

Scope 3 Water Consumption and Carbon Emissions Audit

Background

The majority of the University's water supply is extracted from several boreholes across the estate. This water is then processed through our own private water treatment facility on campus and then distributed as potable water for campus use and agricultural supply. The only exception is the smaller residential houses e.g. Flatt Rd that are connected to the Severn Trent's main water supply infrastructure.

Borehole Baseline data

Data from the borehole extraction points is fed into the University building management system presented below. 2022 DEFRA GHG conversion factor of water consumption and discharge have been used to indicate the total carbon footprint.

Borehole	Water consumption (extraction, m3)		TCO2 Carbon Emissions (supply & disposal)	
	2020-21	2021-22	2020-21	2021-22
Boughey	3,505	2,907	1.48	1.22
NIPH	0	11,643	0.00	4.90
Newtown	28,684	45,350	12.08	19.09
Poorsland	41,513	56,737	17.48	23.89
Poorsland Farm irrigation	2,883	16	1.21	0.01
CERC irrigation	278	747	0.12	0.31
Poorsland Irrigation top-up	3,560	1,683	1.50	0.71
TOTAL	80,423	119,083	33.86	50.13

Work will continue to model more accurately the associated emissions through the operation of a private water supply, contributing to an overall scope 3 emissions footprint no later than 2025 as outlined in the University Sustainability Strategy.

Severn Trent Water

A small number of student residential houses are connected to Severn Trent Water supply. The estimated water supply and associated surface water discharge with these properties is detailed in the table below. This also includes an agricultural supply within the University estate:

Residence	2021-22 Water consumption (supply, m3)	TCO2 Carbon Emissions (supply & disposal)
3 Newtown	142.35	0.06
4 Newtown	142.35	0.06
5 Newtown		
6 Newtown	156.95	0.07
7 Newton	135.05	0.06
8 Newton	142.35	0.06
13 Newtown	146	0.06
14 Newtown	292	0.12
3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15 Flatt Rd	Inc. within borehole data	

1, 2, 3, 4 Poultry Dr	Inc. within borehole data	
The Trough	255	0.04 (supply only, dairy supply)
TOTALS	1,412.05	0.53

Conclusions

The overall scope 3 water emissions footprint for 2021-22 (inclusive of campus consumption/discharge and agriculture supply) is estimated at **50.66 tCO₂**.