



Report of the Director of Place

**Equalities & Future Generations Policy Development Committee
25 February 2020**

Energy Strategy Update

1.0 Introduction

Following the Climate Emergency presentation to the Policy Development Committee on 22 October 2019, there was an action to provide an update on the Energy Strategy Action Plan (2016) and seek approval for recommendations.

The Energy Strategy Action Plan was last updated in April 16 and a review to develop and implement a clear route map plan towards moving the council being net carbon zero by 2030 requires urgent updating. However, it is acknowledged that it needs to be flexible to accommodate the Welsh Government Carbon Emissions Reporting requirements, to be introduced by April 20.

2.0 Achievements to Date

The Council has adopted proactive programmes to reduce its carbon emissions over a number of years:

- Significant progress has been achieved completing carbon reduction projects aligned to the Energy Strategy Action Plan (2016) resulting in the carbon emission savings as reportable to the Environment Agency through the Carbon Reduction Commitment (CRC) Energy Efficiency Scheme (see below). See Energy Strategy Action Plan updates (under separate attachment).
- Since 2010 (baseline year), the Council has been a participant under the mandatory UK-wide Carbon Reduction Commitment (CRC) Energy Efficiency Scheme. CRC carbon emission submissions to the Environment Agency since baseline year reported a carbon reduction of 23,154 t/CO₂, financial saving on purchase of carbon allowances of £155,676 (2018/19). (Whilst the Council's emissions have continued to reduce, the level of 'tax' levied for each tonne of carbon emitted increased annually).

The CRC Scheme is being abolished following the 2018/19 compliance year, the Climate Change Levy will be increased to compensate (The Climate Change Levy is a tax on energy delivered (kWh) to non-domestic users and is collected through the energy suppliers bills).

- 21,053 street lights upgraded to LED, reducing carbon emissions year on year by 2,198,608.49kg. CityTouch, Central Management System commissioned to

control the street light output around Swansea ring road (financial and carbon savings). Plans to extend the CityTouch system to Liberty Stadium; LED lighting upgrading on planned schemes.

- Delivering insulation and energy efficiency measures to benefit tenants of our council housing.
- Progressing work towards a world-leading Tidal Lagoon, supporting community owned renewable energy schemes, like SCEES, to deliver clean energy and benefit local schools and community buildings. During 2019, the SCEES Solar PV project (covering 11 schools and 1 care home) generated 356,000 kWh. Additional Solar PV installations at the Guildhall and four schools generated 89,000kwh.
- Electric Vehicle Charge Points infrastructure (Jan 20). Charge point funding secured with Welsh Government Local Transport Fund and Office for Low Vehicles (On Street Residential Charge Point Scheme); 32 charge points and associated recharging bays will be installed in 12 car parks; electricity supplying the pillars are all 100% sustainably sourced.
- Continuing to seek opportunities to add to our corporate fleet of Electric Vehicles, which is already the largest in Wales. Electric vehicle update - Electric Vans (40); Electric car (1).
- Between the reporting periods 2017/18 and 2018/19 a percentage reduction of 4.88% in diesel purchased was achieved through the adoption of new electric vehicles and the renewal cycle of fuel efficient vehicles.
- Building the first council housing in a generation here in Swansea to Passivhaus standard, and begun building new council housing to a super-energy-efficient "Swansea Standard" that will enable all components to be procured locally and reducing emissions using solar battery storage and air source heat pumps.
- **Retrofit: Ffordd Ellen – Craig Cefn Parc:**
The Council is working with the Welsh School of Architecture to retrofit 6 bungalows at Ffordd Ellen, Craig Cefn Parc to include external wall insulation, Ground Source Heat Pumps (GSHP), MVHR's, PV solar roofs and battery storage. The bungalows are currently hugely expensive to heat, but will be transformed into Homes as Power Stations (HAPS) creating substantial energy savings for the tenants.

Work has almost been completed on the project which has included the drilling of bore holes for the GSHP; the PV solar panels have been fitted to all the roofs and the installation of the Tesla storage batteries has finished. The scheme is on date to finish in March and will be closely monitored to determine future retrofit programmes following the recent decarbonisation targets set out by Welsh Government. Training days to showcase the new technologies will be arranged for staff shortly.

- **New Homes 'Swansea Standard' Current Developments:**
Parc Yr Helyg - Birchgrove

The 16 homes consist of a mixture of houses and apartments and have been developed as “Homes as Power Stations” (HAPS) with the installation of innovative renewable technologies such as integrated solar roofs, with battery storage and ground source heat pumps. The properties will not have a traditional gas supply, but will generate, store and then release their own electricity. The built is well under way with several of the buildings now having had the roof structures put on. The road has been formed, bases marked out and laid with the site gathering momentum and is hoping to be finished by March 2020.

Colliers Way 2 - Penplas

The CW2 development of a further 18 homes, again a mixture of houses and apartments; which is adjacent to our first phase; is thanks to the Welsh Government Innovative Housing Programme (IHP2) enabling both of these projects to include innovative renewable technologies to help reduce energy demand thus contributing to our decarbonisation reduction targets as well as benefiting the tenant with lower energy costs. The HAPS scheme will include similar technologies to our other developments and include integrated Solar roofs, battery storage, ground source heat pumps and Multi Ventilation Heat Recovery unit (MVHR). Some groundworks have been completed with the site becoming fully active.

- Winning investment for innovative green technology, such as “Homes as Power Stations”, as part of the City Region Deal.
- Implementing agile working so that our workforce may reduce unnecessary travel.
- The Council procures its energy using Crown Commercial Services Framework Agreements, via the National Procurement Service (NPS), for the vast majority of supplies. All electricity procured via the NPS framework is from 100% renewable energy sources; 41% sourced from Wales (Apr 20 – Mar 21); Gas – Total Gas and Power (TGP) procured as new gas supplier (Apr 21 – Mar 22); Green Gas tariffs - dependant on viability and cost impact; pricing option available with TGP later in the year.
- Procurement have implemented Sustainable Risk Assessment Services to consider environmental impacts as part of contract procedure rules.
- **Refit Low Carbon Programme** - The Council is participating in the Welsh Government supported Re:fit Low Carbon Programme in order to implement energy efficiency saving opportunities in non-domestic buildings. A £1.3 million interest free loan has been secured from Welsh Government Wales Funding Programme (Salix) to deliver a Re:fit Cymru (Energy Efficiency) Phase 1 project comprising over 18 buildings which is projected to save an estimated 400 tCO₂e every year.
- **Solar Farm Projects** - Collaborating with Welsh Government Energy Services on model size scenarios and financial appraisal assumptions towards the development of a Ground Mounted Solar PV farm. The projected finance model is currently being evaluated but by way of an example a 3MW solar farm would provide maximum electricity generation (assuming no downtime) of 3,105,000

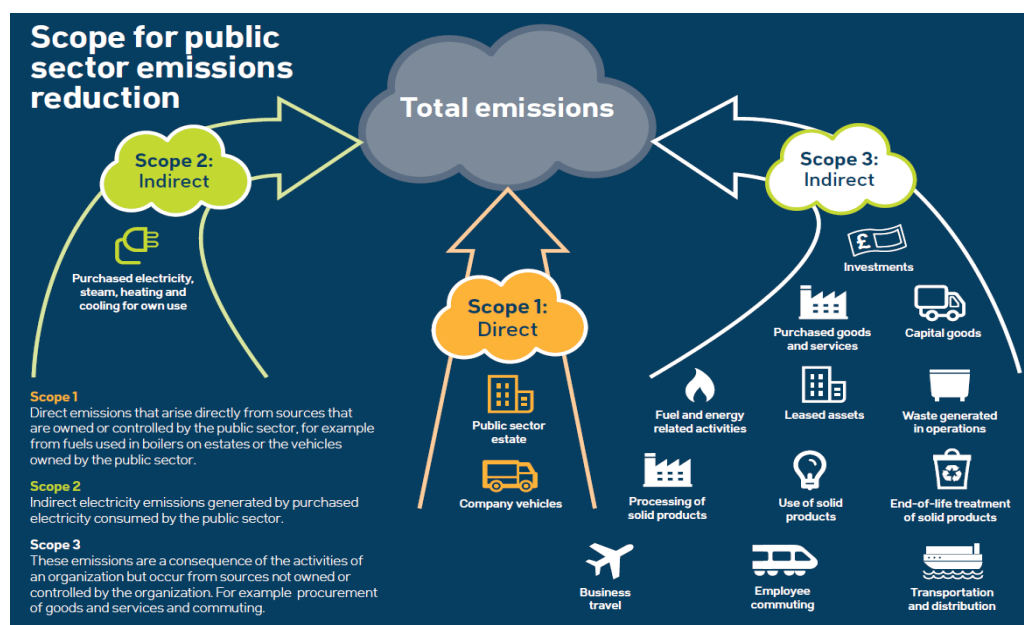
kWh/year, representing a 3.48% carbon emissions reduction against 2018/19 footprint.

3.0 Delivering a Carbon Neutral Estate by 2030

In moving towards a net carbon neutral authority will require the need for whole holistic approach. Key areas that the Council will require to commit to deliver directly include aligning departments with a carbon reporting requirement into its governance, infrastructure, strategies and policies with the proposed 'Draft' Policy & Strategy Review proposal.

4.0 Reporting of Emissions

It is proposed that the updated Energy Strategy Action Plan aligns its carbon emissions reporting with the widely used international reporting tool, the Greenhouse Gases (GHG) Protocol which categories Greenhouse gas emissions into three Scopes as illustrated in the diagram below. It is anticipated that the Welsh Government reporting requirements will follow this route. Reporting of carbon emissions falls within three scopes as illustrated in the diagram



Scope 1 and Scope 2 cover carbon emissions that are presently measured by the Council

- Scope 1: Non-domestic buildings;
- Scope 1: Street lighting;
- Scope 1: Fleet mileage; and,
- Scope 1: Business mileage.
- Scope 2: Indirect emissions

Scope 3 This covers carbon emissions not controlled or owned by the authority and only has powers of influence/ support / engagement to seek the necessary changes and needs to be divided into two elements:

- a. The authority's own work and the wider economy, for example engaging with procurement covering environmental impacts as part of contract of services; housing (i.e. sustainability); collaborating with Welsh Government / working with other public sector organisations (Swansea University / Health Service).
- b. The second element of this strategy is to work with everyone else to achieve a significant Swansea change area wide, for example engaging with Low Carbon Swansea Bay & Swansea Environmental Forum / private sector

The Welsh Government are developing a Welsh Public Sector Net Zero Carbon Reporting Guide to be published in April 20 which will provide greater clarity on reporting requirements under Scope 3.

4.1 Carbon Footprint – Non Domestic

The dataset table below contains baseline sources of energy demand and supply to City and Council of Swansea non domestic buildings and the associated carbon emissions, excluding transport and street lighting. The Council spends in-excess of £5m annually on energy for its non-domestic buildings.

Non Domestic Buildings	2018/19		2017/18	
	kWh	t/CO2	kWh	t/CO2
Gas	62,127,470	11,408	69,810,318	12,832
Electricity	27,011,270	8,234	26,816,220	10,299
Total	89,138,740	19,642	96,626,538	23,131

4.2 Next steps

4.2.1 Energy Strategy Update

As indicated above the current energy strategy was approved by council in 2016 and this report sets out some of the keys areas of progress.

The full existing strategy can be accessed via Appendix A

In addition the original 2016 action plan is included in Appendix B but this has been updated to reflect the progress against the relevant actions. It is proposed that this forms the basis of the next iteration of the new energy strategy

It is proposed that energy strategy will be developed towards managing the energy used by the buildings determined by the building fabric, the building services and the management of the building (including renewable options).

Additional actions to the original 2016 Action Plan include the implementation of the Refit: Low Carbon Project (Phase 1), contract sign off arranged for Feb 20 with programme schedule to commence Mar/Apr 20; developing energy conservation measures towards Refit: Phase 2 and moving forward the Solar PV farm.

One suggested change is to develop a sustainable transport and staff travel policy as part of emerging policies which would mean a number of the actions moving from the energy strategy into a new stand-alone policy.

The views of the PDC are welcome as to any changes or additional actions required as part of the update policy

5.0 Financial Implications

There are no financial implications associated with this report

6.0 Legal Implications

There are no legal implications associated with this report

Background Papers: None

Appendices -

Appendix A - City and County of Swansea Swansea's Energy Strategy 08/04/2016

Appendix B - Updated Action Plan