

Delivering the Carmarthenshire Local Area Energy Plan (LAEP) through local and regional actions



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APSE Big Energy Summit 2025

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Corporate Joint Committee for
South West Wales



Working Towards Net Zero

February 2019 Carmarthenshire County Council (CCC) declares climate emergency

February 2020 CCC publishes Net Zero Carbon Plan committing the Authority to be a net zero by 2030.

February 2023 City Science appointed with Welsh Government funding to facilitate delivery of LAEPs for Carmarthenshire, Neath Port Talbot and Swansea.



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Carmarthenshire's LAEP

82% of the UK's emissions are “within the scope of influence of local authorities”. UK Gov's 2021 Net Zero Strategy

An ‘action plan’ for local leaders
Local area energy planning: achieving net zero locally – POST

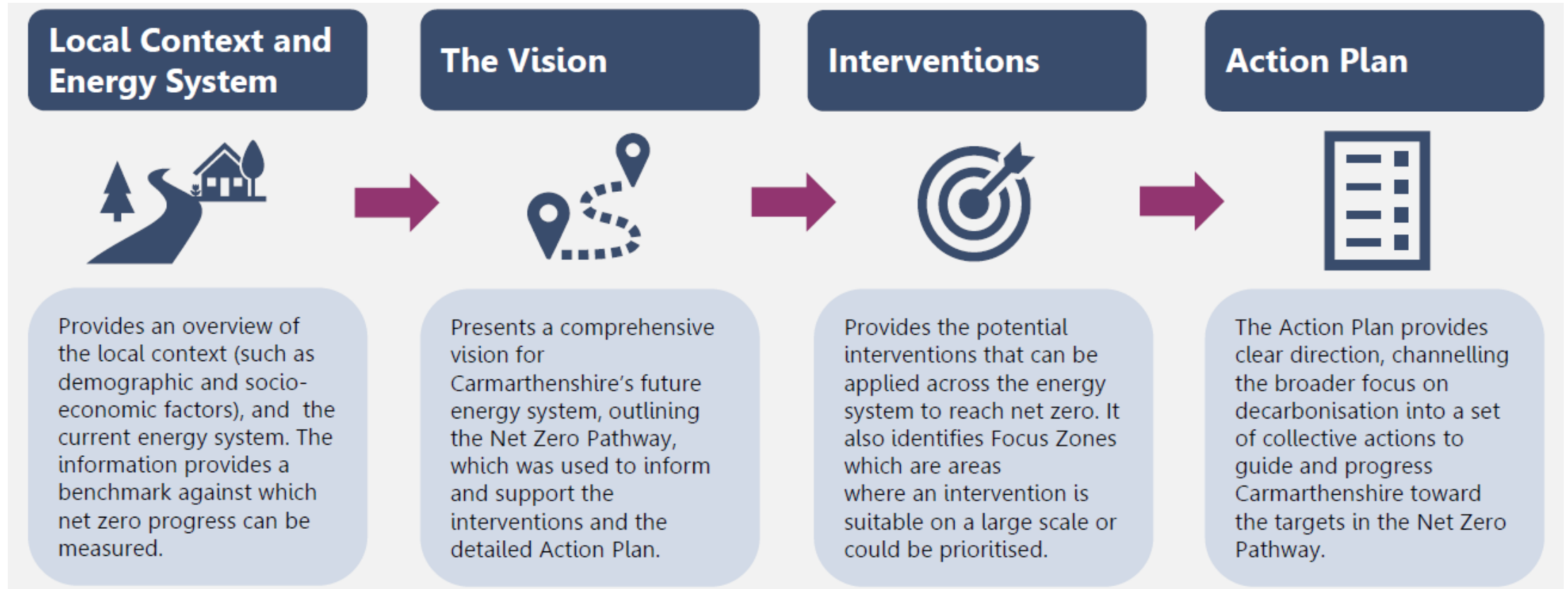
A “fully costed, spatial plan that identifies the change needed to the local energy system and built environment” Local Area Energy Plans - Energy Systems Catapult



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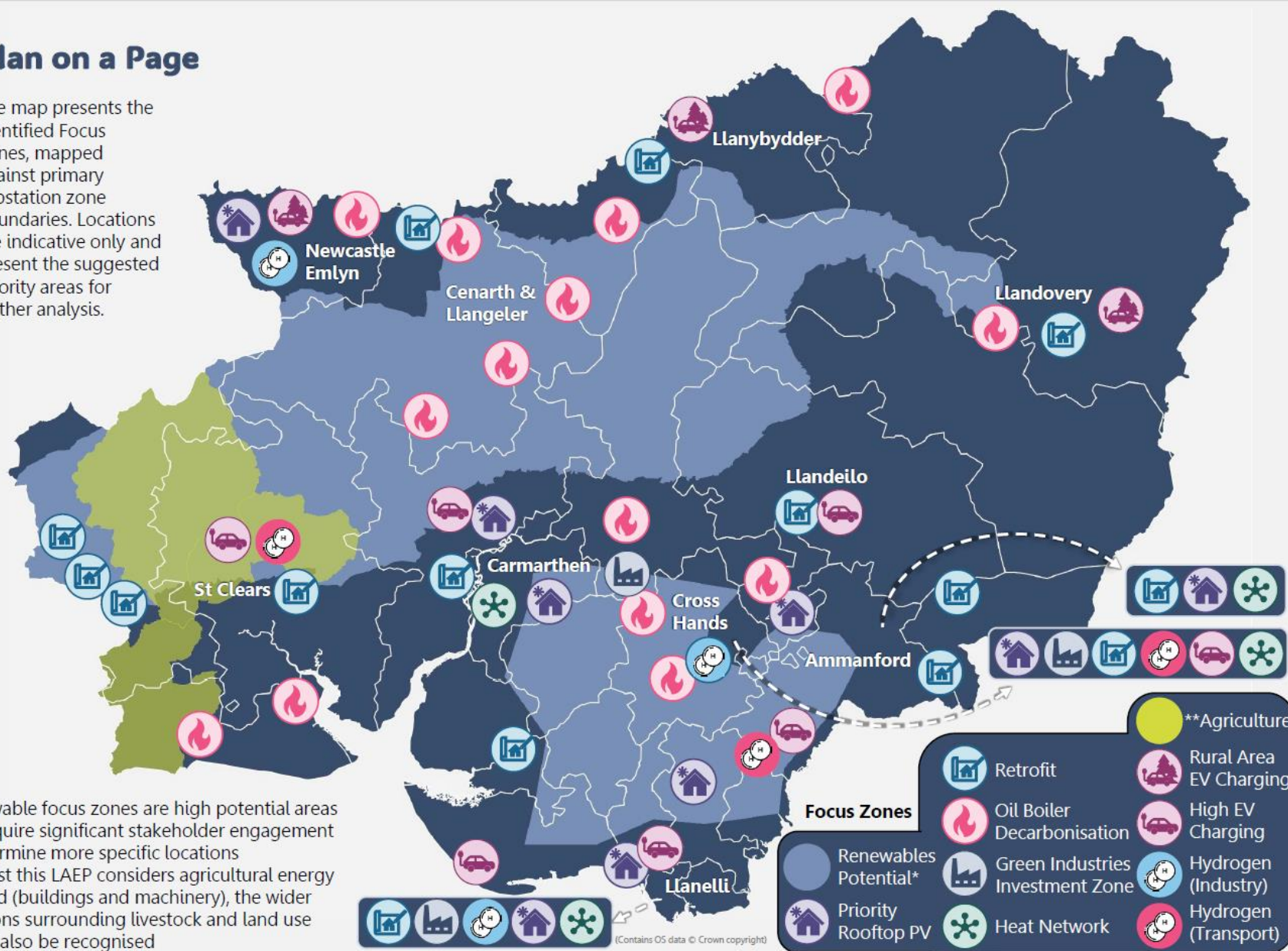


A Benchmark Dataset and a Pathway forward

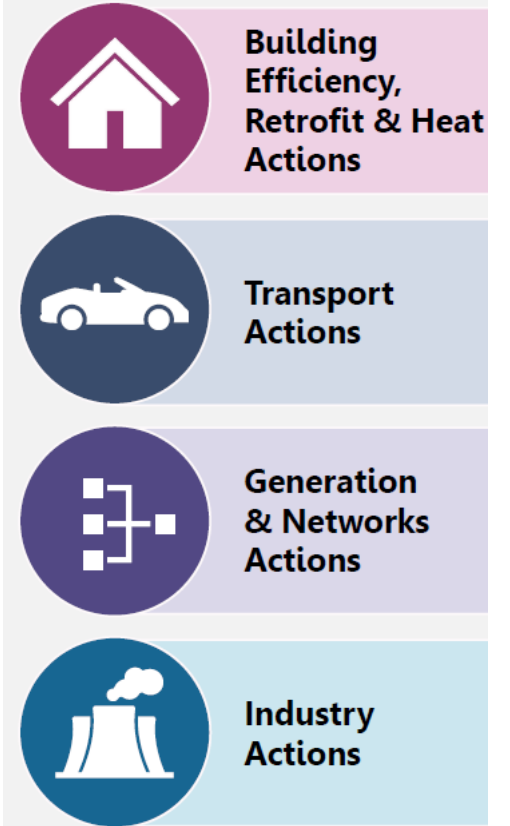


Plan on a Page

The map presents the identified Focus Zones, mapped against primary substation zone boundaries. Locations are indicative only and present the suggested priority areas for further analysis.



LAEP focus zones



*Renewable focus zones are high potential areas and require significant stakeholder engagement to determine more specific locations
 ** Whilst this LAEP considers agricultural energy demand (buildings and machinery), the wider emissions surrounding livestock and land use should also be recognised



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Carmarthenshire LAEP report

Action Plan Overview



Crosscutting Enabling Actions

Actions that foster a supportive environment and promote a holistic approach to addressing complex challenges. The actions enable Carmarthenshire to navigate energy transition challenges and embrace a low carbon future.



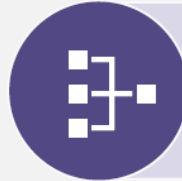
Building Efficiency, Retrofit & Heat Actions

Actions that enable the delivery of building efficiency, retrofit and heating interventions. The actions address the decarbonisation of the building stock and position Carmarthenshire to facilitate decarbonisation benefits for residents.



Transport Actions

Actions that support transport decarbonisation and the Sustainable Transport Hierarchy. The actions encourage the reduction dependence on personal motorised vehicles, fostering a greener and more accessible transportation landscape.



Generation & Networks Actions

Actions that underscore a commitment to a future-proofed energy system. The county aims to leverage expertise and resources to fortify infrastructure, reduce peak demand and plan for a hydrogen future.



Industry Actions

Actions that support the decarbonisation of industry. Carmarthenshire aims to advance energy-related opportunities, drive innovation, nurture growth, and accelerate the transition to a decarbonised industrial landscape.

Action 1: Establish a Regional LAEP Steering Group



Action 2: Support Long-Term Green Skills Programme



Action 3: Embed LAEP Learnings into Wider Processes & Communications



Action 4: Create a Retrofit & Low Carbon Heating Behaviour Change Campaign



Action 5: Implement a Retrofit & Heat Bulk Purchasing Scheme for Social Housing

Action 6: Development of a Retrofit and Low Carbon Heating Local Supply Chain

Action 7: Improve the Accessibility of EV Charging Infrastructure



Action 8: Facilitate Low & Zero Carbon Vehicle Public Fleet Uptake

Action 9: Enhance Active Travel & Public Transport



Action 10: Continue Collaboration with Electricity & Gas Network Operators



Action 11: Address Future Needs of Hydrogen-Fuelled Vehicles

Action 12: Establish an Industry Engagement Forum



Action 13: Support the Green Industries Investment Zone

----- Actions intended for regional implementation Priority for mobilisation



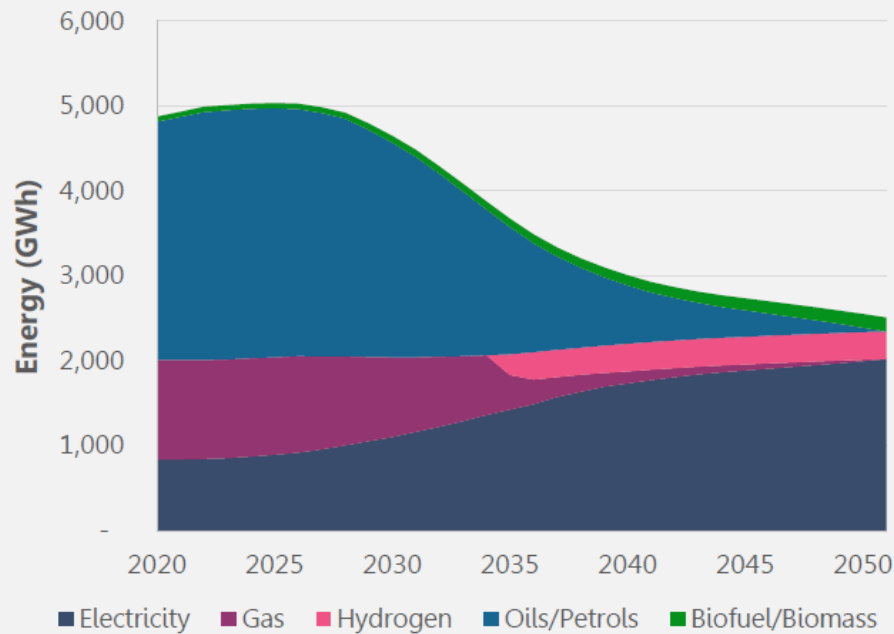
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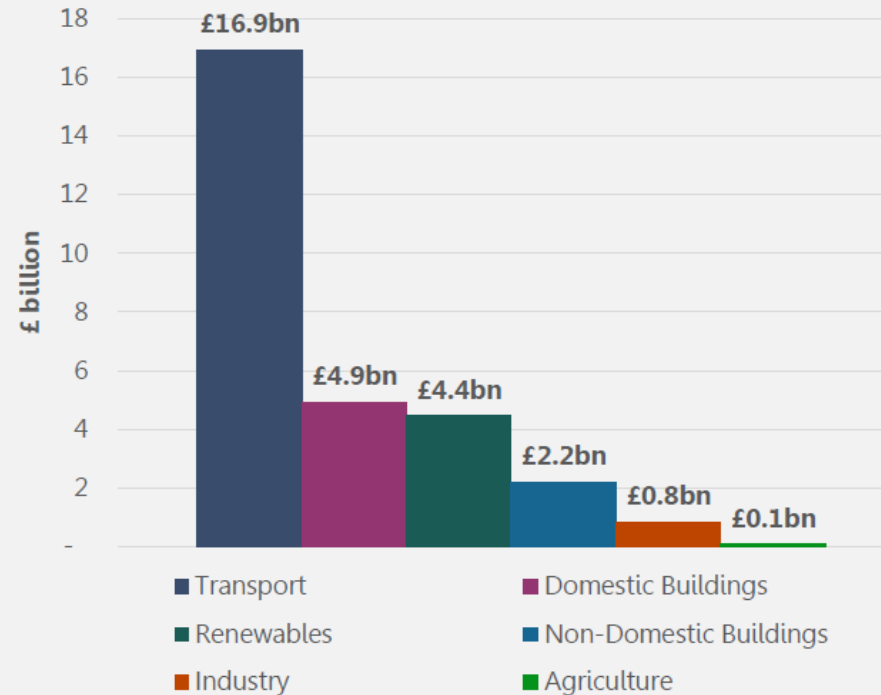


The energy and financial impact of the LAEP

Widespread Engagement: Total Energy Consumption



Widespread Engagement: Total Sector Cost



Widespread Engagement scenario is estimated to cost an additional 22% relative to Do Nothing.

This is equivalent to £5.3bn.

The transport sector has the highest cost due to the volume of new vehicles.



Regional Working

- Regional Team appointed – funded by Welsh Government covering Carmarthenshire, Neath Port Talbot, Pembrokeshire and Swansea
- Regional Steering Group established – LAs and stakeholders
- LAEPs accepted as the mechanism for delivering Regional Energy Strategy (2019)



Regional Actions – review and prioritisation



Action 1: Establish a Regional LAEP Steering Group

Action 2: Support a Long-Term Green Skills Programme

Action 3: Embed LAEP Learnings into Wider Processes & Communications



Action 8: Low & Zero Carbon Vehicle Public Fleet Uptake

Action 9: Enhance Active Travel & Public Transport



Action 10: Strengthen Collaboration with National Grid

Action 11: Address Future Needs of Hydrogen-Fuelled Vehicles



Action 14: Establish an Industry Engagement Forum

Domestic Building Efficiency, Retrofit & Heat Actions

- Create Behaviour Change Campaign to Increase Uptake of Retrofit and Low Carbon Heating
- Implement a Retrofit & Heat Bulk Purchasing Scheme to Decarbonise Social Housing
- Support the Development of a Retrofit and Low Carbon Heating Local Supply Chain to Enable the Delivery of Decarbonisation Measures
- Develop a Retrofit and Low Carbon Heating One Stop Shop Service to Decarbonise Private Residences
- Develop a Fuel Poverty Programme to Support a Just Transition to Net Zero



Development of Regional Projects

3 'pilot' projects to test structure, governance, etc.

1. Behavioural change campaign – Increase uptake of low carbon heating and home energy saving measures by providing home assessments and advice delivered by trusted community partners across the region.
2. Solar Together by iChoosr – A group purchasing scheme to accelerate the uptake of PV generation, battery storage and EV home charging in the region.
3. Cross Boundary EV Charging – Enabling the sharing of local authority EV charging infrastructure with other public sector organisations to accelerate the uptake of EV vehicles within public fleet.



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Challenges of Working Regional

- Governance – CJC governance, 4 sets of LA governance, 4 procurement and legal teams
- Structure – Steering Group/Regional Energy Team reports to CJC Energy Sub-Committee
- Funding – Welsh Government Energy Grants, external grant funds, SWWCJC own budget



Benefits of Regional Working

- Scale - Welsh LAs very often too small to go it alone
- Governance – once stream-lined should reduce administrative workload, harnesses political will of 4 LAs.
- Funding – strategic funding/SPF funding to be delivered through SWWCJC
- Structure – Sharing of knowledge, 4 LAs - one team, ability to support regional projects – i.e. SW Heat Network, proactive engagement from steering group members



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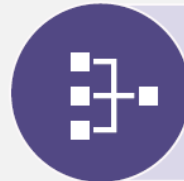
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CARMARTHENSHIRE

3rd Largest County in Wales (2.365 square km's)

Population

c.190,000 (44% of whom speak Welsh)

Environment

Outstanding natural environment including Afon Tywi - longest river wholly within Wales

Economy

Agricultural with pockets of heavy industry (esp. Llanelli)

Schools

108 (95 Primary, 12 Secondary, 1 Special)

Historical

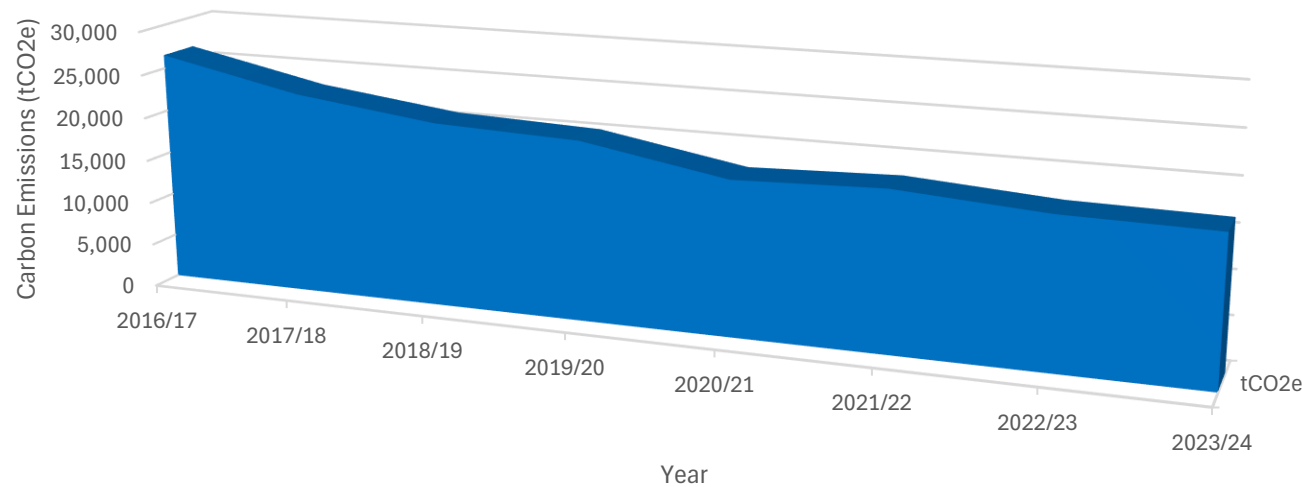
Carmarthen - Wales oldest town (with its own Roman amphitheatre)

Interesting Fact

Caerfyrddin (Carmarthen) – reputed birthplace of Merlin



Moving Towards Net Zero Carbon



2016/17 – 2022/23

-37% tCO₂e

	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
kWh	72,527,266	68,564,902	69,059,743	70,332,391	63,684,340	67,694,145	63,870,252	61,377,960
Miles	9,313,790	9,069,875	8,829,043	9,126,181	6,679,056	6,773,772	7,272,186	8,420,699
tCO₂e	26,542	23,143	21,087	20,477	17,590	18,124	16,984	16,741



Historical context – SALIX Funded Projects

- Completed 200+ projects prior to engagement with RE:Fit Cymru
- Multiple Energy efficiency measures : Lighting, Insulation, Swimming Pool Covers, Garage Speed Doors, Shut-down Software, TRV's etc. across the estate.
- Salix funding – 0% interest loan projects with < 8yr payback.
- Loan repaid by sites via project savings.
- Largest single project by value £0.75 million conversion of Town and Community Council Streetlamps to LED technology.
- For several years running, Carmarthenshire was top of the Wales Salix Investment 'league'.
- * £2.8 M investment saving **44,800** tCO₂e across technology lifetime.
 - * Based on prevailing tariffs, carbon emission factors and anticipated technology lifetime at time of investment



Re:Fit Cymru – Stepping up a Gear



Re:fit Cymru – Stepping up a Gear ...

Phase 1:

- Historically, energy projects had been undertaken in tranches on a single technology basis
Procurement always a challenge: office time, 'sales push' with budget holders, managing contractors to ensure site satisfaction.
- Welsh Government appointment GEP Environmental to assist Welsh Public Sector engagement.
Carmarthenshire were fortunate to be paired with GEP Director Glyn Mountford.
- Wholistic approach incorporating complimentary technologies across 30 sites.
- After 1st year (Aug21-22) total energy savings = **£336,261 & 673.9 tCO₂e/yr.**
- Due to technological advancements some of the measures installed are second generation improvements, replacing measures previously installed under standalone SALIX schemes.
- Worked with Ameresco to engage with as many local / Welsh contractors as possible.
- Highly successful Phase 1 delivered against the backdrop of the COVID Pandemic



The Final Challenge ? Decarbonisation of Heat



Decarbonisation of Heat ... Early Stages

- Awarded Low Carbon Heat Development Grant from Welsh Government.
- Provided 50% (£30k) of cost for feasibility sites for 6 sites.
- 6 sites scoped in effort to have shovel ready projects in anticipation of a follow-on Low Carbon Heat Grant.
- Additional electricity cost prohibitive – influenced our choice of sites.
- DNO advice - grid constraints should not be a significant issue.
- Need for a wholistic package of improvements to address building heat loss and offset increase in electricity consumption.
- Feasibility undertaken by already procured Re:Fit Service Provider, Ameresco.

Low Carbon Heat Capital Grant

- Building on the results of the Feasibility Study, WGES approved our Round 1 application for c. £4 million to replace fossil fuel heating systems at 6 No. Primary Schools.
- Although some building fabric measures were included in the proposals, schools selected were of relatively modern construction.
- To allow for the increase in electrical consumption, we selected schools that were already used to spending high sums on fossil fuels.
- Funding was also set aside to provide complementary solar PV installations to help drive down electrical demand.
- Decarbonisation of heating at 6 primary schools completed during 2024.



Low Carbon Heat Capital Grant / Re:Fit Phase 2

- Completion of Round 1 sites gave us the confidence to tackle a more challenging sites.
- Switched strategy to focus downwards from top energy consuming sites.
- Following the scoping of multiple sites applied for Round 3 funding to decarbonise Carmarthen Leisure Centre.
- Successful application - offered £3m grant by Welsh Government early February 2025.
- Intention to centre this within a much larger portfolio wide Re:Fit energy efficiency / renewables project.
- With aim to achieve a further 3,000 tCO₂e per annum drop in carbon emissions.
- To hit a 50% drop in reported carbon emissions from our 1026/17 base year.

