

Building Energy & Emissions Review 2021-22

In **2022** the new Council Plan and the draft Sustainable Futures Strategy (SFS) were published, both with a focus on responding to climate change and meeting net zero commitments. Warwickshire County Council are aiming to reduce the Council's carbon footprint to net zero by **2030** and want to work with partners and residents in Warwickshire to support the County to do the same by no later than **2050**.

Warwickshire County Council has been reporting on emissions since 2013 and working to bring carbon emissions down since 2015. A climate emergency was declared in July 2019

41%
REDUCTION
CO₂ emissions
FROM COUNCIL OPERATIONS

2015 - 2021

Effective building management systems, better property insulation and lighting systems alongside the disposal of inefficient properties, have all played a part in bringing down the Council's carbon emissions each year since 2015.

The main sources of energy spend for the Council in 2021/22 are **buildings, streetlighting, traffic signals** and **operational fleet vehicles**.



The benchmark figure in 2015 was 5,604 tCO₂e. Since then there has been a total significant reduction of **2,308 tCO₂e**.

Since **2016** the Council has bought electricity for its corporate buildings from Total Energies

Pure Green Energy

tariff which comes from **100%**

renewable sources such as solar, wind, hydro and wave which all play a part in the reduction of emissions





One of the main sources of greenhouse gas emissions for Warwickshire County Council is its energy (i.e., gas and electricity) usage in buildings



Renewable Energy, Gas and Electricity Summary

In the past year, electricity and gas consumption has changed from the previous year, as staff return to the office post the post the COVID-19 pandemic.

Overview



CO₂

Total Carbon Emissions in tonnes (tCO₂e)

Emissions associated with the use of buildings electricity increased this year as people returned to the office from COVID-19.



GAS

Gas consumption (tCO₂e)



ELECTRICITY

Electricity consumption (tCO₂e)



ENERGY

Total Energy Consumption (gas + electricity kWh)



RENEWABLES

Renewable Energy Generation (kWh)

CO₂ Emissions Data 2021/22 (Corporate contract buildings only)

Year	Fuel kWh	No of properties	GIA (m ²)	Emissions (t CO ₂)	Total Emissions (tCO ₂ e)
2021/22	Gas	77	120,311	1,802	3,296
	Electricity	84	101,362	1,495	
2020/21	Gas	68	97,508	1,901	3,043
	Electricity	85	99,688	1,141	
2019/20	Gas	71	102,645	2,196	3,761
	Electricity	93	110,547	1,565	
2018/19	Gas	67	92,040	1,950	4,019
	Electricity	85	107,722	2,069	
2017/18	Gas	65	92,015	2,063	4,598
	Electricity	83	100,842	2,535	

Top 10 CO₂ Emitters per m²

Wellesbourne Highways Depot	293
Cherry Orchard Household Waste Recycling Centre	287
Priory Bungalow	144
Former Parkfield Care Centre	59
Rugby Register Office	58
Ryton Pools Country Park	58
Burton House Farm Recycling Centre	57
The Ratcliffe Youth and Community Centre	56
Nuneaton Fire Station	52
Kenilworth Fire Station	50
Average	33

To give context to these values, the average across ALL properties is shown at the bottom in yellow.

2021/22 CO₂ Emissions



Low & Zero Carbon Technologies



Renewable energy installations

Year	Total installed declared net capacity (kWp)	Generation (kWh)	Net on site consumption (kWh)
2021/21	284	217,366	131,195
2020/21	284	236,447	140,137
2019/20	284	213,635	156,064
2018/19	284	251,833	181,251

The Council's electricity generation from renewable sources is equivalent to around **3%** of the total electricity consumption. We will continue to work with partners to access available funding and investigate financially viable renewable energy projects, investing further in renewable energy generation and low carbon heating where appropriate.

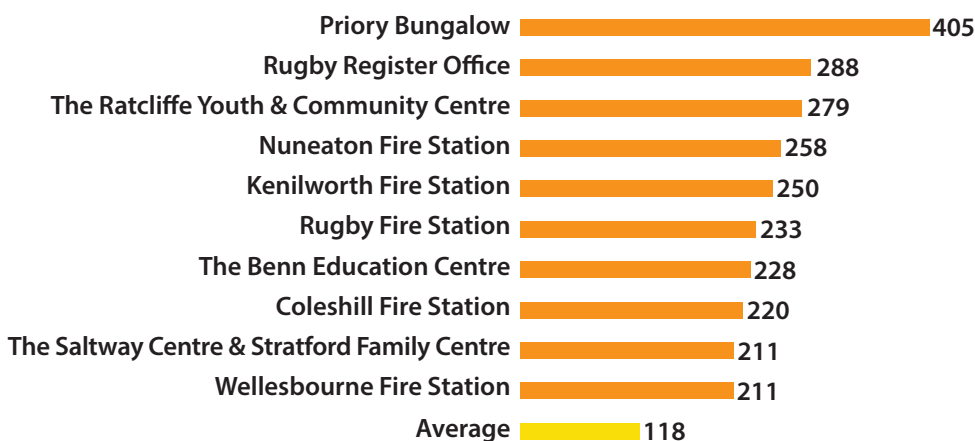
Year	No of properties	GIA (m ²)
2021/22	77	120,311
2020/21	68	97,508
2019/20	71	102,645
2018/19	67	92,040
2017/18	65	94,622

kWh of Gas Consumption by Year

2021/22	11,460,757
2020/21	10,379,711
2019/20	11,942,414
2018/19	10,621,311
2017/18	11,570,990



Top 10 Consumers of Gas per m2



To give context to these values, the average across ALL properties is shown at the bottom in yellow.

Electricity Consumption Data 2020/21 (Corporate buildings only)



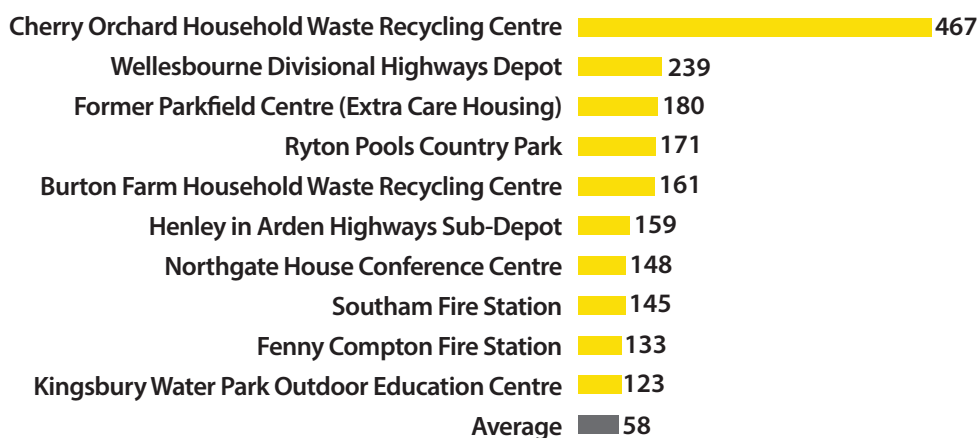
Year	No of properties	GIA (m ²)
2021/22	84	101,362
2020/21	85	99,688
2019/20	93	110,547
2018/19	85	107,722
2017/18	83	105,650

kWh of Electricity Consumption by Year

2021/22	6,748,992
2020/21	5,377,929
2019/20	6,701,059
2018/19	6,786,313
2017/18	6,847,403



Top 10 Consumers of kWh of Electricity per m2



To give context to these values, the average across ALL properties is shown at the bottom in grey.

Total avoided carbon dioxide emissions (tonnes)

2021/22	55
2020/21	54
2019/20	54

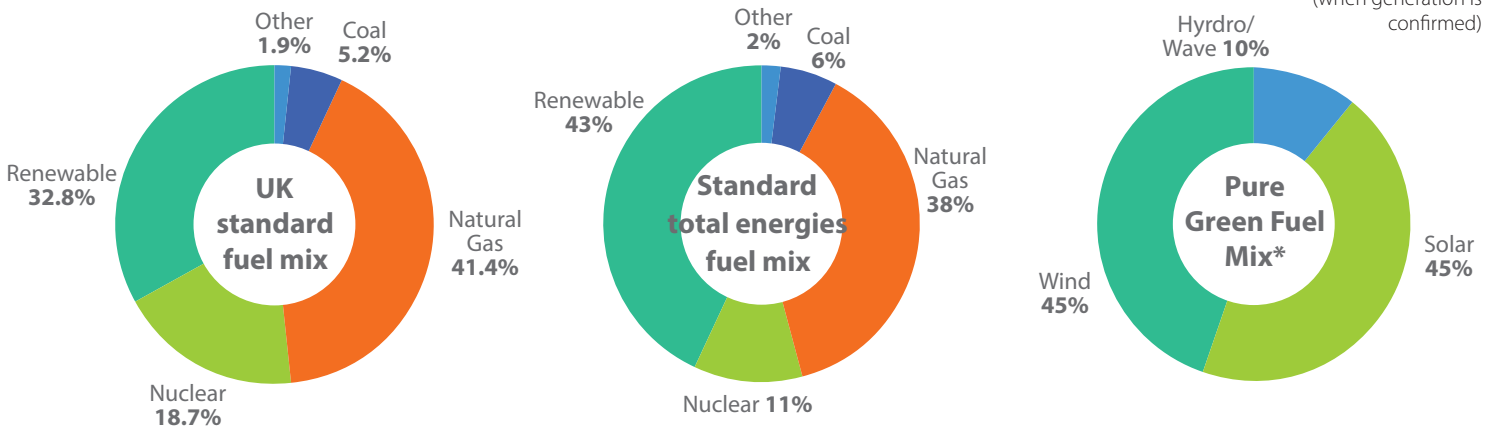


WCC's Electricity has been
100% RENEWABLE ENERGY
since October 2016

WCC procures 'Pure Green' electricity for its corporate buildings from ESPO. TotalEnergies currently supplies electricity for this contract.

Pure Green electricity comes from 100% renewable sources: solar wind, and hydro/wave.

Pure green generation mix compared to standard fuel mix



Recommendations for further investigation

The Council used government support from PSDS (Public Sector Decarbonisation Scheme) in 2021 to install low carbon technology at Eliot Park Innovation Centre (solar panels, heat pump), Bedworth Fire Station (heat pump) and Station Road Care Home (heat pump). We will report on this next year and will continue to build on our knowledge from work funded by the Low Carbon Skills Fund and conduct further energy audits in future years to help us to reduce our carbon emissions further.

Year on year reductions in carbon emissions have slowed since the initial quick wins identified in **2015**; and moving forward it will be more difficult to find carbon reductions without substantial investment in areas such as renewable energy generation and low carbon heating. Energy surveys will be needed to identify further investment opportunities. WCC will continue to work to access available government and other funding sources and enable further carbon reductions.