

Spending more than just a penny

Case Story Manchester SAV Systems



EnergiRaven

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EnergiRaven

EnergiRaven's purpose is to help building owners reach their Net Zero targets. It is currently helping over 8,000 commercial buildings globally cut energy waste.

As a platform, EnergiRaven is designed to help understand, plan, and navigate the optimum route to Net Zero. EnergiRaven does this through energy education, state of the art energy accounting tools, and energy performance reporting.

SAV Systems

SAV Systems operate within the building services sector, specialising in low carbon technologies and solutions primarily for UK Heat Networks. SAV has five regional offices located in Bath, Manchester, Edinburgh, and two in Woking with more than 100 employees between these.

SAV's mission statement is to "achieve optimum indoor living, with minimum energy wastage."

Practicing what we preach

SAV has a modest building portfolio when compared to local authorities and businesses, such as banks and multi-national retail outlets. You would therefore be forgiven for assuming that managing their energy use would be simpler and that there was less energy waste.

SAV implemented the myEnergiRaven energy accounting tool across its five offices, collecting the energy consumption data from the utility bills and manually entering this into myEnergiRaven.

It has quickly become apparent that **one building** was using much more water and electricity when benchmarked against the others.

The Headlines - Projected Annual Consumption

Water		Electricity	
Water Use:	1,000,000 litres	Electricity Import:	19,164 kWh
Water Saving (volume):	900,000 litres	Electricity Saving (energy):	3,600 kWh
Water Saving (value):	£2,280	Electricity Saving (value):	£1,800
		Electricity Saving (emissions):	0.8t CO ₂

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Water Consumption

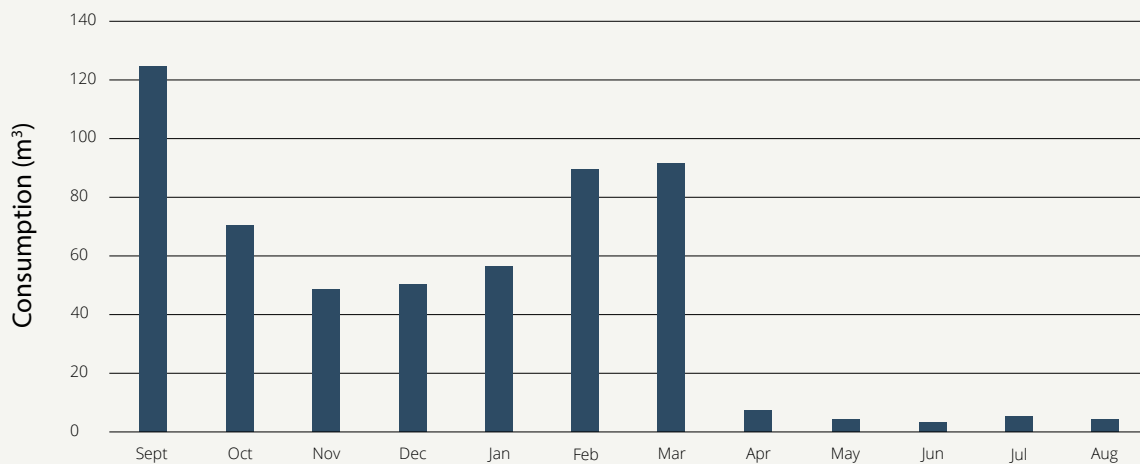
In a normal week, the Manchester office hosts 3 to 6 people. Yet, using the myEnergiRaven benchmarking tool it could be seen that this office used a disproportionate amount of water. The quantity was comparable to Scandia House and Monument House, substantially larger buildings, occupied by more than 50 people.

The cause of this excessive consumption was found to be a single running toilet, located in a part of the building that was yet to be renovated. When the scale of the problem was identified, the toilet was promptly fixed by a plumber, costing less than £200.

If unchanged, using an averaged water consumption we can project that the annual consumption could have been 1,000,000 litres.

Since repairing the toilet, water consumption has been cut by approximately 95%. This equates to a cost saving of approximately £2,280 per year.

The graph below shows the water consumption over the last 12 months. Manual readings were input from 1st April 2022. Previous consumption was estimated by the water company on the basis of earlier readings. This also highlights the need for businesses to account for their energy consumption in house.



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Electricity Intensity

Through myEnergiRaven's benchmarking module, each SAV building can be compared in terms of their energy consumption per square meter (kWh/m²).

This is a particularly important metric when comparing buildings of different sizes. Manchester was also found to have the highest electricity import per square metre of floor area.

There are many contributing factors to this. However, with a level of trial and error it has been possible to track noticeable reductions to the base electricity consumption.

The most impactful change was made as a small area of electric underfloor heating, running almost 24 hours a day, was discovered in an unfrequented part of the building. This 9 m² mat was the largest contributing factor to the building's baseload. By turning it off, the base load has been reduced from over 1.2 kW to around 0.4 kW and reduced the monthly electricity usage by 300 kWh. Over a year, this heating mat would have cost approximately £1,800 to run.

The graph below shows the electricity usage of each office, per square meter, including the intensity of the electric heating mat on Manchester.

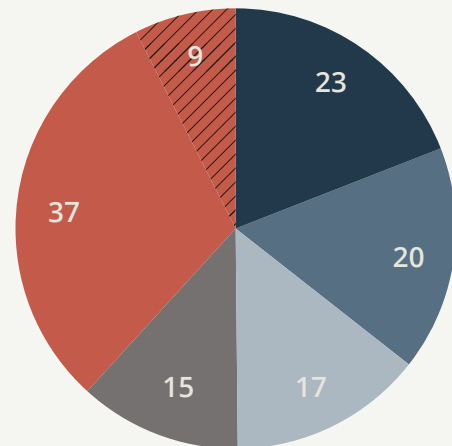
Remarks

SAV's Manchester office was, by many metrics, the worst performing building of the portfolio. Whilst there is still work to be done, the cost of operating this building has been reduced by £3,000 to 4,000 per year.

Over three years, including set up costs and the expense of fixing the issues, a net saving of £10,000 is expected.

SAV are now shifting focus to the next worst performing buildings in the portfolio, but the work in Manchester isn't finished. Through ongoing monitoring, Manchester will now continue work to reduce and maintain leaner utility use. For organisations with larger building portfolios, the potential for unchecked energy waste and subsequent energy cost savings may be considerably higher.

Proportion of SAV electricity usage (kWh/m²/year)



- Manchester (excl. electric underfloor)
- Manchester electric underfloor consumption
- Bath
- Scandia House
- Edinburgh
- Monument House