

Carbon Performance Update for University of Wolverhampton

For the reporting period 1 August 2021 to 31 July 2022



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Carbon Performance University of Wolverhampton

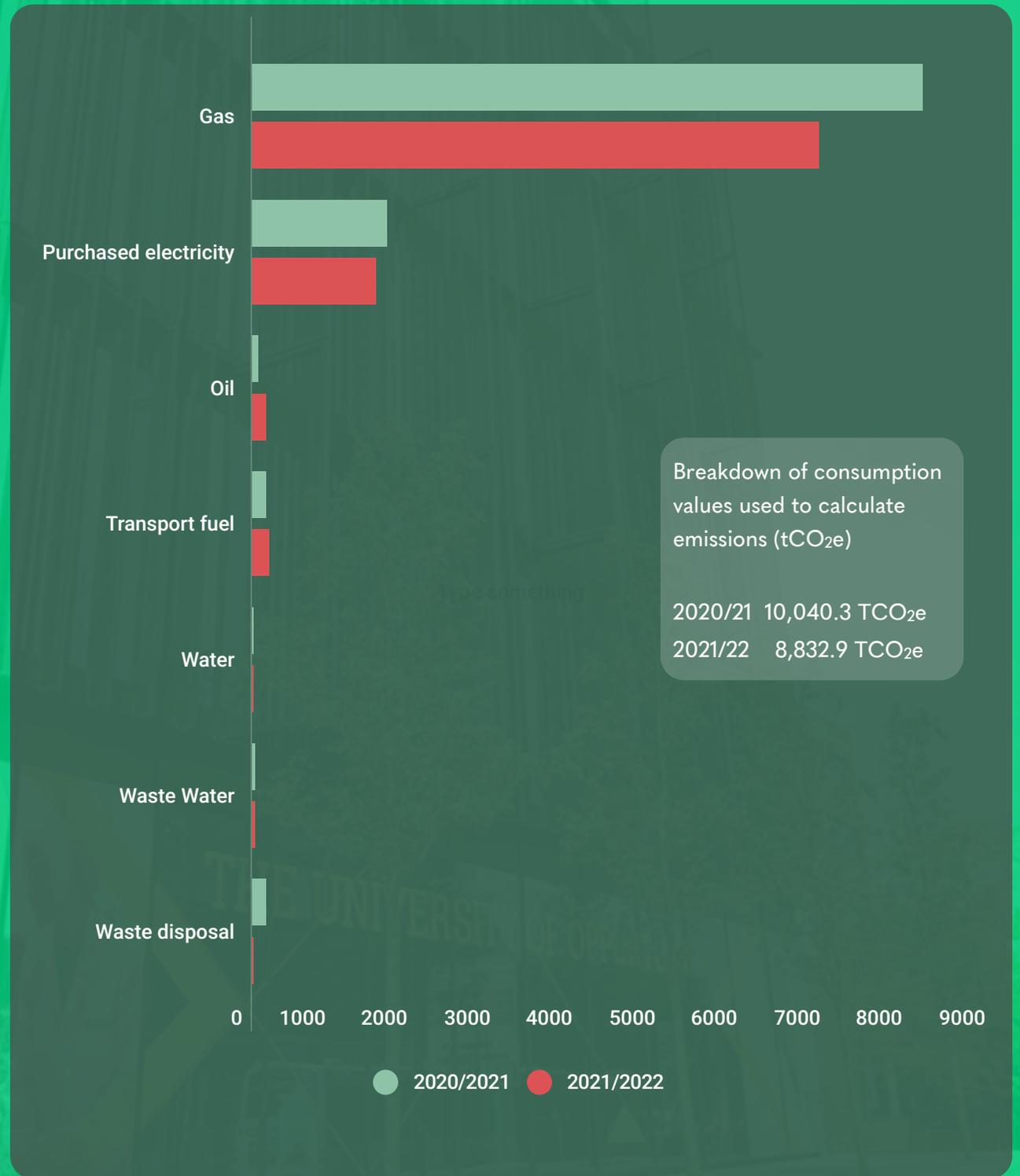
For the reporting period 01.08.2020 to 31.07.2022

Data Reviewed

The University of Wolverhampton has reviewed the data across the estate which has been broken down into the measured supplies in the graph opposite. This includes university buildings and student accommodation emissions across City Campus Wulfruna, City Campus Molineux, Springfield Campus, Telford Campus and Walsall Campus. The Wolverhampton Science Park and the Midlands Cyber Centre have been excluded as their emissions are reported separately.

Analysis

Overall emissions have reduced in 2021/22 compared to the previous year by 1,207.4 tCO₂e (12%). This reduction is predominantly a result of lower reported gas consumption by 1,259.6 tCO₂e (16%). Year on year electricity usage is very similar, although emissions have reduced by 6% because of national grid decarbonisation. Reported scope 3 emissions account for less than 1% of gross emission reported and have increased by 15.7 tCO₂e this year. The gross emission reductions are reflected in the improved intensity ratios based on floor area and staff numbers.



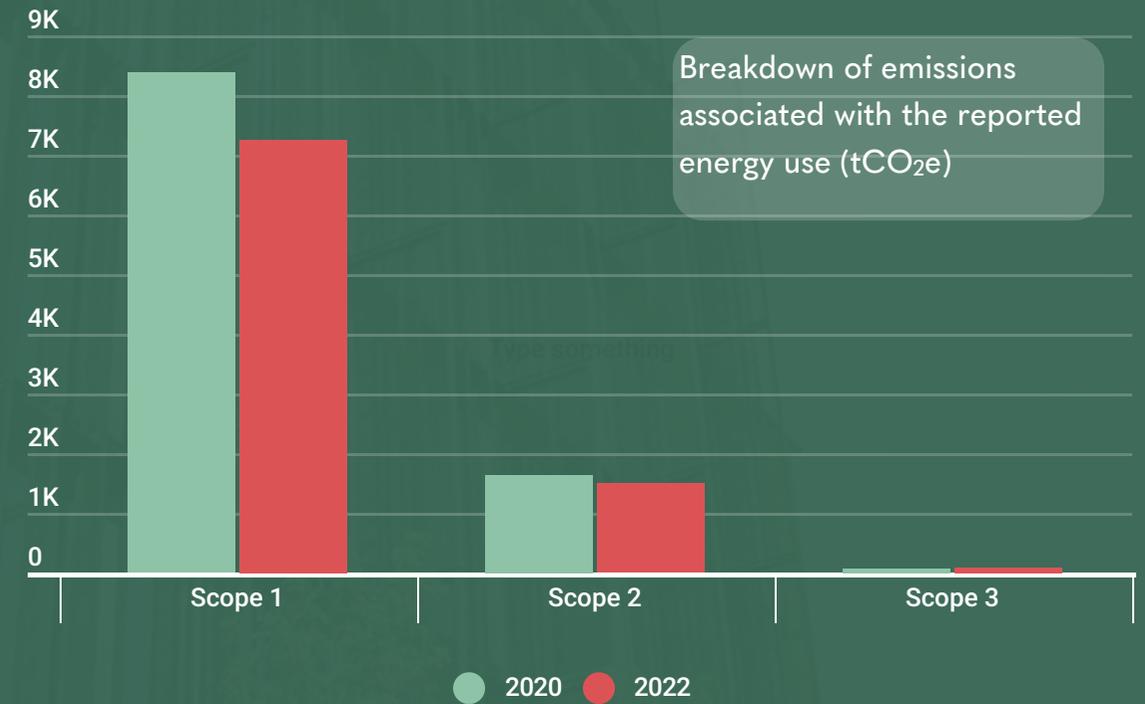
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Scopes

GHG emissions are divided into three scopes to reflect the source of the emissions. Scope 1 are the direct emissions from assets owned or controlled by the organisation, which includes natural gas, oil and company owned vehicles (82% of total reported). Scope 2 are indirect emissions from purchased electricity (17% of total reported) and scope 3 are further indirect emissions that occur within the upstream and downstream value chain. At the moment, scope 3 includes emissions associated with waste disposal, water supply and wastewater treatment.

While the full scope 3 value chain emissions has not been fully calculated currently (it can be around 80% of an organisation's emissions), the emissions reported reflect the areas that the University has most control over reducing, and is therefore the priority for action. For example, this will include heat decarbonisation strategies for reducing scope 1 emissions associated with natural gas.



Breakdown of emissions associated with the reported energy use (tCO ₂ e):				
Sum of tCO ₂ e		Year		
Scope & Category	Emission Type	2021	2022	
Scope 1	Natural gas	8,124.8	6,865.2	
	Oil	83.4	168.2	
	Company vehicles	164.7	217.9	
Scope 1 Total		8,372.9	7,251.3	
Scope 2	Purchased electricity	1,597.5	1,495.5	
Scope 2 Total		1,597.5	1,495.5	
Scope 3: 1. Purchased goods & services	Water Supply	23.6	24.2	
Scope 3: 1. Purchased goods & services Total		23.6	24.2	
Scope 3: 5. Waste generated in operations	Wastewater	41.0	41.9	
	Waste Disposal - Incinerated	4.2	8.1	
	Waste Disposal - Recycled	1.2	2.6	
	Waste Disposal - Landfill	0.0	9.4	
Scope 3: 5. Waste generated in operations Total		46.3	62.0	
Grand Total		10,040.3	8,832.9	

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What does all this data mean?

Energy and compliance specialists speak about kWh, scopes, tCo2e but what does all this mean in reality.

When comparing the University with estates and building of similar size and using the CIBSE TM46 benchmarking tool, we can see that the University is 9% lower per 1000 m² of space.

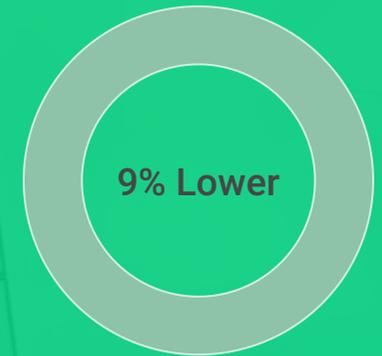
Lets think about trees. How many trees would we need to plant to remove the emissions consumed by the University from the atmosphere. A simple calculation would suggest 351,000 trees would need to be planted although would still take 25 years plus to grow.

With a Net Zero target set for 2030 then planting trees is not the answer although the University is committed to looking at alternative opportunities to mobilise faster and remove the emissions from other sources.

Energy efficiency and decarbonisation of the estate will help the University to strengthen their commitment towards a greener future. Start with the basics and phase in initiatives that will engage the staff, students and visitors to enhance the user experience.

1. Benchmark

The UoW is 9% lower per 1000m² of floorspace compared with buildings and estates of similar size . Ref: CIBSE TM46



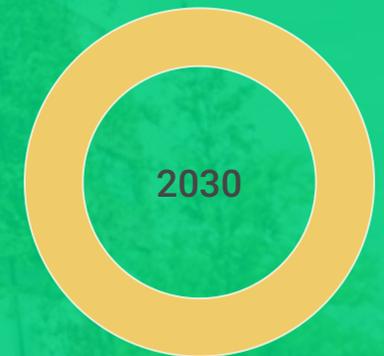
2. Trees

To remove 8832.9 tCO₂e from the atmosphere would mean planting 351,000 trees*



3. Net Zero Target

The University has committed to be Carbon Neutral by 2030 in its Vision 2030 and has signed up to the UN Universities Race to Net Zero by 2050



*based on an average of 25kg CO₂ absorbed per year)

Source: <https://ecotree.green/en/how-much-co2-does-a-tree-absorb>