

## 1. Summary of Total Carbon Emissions 2019/20 and 2020/21

In 2019 the Executive Team and University Council agreed to a pledge to try to achieve carbon neutrality by 2030. We have recently received detailed reporting guidance from Welsh Government and, based on available data, have attempted to establish our emissions from all sources for the required reporting period of April to March for 2019/20 and 2020/21, which is detailed in appendix 1. Table 1 below summarises our first 2 years of Emissions data as per the Welsh Government reporting requirements. Unfortunately, data accuracy is limited in some areas (especially supply chain and travel related emissions). For some of emissions sources we only have a single data set for the last 2 years.

We anticipate significantly improved data capture methodologies and processes once we engage with our net zero strategy consultants. The scope of their work includes provision for reviewing our operations to identify all applicable emission sources and develop suitable methodologies for each emission source.

Graph 1. Emissions sources by category (%)

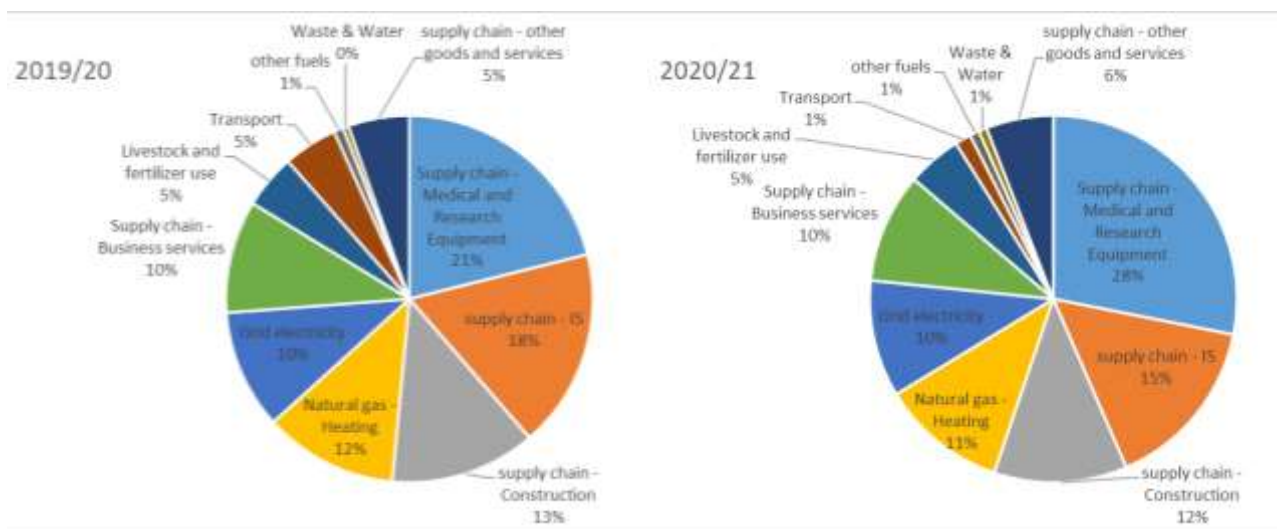


Table 1. Summary of emissions (tCO<sub>2</sub>e)

<b>Emission source</b>	<b>2019/20</b>	<b>2020/21</b>
<i>Electricity and gas usage</i>	<i>9,702</i>	<i>9,247</i>
<i>Supply chain</i>	<i>29,082</i>	<i>30,616</i>
<i>Farm operations*</i>	<i>2,076</i>	<i>2,076</i>
<i>Transport**</i>	<i>2,078</i>	<i>609</i>
<i>Other Emissions</i>	<i>579</i>	<i>673</i>
<i>Carbon sequestration - AU land*</i>	<i>-4,109</i>	<i>-4,109</i>
<b>Total Net emissions</b>	<b>39,407</b>	<b>39,112</b>

\*only 1 data set available for last 2 years \*\*year 2 based on assumed travel reduction due to a lack of available data

Aberystwyth University's total net emissions over the last 2 years have been just over 39,000 tCO<sub>2</sub>e. Whilst we have been making good progress with our energy related CO<sub>2</sub> emissions (reduced by 42% since 2011/12), these emissions only account for approx. 22% of our total emissions. Emissions from our supply chain (Purchased goods and services) account for >70%, the majority of which come from IS, construction and research equipment. The emissions captured by our land (carbon sequestration) currently offset approx. 10% of our generated emissions. Welsh Government require us to submit the 2 annual statements attached by the end of October as required under the low carbon delivery plan and the net zero public sector reporting requirements. This will be an annual requirement going forward with reports required by June of each year.

## **2. Recently Completed Carbon Reduction Projects**

### ***REFIT Phase 1***

Utilising the REFIT framework for Energy Performance Contracts, we have invested almost £3.4 Million in energy efficiency projects over the last 12 months that are guaranteed to reduce our energy related emissions by >9% and save us over £350,000 per annum in electricity and gas costs. These have been funded via Salix interest free finance (£1.8 Million), a HEFCW grant (£1.1 Million) and university capital funding (£0.5 Million). These works included heating optimisation, campus wide LED lighting, energy efficient ventilation fans, pipework insulation, refurbishment of the animal House heating ventilation and air conditioning system, Hugh Owen Library refurbishment, and replacement of a number of energy intensive research equipment with modern efficient units.

### ***Transport improvements***

To help with the transition to Electric Vehicles, we have installed a number of additional Electric Vehicle charging points on Penglais Campus and have purchased a number of electric fleet vehicles.

## **3. Planned Carbon Reduction Projects**

### ***Solar PV Array in Fferm Penglais Fields***

We have received planning permission for a 2.5MW solar PV system at Fields above Fferm Penglais that will provide 25% of Penglais Campus annual electricity requirements. The project cost is currently £2.9M with a payback of <9 years. We have £2.6 Million of Salix interest free finance secured for this project and have budget approval for £300K of internal capital funding. Just like the first phase of REFIT, the solar array would come with a guarantee on the energy savings and is currently estimated to be approx. £330,000 per year. The project would also reduce our energy related CO2 emissions by 14%. We are hoping to complete the works by late summer 2022.

### ***Aberystwyth Town District Heat Network***

Recognising the difficulty of decarbonising building heating (gas) related emissions which account for 11% of our total emissions, we are in the early stages of a feasibility study looking at heat electrification and a district heat network. We have recently been liaising with nearby public sector organisations (Hywel Dda, the National Library, and Ceredigion County Council), who are all supportive of exploring a collaborative heat decarbonisation project comprising of a large scale low carbon energy centre providing the heating for all organisations in the area of Penglais Hill. The Public Services Board are keen to support this project as a project of strategic importance and this may help us gain access to support mechanisms further down the line.

## **4. Other Considerations**

Recent decarbonisation activity has been heavily reliant on external funding sources such as Salix interest free finance and HEFCW grants. To achieve our ambitions of a carbon neutral estate we will require continued high levels of investment over the next 10 years, whilst external funding availability may not be as readily available. As we develop our Net Zero 2030 Carbon strategy, we hope to have a clearer view of financial and resource implications.