

Investigating the size of our carbon footprint at St Augustine's Priory:



St Augustines Priory.

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Summary:

As a way to make St Augustine's Priory as environmentally conscious and friendly as possible, an Eco Committee was formed comprising of faculty from all departments as well as pupils from Year 3 all the way to 6th Form. Every week we come together to discuss our schools environmental plan. This was how IRIS Melt was introduced, and it provided a perfect opportunity for us to calculate out exact carbon footprint. Through this project, a team was assembled to obtain data from different parts of the school working with many different people to then input the data into the carbon calculator. Once completed, we will be able to see which parts of the school provides the highest amount of CO₂ and will come up with innovative idea in which to improve St Augustine's Priory's carbon footprint.

Experimental Methods:

The first steps taken in calculating our schools carbon footprint was to obtain the yearly bills for electricity, gas, water that is used on the grounds. This was done by communicating with the bursar and then converting the amounts to kWh for each of the months. As St Augustine's is comprised of multiple buildings, we had to collate the bills into one value encompassing the whole school. Our school trips and diesel used for the school minibus could also be obtained by the bursar and was inputted into the calculator. For our waste measurements, paper waste was measured by emptying paper recycling bins and then a week later measuring the weight of the all the paper collected. This gave a weekly amount of paper waste that could be converted to a yearly amount and inputted into the calculator. Food wastage was already being weighed by the kitchen staff and so we gathered the information from them and calculated the amount wasted every academic year. To measure the school run, a survey was created that was to be sent out to every staff member as well as to all the parents of pupils. Comprised of 4 questions it asked for all the necessary information that was needed to fill out the calculator.

Research Aims:

To be more aware of our carbon emissions and try and find possible ways to stop this increase of our waste.

Research Objective:

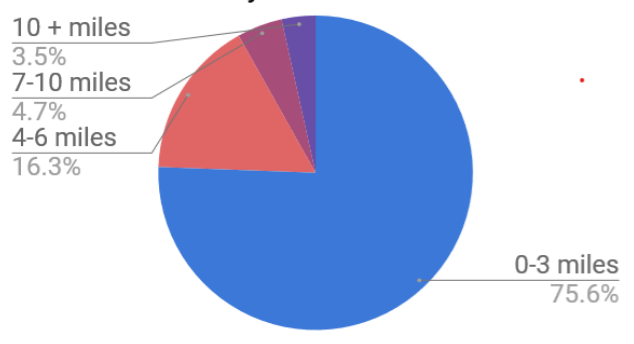
To calculate the areas of which our carbon emissions as a school were most concentrated.

Results:

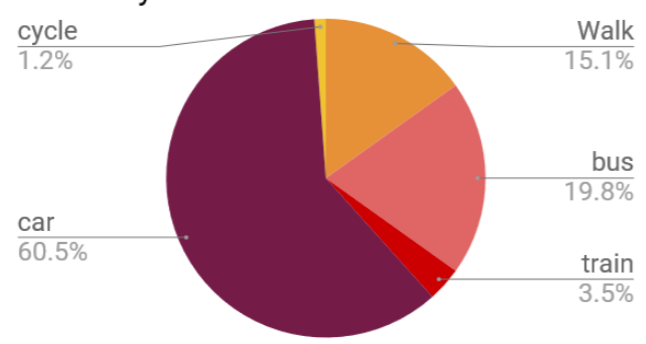
School Run

The completion of the school run survey was disappointing, collecting 86 responses. However, we were still able to analyse the results to gain an idea of how most people travel to school. From the pie charts below you can see that 75.6% of people drive to school. Paired with the information that a majority of peoples journeys are between 0-3 miles it can be presumed that people are driving sort distances to our school, increasing our carbon footprint unnecessarily

Miles travelled by students to school:



How do you travel to school?



Flights (tonnes of co2 outputted):



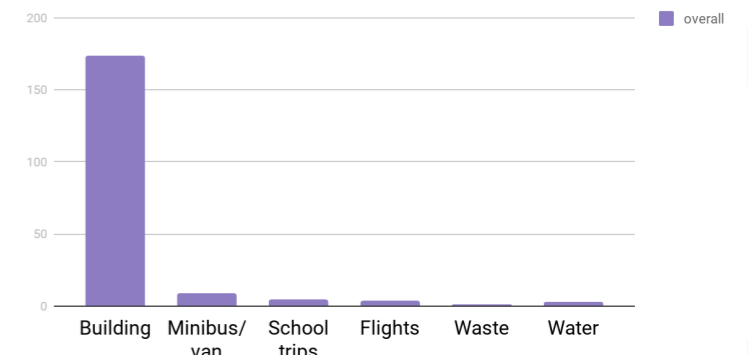
Your Carbon Footprint:

Building	173.98 tonnes of CO ₂ e
Car	0.00 tonnes of CO ₂ e
Minibus / Van	8.93 tonnes of CO ₂ e
School Trips	4.32 tonnes of CO ₂ e
Flights	3.63 tonnes of CO ₂ e
Waste	1.18 tonnes of CO ₂ e
Water	2.76 tonnes of CO ₂ e
School Run	0.00 tonnes of CO ₂ e

Total = 194.80 tonnes of CO₂e

Average = 0.29 tonnes per person

Overall Carbon Footprint Results:



From our survey we gathered that the majority of people travelled to school by car and that the most common distances that the people would travel is 0-3 miles.

This bar chart shows the overall results of our carbon calculator. We found that our building is the highest emitter of carbon dioxide and that our waste production was the least.

Background Information:

Built in 1915, St Augustine's Priory comprises of three buildings, 13 acres of field, an AstroTurf and a farm. A large amount of our building is still boasts its original structure, meaning we live with the consequences of single glazed windows and poorly designed heating system. It takes a lot of energy to heat up our school and a large amount of it dissipated due to poor insulation, which is something that was taken into consideration when gathering information.

School Trips

A large chunk of St Augustine's Priory's carbon footprint comes from the school trips taken. The bar chart above represents the five major flights that we as a school have gone on.

As a school we also take coaches/minibuses to sports games, swimming and other school trips. Living in a central location in London it could be good, in future, to consider taking public transport more to destinations close to the school.

This chart represents the 5 major flights that we as a school go on.

The first trip was from LONDON to QUEBEC for a ski trip.

The second trip was from LONDON to ST PETERSBURG for a Russian trip

The third one was from LONDON to NAPLES for a classics trip.

The fourth one was from LONDON to ICELAND for the GCSE geography students.

The last trip was from LONDON to SALAMANCA for the GCSE Spanish students.

Analysis and Next Steps:

-At the start of the research project we assumed that the flights and school trips would take up the largest amount of our carbon footprint. However, from our results we can see that the main contributor was our building energy usage was the main contributor due to our old structure.

- Some aspects of our results have a large margin of error such as the school run survey, thus reducing the overall accuracy of the results. We still have a lot more investigating to do as we were not able to get all the information that we needed but we are now more aware of our footprint. We have been reminding the staff and parents to fill out the school run survey and hope that more responses come for us to input into the calculator
 - In the future, we could improve school insulation and make use of efficient lighting.
 - We could work closely with architects and the eco committee have been in the staff meetings, during the planning of our new building, to make the new enhanced building more friendly.
 - We need to improve the response rate to the travel survey
 - Reduce paper waste by increasing electronic homework, emailing questions and tasks and pressure teachers to follow this.
 - Use food waste in a composter and used as a fertiliser instead of being sent to a landfill.
- St Augustine's Priory have also been sent 30 tree saplings to be planted at the end of our field. These trees will combat the amount of carbon emissions that the school emits.