricity, hydrogen or a pipeline).

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CLIMATE CHANGE COMMITTEE FORWARD WORK PROGRAMME

Date of meeting	Subject	Purpose of Item	Responsible/Contact	Actions
25th Jan 2023	Climate Change Programme Overview and Progress	To receive an update from the Programme Manager – Climate Change & Carbon Reduction	Alex Ellis – Programme Manager	
Page 89	Motion – Carbon Footprint of Homeworking	<ol style="list-style-type: none"> 1. To recommend that Cabinet reviewed the Home Working Policy, establishing a coherent and climate-informed framework for the council. 2. To recommend to Cabinet that a study was commissioned in respect of total net emissions from homeworking, in the form of a survey of Flintshire staff as per Welsh Government guidance 3. To recommend that as an interim measure pending the completion of a review of the climate evidence, the council should allow anyone who wished to work from the office in Winter to do so, particularly considering rising heating costs, and 4. To instruct the Chair to write to the Welsh Government’s Climate Change Minister requesting that a mechanism that accurately reflected seasonal variation in net homeworking emissions was included in the guidance for 	Cllr Ibbotson	Recommendations to be forwarded to Cabinet.

Date of meeting	Subject	Purpose of Item	Responsible/Contact	Actions
		<p>assessing emissions, such that the council was not penalised for taking steps to reduce total emissions at the expense of those that show on its own figures.</p>		
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Page 90</p>	<p>Motion – Print free Council</p>	<p>The Committee recommended to Cabinet that a policy be implemented across all departments setting out that printing should only be considered where:</p> <ul style="list-style-type: none"> ● There is a statutory requirement to provide information in printed form. ● A disabled staff member or service user requires material in printed form because they are disabled. ● A staff member or service user required material in printed form because they are digitally excluded. ● The relevant Chief Officer had directed that a paper backup of the document was necessary for service resilience, or ● For the purposes of advertising a service or change in service to the public; and ● That all paper, toners, inks and consumables procured be 	<p>Cllr Rose</p>	<p>Recommendations to be forwarded to Cabinet.</p>

Date of meeting	Subject	Purpose of Item	Responsible/Contact	Actions
		<p>made of recycled materials and recycled after use.</p> <ul style="list-style-type: none"> • The committee also called on the Cabinet to initiate an efficiency review of the current stock of printers owned or operated by the council with a view to rationalising these to the minimum strictly necessary. 		
Page 91	Motion – Columbaria in Flintshire Managed Cemeteries – Environmentally Friendly Bereavement Services	<ol style="list-style-type: none"> 1. To recommend to Cabinet and the Environment & Economy Scrutiny Committee that Flintshire County Council offer Columbaria as an option for residents as part of its suite of bereavement and burial services. 2. To recommend to Cabinet and the Environment & Economy Scrutiny Committee that Flintshire County Council explore the viability of offering other environmentally friendly burial options, such as Resomation, in the longer term 	Cllr Swash	Recommendations to be forwarded to Cabinet.
	Motion – Flood Resilience and Adaptation	<ol style="list-style-type: none"> 1. That the inquiry be established by the Committee on the basis set out as outlined in the motion 	Cllr Ibbotson	That the Chair of the Committee progress the recommendations above.

Date of meeting	Subject	Purpose of Item	Responsible/Contact	Actions
		2. That provision is made for an oral evidence session, including a venue, in either April or May.		
Page 92	Motion – Clwyd Pension Fund Divestment - 1	1. That the Committee commissions an inquiry into the climate performance and targets of the Clwyd Pension Fund. 2. That this inquiry shall take written and oral evidence as set out in section 3. 3. That the inquiry will report back to the committee at the July meeting.	Cllr Ibbotson	That the Chair of the Committee progress the recommendations above.
Tues 28th March	Climate Change Programme Review	To review and approve the areas of focus within the programme for the coming year.	Alex Ellis, Programme Manager	
	Policy on EV charging infrastructure for off street parking	That the Cabinet Member for Streetscene be asked to report to this Committee and the Environment & Economy Committee on the feasibility of offering the installation of cable ducts between houses and the street to enable owners of electric	Cllr Ibbotson	Recommendations to be forwarded to Cabinet

Date of meeting	Subject	Purpose of Item	Responsible/Contact	Actions
		vehicles without off street parking to safely run cables across pavements, with the cost of these to be met by the resident in the same way as dropped kerb installations. To ask the Cabinet to adopt a policy of enabling all council tenants to have install, or have installed on request, electric vehicle charging points at home.		
Page 93	Hydro power and Milwr Tunnel	Cllrs Healey & Bithell to lead discussion on Milwr tunnel and the potential of hydro power within Flintshire.	Cllr Eastwood	
Tues 23rd May	Thermal energy utilising former coal mines	Cllr Allan Marshall to lead discussion on thermal energy and potential within Flintshire.	Cllr Marshall	
	Reaching out to wider community on Climate Change	To discuss content of Communication & Engagement Plan for Programme and agree approach for Committee engagement with young people.	Cllr Healey	
Tues 18th July	Feasibility of bioreactors for grass arisings/food waste		Cllr Rose	

Date of meeting	Subject	Purpose of Item	Responsible/Contact	Actions
	Planning changes to incorporate requirements for Passivhaus/solar/EV charging		Cllr Rose & Cllr Mansell	
	Hydrogen provision and hydrogen fuelled vehicles	Update on where we are with accessing hydrogen and other fossil fuel alternatives, and development of Deeside Hydrogen Hub.	Cllr Eastwood	
Page 94	Renewable energy generation, Alternative renewable energy generation opportunities including wind and solar on Council owned car parks		Cllr Rose	
Sept	Review of catering facilities – mandatory plant based meals		Cllr Rose & Cllr Preece	
	Review of data storage & cloud facilities and zero email standards		Cllr Rose	
	Use of local trades and local products to reduce carbon footprint		Cllr Preece	
	Carbon offsetting – tree planting		Cllr Mansell & Cllr Ibbotson	