

# Cool Savings

We need to work flexibly with changing demands to ensure energy efficiency. The needs of the community hub have changed dramatically over the last few years.



Empty fridge,  
switched off

## Responding to need

During the height of the pandemic, Middleport Matters were involved with a number of food sharing schemes. There were often deliveries of short-dated food that needed to be refrigerated. The Newcastle Street hub had one tall fridge freezer, which was not sufficient. Two under-counter fridges were added to the kitchen corner. These were run constantly during the peak of the work with food surplus and sharing.

Through 2022, the amount of food support being offered from the hub reduced. The frequency and size of deliveries reduced, meaning the required cold storage was less. It was determined that we didn't need to run all three fridges constantly, so the remaining contents was transferred to the main fridge freezer. The fridges were considered useful assets for occasional use, such as an unusually large delivery or storing refreshments for large events, but were to be kept off otherwise.

## Calculations

The two fridges were second hand, so not the newest or most efficient. One also had a poor door seal, causing it to function less efficiently. Assuming F rating, the average annual usage would be around 209kWh per fridge.[1] It is difficult to determine how much extra electricity was being used by the fridge with the poor door seal, but we can assume an extra 50% for the sake of these calculations. That means that between the two fridges they would be using around 522.5kWh per year, so we're saving 43.5kWh of electricity each month they stay off. This is equivalent to boiling the kettle 380 times.[2]

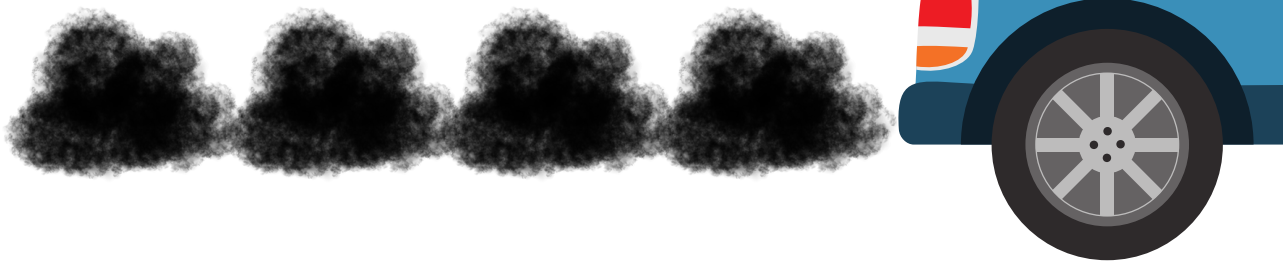


Monthly energy  
saving would  
boil 380 kettles

The average carbon footprint of 1kWh (a unit) of electricity from the UK grid is around 340gCO<sub>2</sub>e.[3] This would make the carbon footprint of running the two fridges around 178kg CO<sub>2</sub>e per year. Our monthly carbon saving is 14.8kg CO<sub>2</sub>e. At the current rate of 52p/kWh[4], this is also a monthly saving of £22.62 per month.

## Conclusions

It is worth having extra fridge space for occasional use while we continue to be involved in food sharing projects. However, it is very much worth keeping the extra fridges switched off while not in use as we are saving around £22.62 and 14.8kg CO<sub>2</sub>e per month – equivalent carbon footprint to driving around 28 miles.[5]



Monthly carbon saving equivalent to driving 28 miles

## Monthly Savings

**£22.62**

**14.8kgCO<sub>2</sub>e**

**43.5kWh**

## References

[1] Usage figures from <https://www.homebuilding.co.uk/advice/how-much-electricity-does-a-fridge-use> 26/06/2023

[2] Assuming a standard 1.7l kettle. 1kWh boils 15l water in a kettle. Information from How Bad Are Bananas? by Mike Berners-Lee

[3] How Bad Are Bananas? by Mike Berners-Lee

[4] Based on rates from Energy Guide, without the price cap as organisations are not protected by it [Add a little bit of body text](#) 10/07/2023

[5] Based on an average UK car. Information from How Bad Are Bananas? by Mike Berners-Lee

