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# AAC Environmental Plan 2022-2025 (updated August 2023)

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## 1.0 Introduction

Attenborough Arts Centre functions within, and as a part of the University of Leicester. This Environmental Plan for Attenborough Arts Centre is formed out of five significant policies adopted by the University of Leicester.

The University is one of the first UK Universities to sign the UN Sustainable Development Goals accord. These goals are embedded in our Social Impact Strategy.

- **The Environmental Sustainability Policy (July 2023)**
- **The Climate Change Strategy**
- **The Sustainable Procurement Policy (2017-2020)**
- **The Sustainability Strategy 2015-2020**
- **The Carbon management Plan 2016-2025 (updated march 2019)**

The Attenborough Arts Centre will record and report to ACE unique data relating to:-

- Energy use
- Water use
- Travel (business)

The above are all recorded by the university and can be reported. As a separate building the Attenborough Arts Centre's environmental impact is largely affected by our;

1. consumption of energy (gas and electric) – heating, lighting
2. consumption of water- washing, cleaning, toilets and drinking
3. travel, staff travel and the public visiting us



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4. production of waste- from café and from our activities such as exhibitions
5. procurement- are our suppliers environmentally friendly

All of the above are covered by policies and plans centrally by the University, however we recognise that we can all make a difference, therefore we will take individual responsibility to reduce waste and reduce consumption. We will be considerate when procuring goods and services and reduce the need to travel where we can.

## 2.0 Summary of AAC Environmental Plan 2022-25

**We recognise that the activities we do inevitably impact on the environment and that we have a responsibility to environmental protection. We will work with the University of Leicester and other partners to reduce our carbon footprint and improve our environmental sustainability.**

### 3.0 The Environmental Sustainability Policy 2023

**Summary-** The University is committed to influencing positive change in the world through research and research inspired education. Environmental Sustainability is one of the Universities 4 guiding principles used to inform decision making. It seeks to achieve continual improvement to how it understands and responds to its environmental impact. This is achieved through Environmental Management Systems and Education.

It will take action on the following key areas.

- Reducing carbon emissions, aiming to be net zero by 2040
- Improving energy efficiency, aiming to use 100% renewable energy by 2040
- Reducing its consumption of water and reusing resources whenever it can.
- Delivering a travel plan to avoid unnecessary travel and maximize the benefits of travel where it can.
- Support staff and students in addressing the impact of climate change
- Being adaptive and resilient when developing and planning new developments
- Building awareness of environmental issues with staff and students.

### 4.0 Climate Change

Climate change is currently one of the most pressing issues facing humanity. The United Kingdom, along with more than 170 other countries, officially signed the Paris Agreement in 2016 that sets out a global target to reduce greenhouse gas emissions, and a decisive call to action to mitigate dangerous climate change caused by human activity.



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We are committed to tackling climate change and to making a major contribution to reducing greenhouse gas emissions in the city. Universities have a clear role in understanding the complex environmental challenges we face and in identifying solutions.

The university strategy is to

1. Avoid-reducing our negative impact on the environment by reducing consumption
2. Mitigate- increase off setting of our carbon footprint through biodiversity policies and design
3. Adapt-ready for change, creating green walls and roofs, more free drinking water, more biodiversity
4. Positive impact-teach and innovate to support a better future for all



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## 5.0 Achievements to date

### Environmental Management Commitment KPIs

Area	Target	Deadline
Sustainable Construction	Guidelines to be implemented for each project as standard	2019 (Achieved)
Carbon	Scope 1 and 2 carbon emissions reduced by an absolute figure of 25% by 2020 against 2004/05 base line and 60% by 2020 against turnover and 40% by 2020 against GIA and FTE (staff & students)	2020 (Achieved)
	Achieve net zero by 2050	2040 (deadline brought forward)
Waste	Achieve 50% on-site segregation of waste for recycling (by weight) by 2020	2020 (achieved now at 55%)
	Achieve 95% diversion from landfill (by weight) by 2020	2020 (achieved now at 97%)
Travel	Reduce single occupancy vehicles to sites by 15%	2015 (achieved)

## 6.0 The Sustainable Procurement Policy

The Strategy includes the following social impact based performance measures which the AAC will follow to support sustainable procurement:



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- SME-Friendly Procurement Policy - Explains the steps that the University takes to ensure that its procurement processes do not create unnecessary barriers for Small and Medium-sized Enterprises.
- Sustainable Procurement (including Equality) Guidance - Provides examples of where wider social, economic and environmental benefits may be gained through procurement contracts.
- Modern Slavery and Human Trafficking Statement 2017-18 - Outlines the policies, training, and due diligence processes that the University has in place to tackle modern slavery and human trafficking.



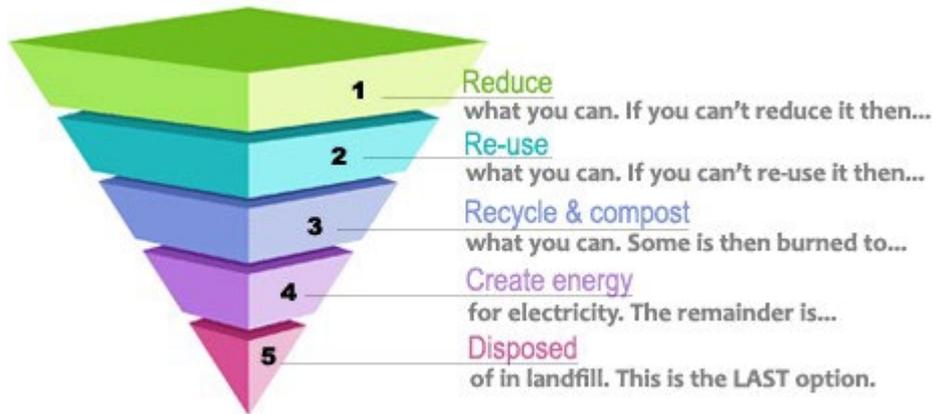
**Environmental issues** to be considered when drafting specifications, method statement questions and tender evaluation criteria, include:

- The Waste Hierarchy – ranks waste management opportunities according to what is best for the environment. It gives top priority to reducing/preventing waste in the first place. When waste is created, it gives priority to preparing it for re-use, then recycling, recovery and last of all disposal (e.g. landfill). See Fig 2 below.



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Fig 2: The Waste Hierarchy



- The durability, reparability, reusability, recyclability and upgradability of products
- Waste Electrical & Electronic Equipment (WEEE) Regulations – What are the supplier's responsibilities, for example, in relation to end of life disposal?
- Recycled goods / content, e.g. paper, toner cartridges
- Packaging, e.g. 'Take back' arrangements for reuse, recycling
- Efficiency of products, including eco-settings
- Avoidance of hazardous chemicals, wherever possible
- Ensuring that timber is from legal and sustainable sources
- Setting Building Research Establishment Environmental Assessment Method (BREEAM) standards for design of new buildings, refits and extensions
- Minimising carbon emissions, e.g. through the use of low emission/low carbon vehicles and logistics planning
- Use of renewable energy / alternative fuels

**Sustainability assessments:** At the specification or tender stage, identify what the contract will provide in respect of environmental impact (including carbon footprint) plus economic and social benefits and ensure that these are considered in the evaluation model.

Some examples of social costs include:

- The impact on health & social care
- Benefit payments
- Traffic congestion & accidents
- Improved education

Some examples of economic costs include:

- Increased employment
- Engaging with local businesses to encourage responses to tenders & quotes



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- Training opportunities created
- Promotion of local supply chains
- Urban regeneration

Some examples of environmental costs include:

- Climate change (CO2 emissions)
- Local biodiversity (plants and animals)
- Sustainable products (recycled / ethical)
- Energy efficient products and services
- Pollution of land / air / water
- Green credentials & ethical standards

Although it is difficult to allocate a financial 'cost' to the sustainability assessments it is important to make sure that any contract takes into consideration the impact on society, the economy and the environment where this is relevant to the contract.

## 7.0 The Sustainable Development Goals

***The University is committed to the UN Sustainable Development Goals as outlined below***

***Goal 1 No Poverty***

***Goal 2 Zero Hunger***

***Goal 3 Health and Well-being***

***Goal 4 Quality Education***

***Goal 5 Gender Equality***

***Goal 6 Clean water and sanitation***

***Goal 7 Affordable and clean energy***

***Goal 8 Decent work and economic growth***

***Goal 9 Infrastructure, industry and innovation***

***Goal 10 Reduced inequalities***

***Goal 11 Sustainable cities***

***Goal 12 Responsible consumption***

***Goal 13 Climate Action***

***Goal 14 Life below water***

***Goal 15 Life on land***

***Goal 16 Peace justice and strong institutions***

***Goal 17 Partnerships for the goals***



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## 8.0 Carbon Management Plan (2016-2025)

<https://www2.le.ac.uk/offices/estates/environment/Strategy/documents-and-images/carbon-management-plan>

This **Carbon Management Plan** demonstrates the University of Leicester's continued commitment towards reducing carbon emissions impact against its 2004/05 baseline. By taking actions as set out in the Carbon Management Action Plan, the University continues in its aim to reduce emissions from its activities. The carbon target is specifically for Scope 1 and 2 carbon emissions. These have reduced since 2004 by (Scope1) 52% and scope 2 has reduced since 2004 by 6%. The University continues to develop its Scope 3 baseline and targets.

The carbon reduction strategy is based on four strategic themes

- REDUCE
- EFFICIENCY
- DECARBONISE
- NEUTRALISE

The University recognises that there is no one single solution to achieve carbon reduction based on the University's business operations. The Carbon Management Action Plan will identify the carbon saving projects and this plan will be reviewed and reported periodically in order to demonstrate continuous improvements on emissions reduction.

Electricity, gas, heat, steam, diesel, water, etc. at the University are generally consumed in electrical and mechanical plant rooms, research, teaching & support activities, student accommodation and leisure and recreation. Therefore, the responsibility of carbon emissions reduction at the University lies with all stakeholders. The Carbon Management Teams identified in Section 10 will work with the stakeholders to identify emissions reduction opportunities within *unregulated* energy controlled by building users such as scientific lab equipment, PC and peripherals. Estates & Campus Services will mainly focus on *regulated* energy i.e. that which is under Estates & Campus Services control through building operational and infrastructural, such as heating, ventilation, lighting, building façade and fabric, etc.

The University has committed approximately £205K using Revolving Green Funds each year to reinvest in buildings energy efficiency projects. The Capital Plan will upgrade 15% of the building stock that contributes 7% of the current carbon footprint. Any other funds required will be based on a business case approach. The University will continue to explore local and national partnership working to implement large and medium scale low or zero carbon projects.

### **University's Commitment to Build Energy Efficient Buildings:**

Estates & Campus Services has adopted the principle of striving to achieve Energy Performance Certificate (EPC) ratings of 'A' for new builds and 'B' for building refurbishments, Building Research Establishment Environmental Assessment Method (BREEAM) 'Very Good' aspiring to 'Excellent' for new builds and 'Good' aspiring to 'Very Good' for refurbishments and incorporate Passivhaus designs wherever possible.



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## Carbon Reduction Strategy

To achieve the carbon emissions reduction targets, the University has adopted the following strategic objectives of REDUCE, EFFICIENCY, DECARBONISE and NEUTRALISE.

These are summarised as:-

### REDUCE

- **Sustainable Design**

All major and minor building projects will follow sustainable design principles as instructed in the University's Design Guide.

- **Behaviour change**

For an effective energy awareness programme, it is important to get the fundamentals right such as support and resources, an appreciation of the current situation, as well as understanding and targeting specific audiences, setting achievable goals and having the appropriate messages and communication strategies.

- **Carbon-space management efficiency**

Energy and cost savings can be achieved through efficient use of space in buildings. This could be through efficient timetabling, use of zoning in buildings, making use of the most energy efficient buildings out of hours and purchasing and renting highly efficient buildings.

- **Monitoring, targeting, reporting, policy and procedures**

The University has over 1,000 meters monitoring building utility consumption. The half-hourly data is imported into two aM&T systems for utility analysis, reporting and bill validation. There are numerous minor, major and capital work programmes taking place each year to develop the University's facilities. It is important that existing policies and procedures that are used for these works programmes have a low carbon focus embedded into them.

- **A model for a *Virtual Devolved* budget**

Utility budgets at the University of Leicester have been devolved to Residential and Commercial Services, Sport and Garden and to commercial businesses trading at the University but not to academic departments. Developing a model for a virtual devolved budget for Colleges/Departments would give more responsibility for energy use to the consumer. The main benefits of such a scheme for the University are: senior management buy in for energy savings, departmental discussions of energy use at budget setting, carbon/energy cost considerations when producing business cases and promoting energy efficiency within departments.

### EFFICIENCY

#### **Understand energy use and Building energy efficiency projects**

99.7% of the University's scope 1 and 2 emissions are from energy used in buildings. 39% of the emissions are related to heating and the remaining is related to power.

Determining the regulated and unregulated loads in buildings to understand what proportion of energy the building users are responsible for and what is related to space heating and other core power requirements can influence energy savings. Regulated and unregulated loads for selected academic buildings are listed in Appendix 7.

The existing building stock (approx. 291) requires in-depth energy audits of the following: efficiency of cooling, heating and ventilation systems, building fabric, lighting and small power (PC, office



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equipment, laboratory equipment, etc.). It is important that the University aims to bring all of its existing building stock up to acceptable energy performance levels.

- **Building management systems and controls**

The University has a well-established Building Management System (BMS). BMS is an excellent tool for remote and real-time maintenance. The BMS can also be used as a Building Energy Management System (BEMS).

The University has BMS installed in 95% of the non-residential buildings and across 60% of the residential buildings.

A BEMS action plan has been developed for all centrally timetabled spaces, departmental meeting rooms, department seminar rooms and common rooms. The action plan as part of the BMS strategy will need to be developed to include upgrading the controls to a building, by zones, etc.

- **Upgrade inefficient buildings**

Poor energy performing buildings increase operational running costs and produce excessive carbon emissions. It is important to strategically identify the worst performing buildings and target energy efficiency improvements as part of the Condition 'C' Plan.

- **Green ICT**

ICT is at the heart of the University's business activity. Inefficient management of ICT consumes additional energy, which costs money and contributes to the University's carbon footprint.

- **Owned travel fleet**

0.3% of the University's scope 1 and 2 emissions are related to fuel consumed by owned travel fleet. Although the emissions from travel fleet are very small in comparison to buildings emissions, it is important to green the University's fleet and make cost savings.

## **DECARBONISE**

- **BEFRIEND**

### **Decarbonisation of electricity grid**

The UK government has legal 2020 and 2050 carbon emissions reduction targets. The University purchases a large volume (40% of total energy consumed) of electricity from the grid. The electricity from the grid is generated by a combination of fuel sources including fossil fuel and renewables. Decarbonisation of the electricity grid means increasing the energy generated using low carbon and renewable sources and reducing the dependence on carbon-intensive fossil fuels.

- **Leicester District Heating Partnership**

The University is in a Partnership with Leicester City Council and the third party energy provider. The scheme provides carbon emissions savings on the heat supplied to University buildings. The heat from this scheme was anticipated to account for 20% of the University's energy portfolio. Therefore, the emissions factor reduction for this heat is dependent on the efficiency of the scheme and low carbon fuel sources.

- **Large scale low or zero carbon technology expansion**

To decarbonise the fuel supplies used on the University sites, it is important to incorporate large low or zero carbon technologies such as CHP, Biomass, Ground/Air Source Heat Pump, etc. into existing non-residential and residential buildings and also to be considered as part of any new major refurbishment and development. These low carbon technologies would provide the



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University with a certain level of energy security and carbon savings.

- **Onsite renewable generation**

To reduce annual energy costs and mitigate fossil fuel dependence, it is important to explore the incorporation, where appropriate, of photovoltaic (PV) panels, Ground/Air Source Heat Pump, solar thermal, etc. into existing and new buildings.

## **NEUTRALISE**

- **Procurement of Energy**

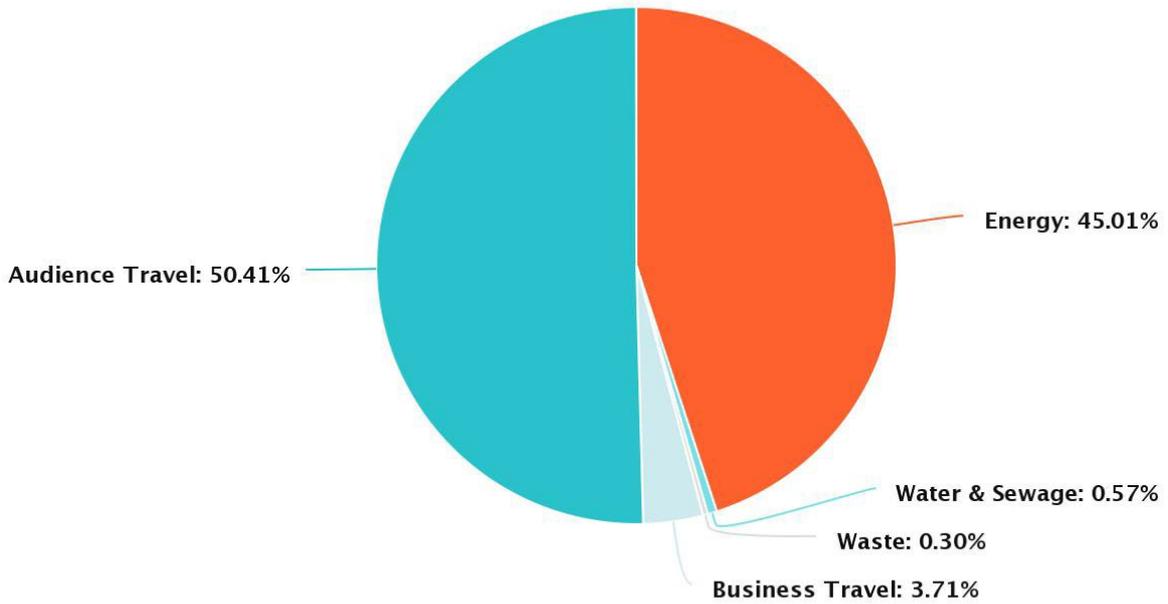
The University will aim to purchase a proportion of available green energy on all future energy contracts.



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### Julies Bicycle Data 2019 showing AAC Environmental impact

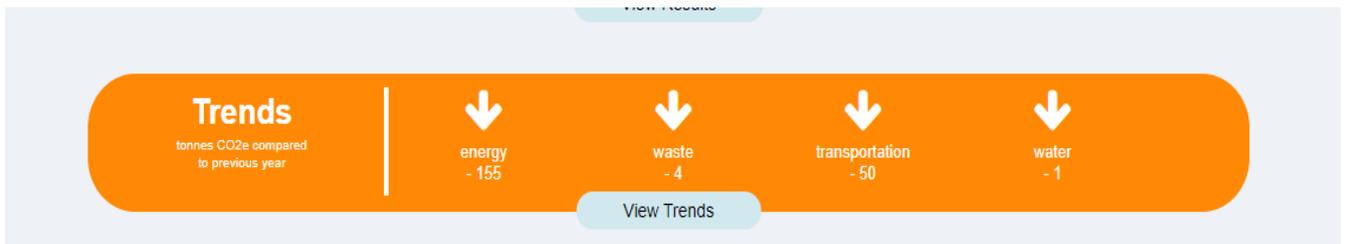
As an NPO client of ACE the AAC is signed up to using the principles and reporting mechanisms of Julies Bicycle.



### Summary

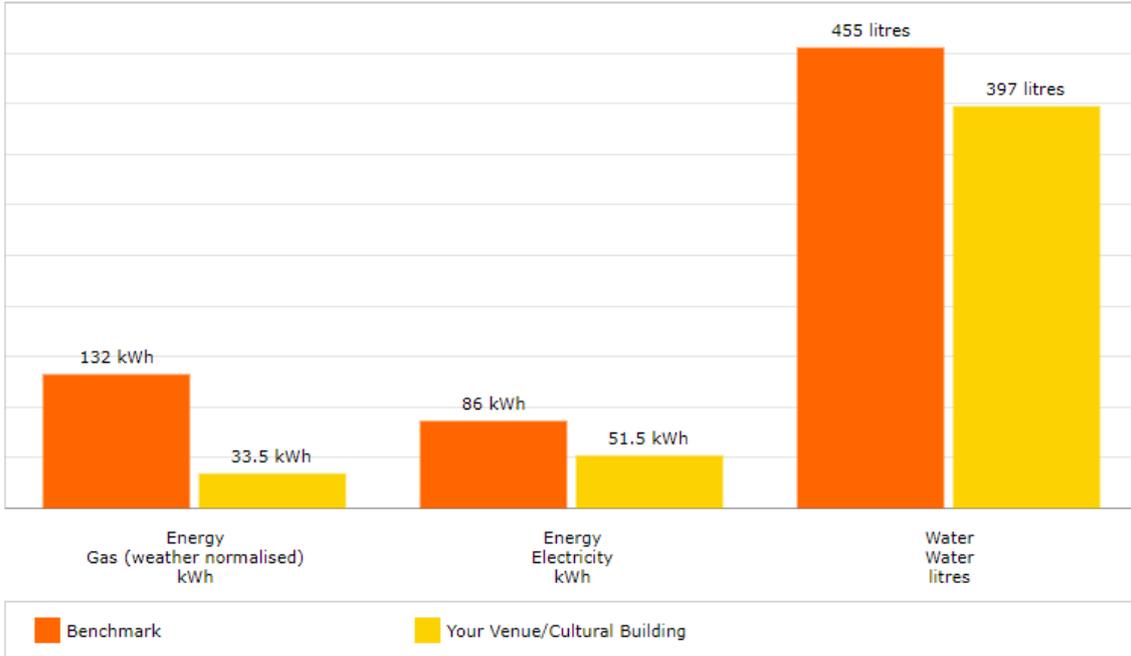
Impact	Consumption	carbon
Energy		57 tonnes Co2
Water and sewage	1,364m3	717kg CO2
Waste	1 Tonne	377kg CO2
Business Travel		63 tonnes CO2
	<b>Emissions total</b>	<b>126 tones CO2</b>

### Change from 2018



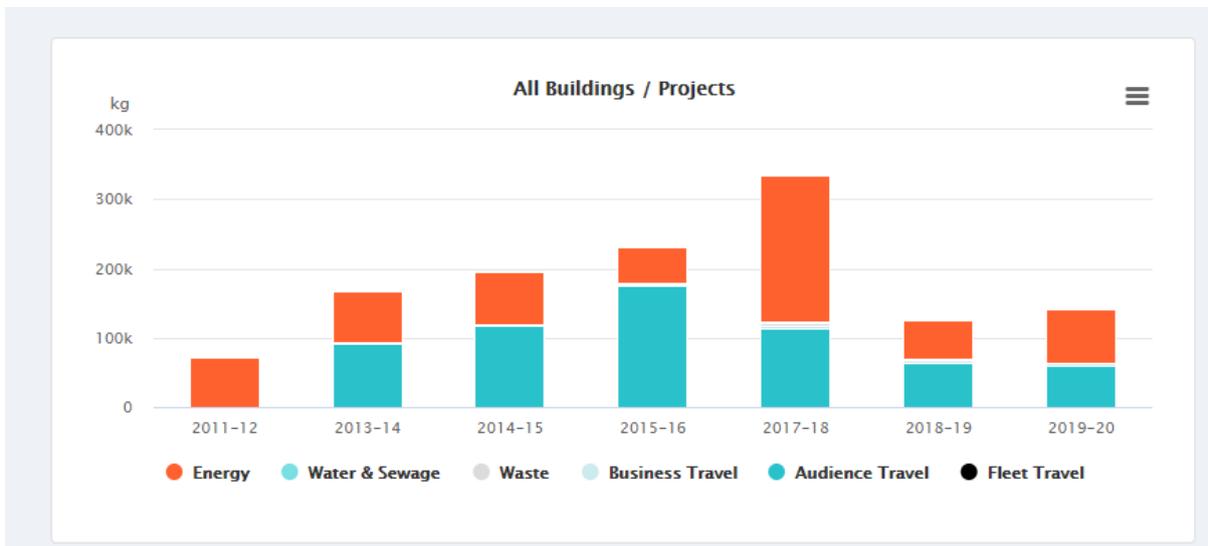


Museums & Galleries  
Venue/Cultural Building: Attenborough Arts Centre. April 2018 - March 2019



### Julies Bicycle data 2020

Data from 2020 show that the AAC has consumed more energy by 21% than on the previous year increasing our carbon footprint from 126 tonnes to 142 tonnes. There was a reduction in Co2 caused by waste, water and travel however a significant increase in energy use.

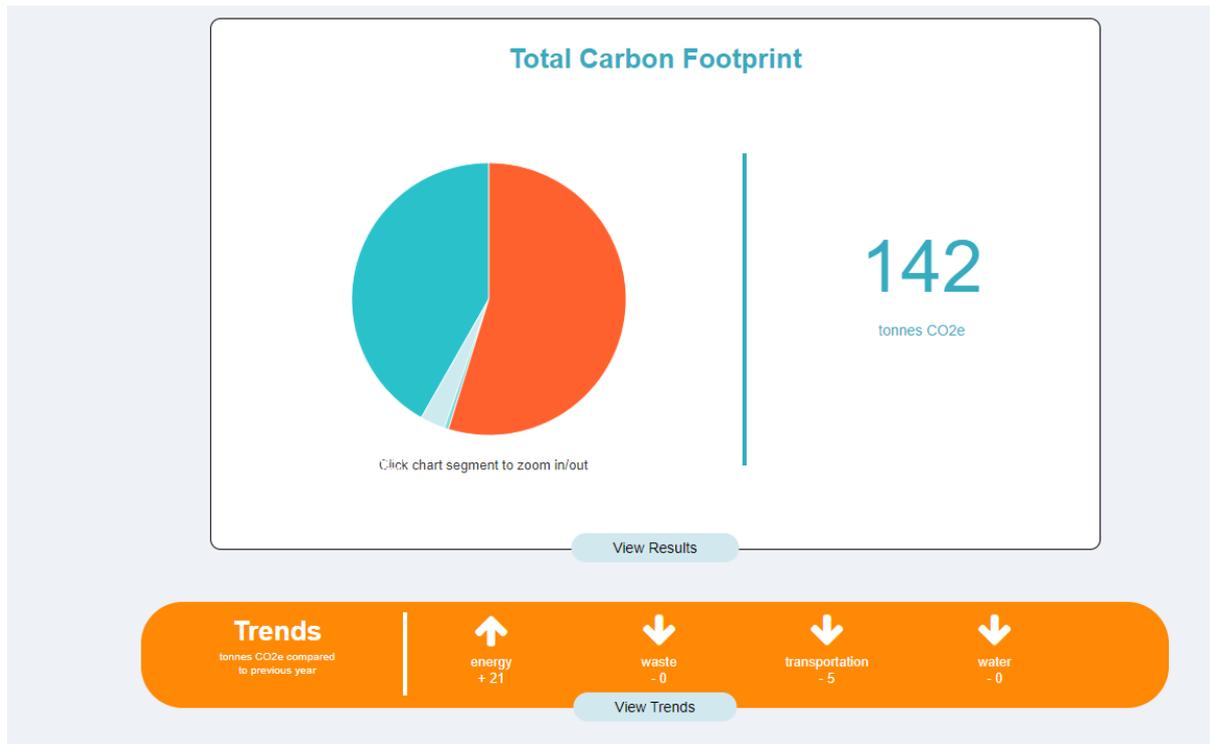




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However this is still a significant reduction on 2017-18 energy consumption.

2020 data is below

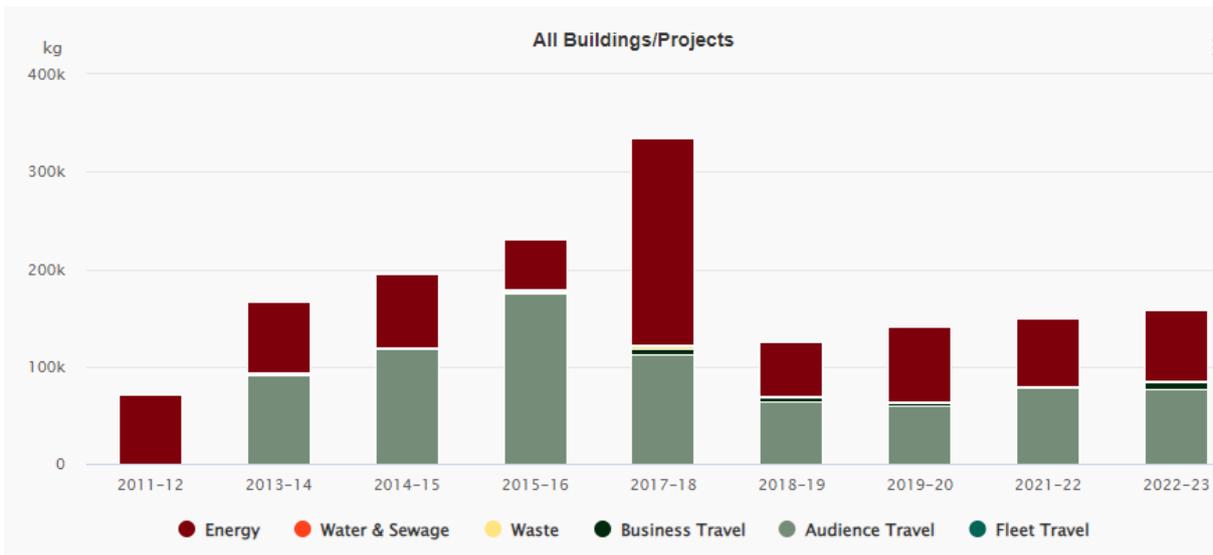
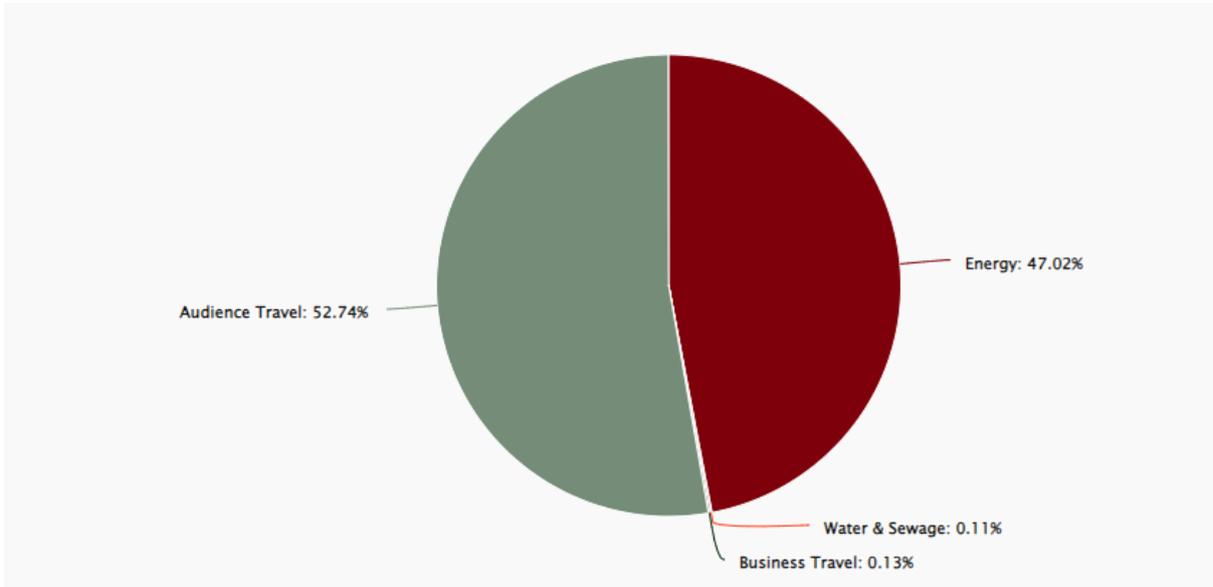


### Results for 2021-22

Footprint	Energy	Water & Sewage	Waste	Business Travel	Audience Travel	Fleet Travel	Total
Attenborough Arts Centre	70 tonnes CO <sub>2</sub> e	168 kg CO <sub>2</sub> e	0 kg CO <sub>2</sub> e	190 kg CO <sub>2</sub> e	79 tonnes CO <sub>2</sub> e	0 kg CO <sub>2</sub> e	149 tonnes CO <sub>2</sub> e



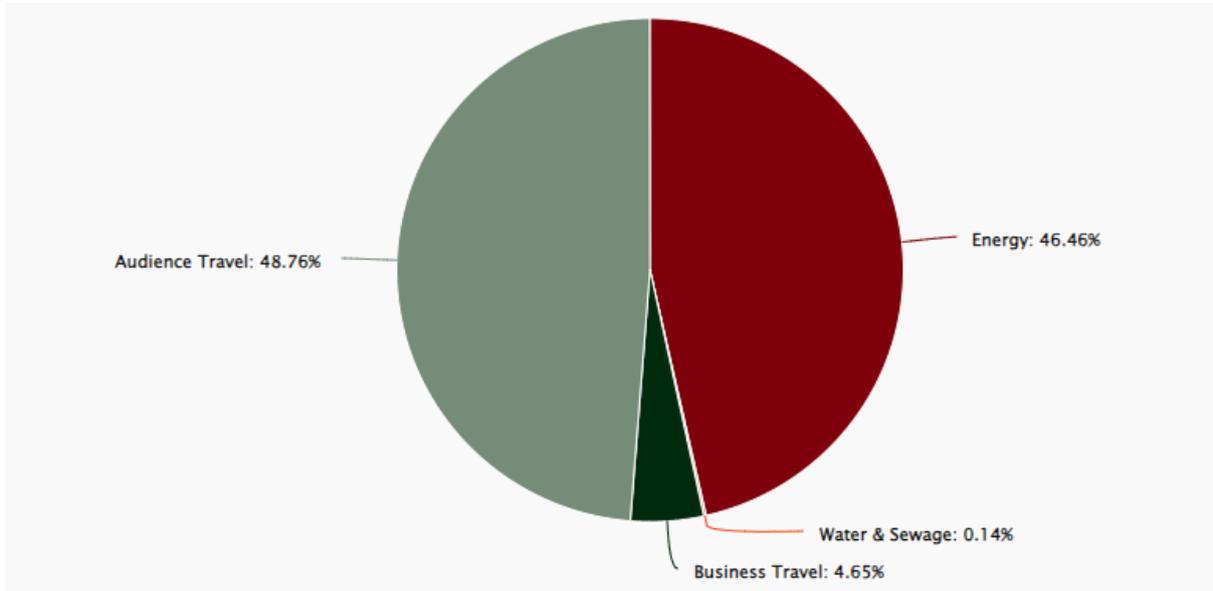
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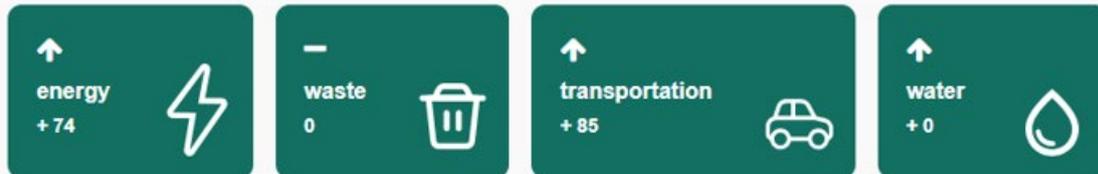
## Results for 2022-23



### Trends

tonnes CO<sub>2</sub>e compared to previous year

[View Trends](#)



 **Editing Attenborough Arts Centre**  
**Attenborough Arts Centre 2022-3**

**158.5 tonnes CO<sub>2</sub>e**



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## Next Steps and Actions for 2023-24

### Action Plan

Action	By when	Complete y/n
The University is exploring the option of Ground Source Heat Pumps for the Attenborough Arts Centre, this would significantly reduce the carbon footprint of the centre.		
The AAC has included travel into its Illuminate survey forms to ascertain a bench mark for visitor travel to the centre.	Start from August 2023	
As a part of the University's commitment to reducing its impact on the environment the AAC will be creating its own Local Environmental Action Plan.	October 2023	
The AAC will promote the local sustainable electric free bus on its web site.	September 2023	y
The AAC will add the Local Environmental Action Plan and AAC Environmental Policy along with the UoL Environmental Sustainability Policy to our web site.	October 2023	
There will be regular meetings of the Environmental Sustainability Group	On going	y
Maintain the bee friendly garden	On going	y