**Environmental Sustainability of Biomedical and Health Research**

The focus of this staff and postgraduate student survey is on understanding attitudes to environmental sustainability in biomedical and health research with a view to exploring any barriers or opportunities that we can address through the Sustainable Research sub-committee which will drive forward actions in the University’s new Sustainability Strategy.

**1. Department/School \***

* Allied Health Professions and Nursing
* Biochemistry and Systems Biology
* Biosciences
* Cardiovascular and Metabolic Medicine
* Clinical Directorate
* Clinical Infection, Microbiology and Immunology
* Dentistry
* Education Directorate
* Evolution, Ecology and Behaviour
* Equine Clinical Science
* Eye and Vision Sciences
* Health Data Science
* Infection and Microbiome
* Livestock and One Health
* Medicine
* Molecular and Clinical Cancer Medicine
* Musculoskeletal and Ageing Sciences
* Pharmacology and Therapeutics
* Primary Care and Mental Health
* Psychology
* Public Health, Policy and Systems
* Research and Impact Directorate
* Small Animal Clinical Science
* Technology, Infrastructure and Environment Directorate
* Veterinary Anatomy, Physiology and Pathology
* Veterinary Science
* Women's and Children's Health
* Not listed

**2. Status (if you match both categories, please select your primary role) \***

* Staff
* Postgraduate Student

**3. Which of the following aspects of biomedical and health research are you involved with (select all that apply)? \***

* Research Design
* Computationally intensive research (including data processing and software engineering)
* Laboratory sample handling, analysis and storage
* Interaction with patients/public for research assessments (consent, outcome measurement, interviews, etc.)
* Analysis of data from individuals (including data from biological samples, healthcare systems data, or other
* patient data
* Project management
* Other

**4. If you selected 'other' please specify.**

**Attitudes to climate change risk**

Please rate each of the statements below

1 = strongly disagree

2 = disagree

3 = neither agree nor disagree

4 = agree

5 = strongly agree

**5. Climate change is beyond control, its too late to do anything about it.**

1 2 3 4 5

**6. The effects of climate change are too far in the future to really worry me.**

1 2 3 4 5

**7. People in the UK will be affected by climate change in the next 30 years.**

1 2 3 4 5

**8. If things continue on their current course, we will soon experience a major environmental disaster.**

1 2 3 4 5

**9. The so-called ‘environmental crisis’ facing humanity has been greatly exaggerated.**

1 2 3 4 5

**10. How relevant is mitigation of the environmental impact of research in your area?**

* Highly irrelevant
* Irrelevant
* Neither irrelevant nor relevant
* Relevant
* Highly relevant

**11. How often have you considered how much carbon was generated from your professional behaviours when undertaking research?**

* Always
* Most of the time
* Sometimes
* Hardly ever
* Never

**12. Have you completed any training or attended any event related to the environmental sustainability of biomedical and health research?**

* Yes
* No

**13. What training or events have you attended?**

**14. Do you work in clinical trials?**

* Yes
* No

**15. Which of the following climate change initiatives within clinical trials do you engage with?**

* Consideration of environmental impact at the clinical trial design stage
* Promotion of virtual patient care and assessment within clinical trials for sustainability reasons
* Promotion of remote and central monitoring within clinical trials for sustainability reasons
* Climate assessment of procured services or purchases
* Patient education to explain greener approaches to clinical trials
* None of the above
* Other

**16. If you selected 'other' please specify.**

**17. Do you work in laboratory-based research?**

* Yes
* No

**18. Which of the following climate change initiatives within research labs do you engage with?**

* Research staff inductions in environmental sustainability in research
* Student education/training in environmentally sustainable practices in the lab
* Involvement of post-doctoral researchers and PhD students
* Promotion of the use of environmentally sustainable practices in the lab – following LEAF framework
* Supporting applications for LEAF accreditation
* Climate assessment of procured services or purchases
* None of the above
* Other

**19. If you selected 'other' please specify.**

**20. Do you work in computationally intensive research?**

* Yes
* No

**21. Which of the following climate change initiatives within computationally intensive research groups do you engage with?**

* Adoption of hardware replacement schemes to reduce dependence on older inefficient technology such as PC replacement schemes
* Adoption of e-waste schemes to ensure waste is re-used or recycled
* Training in environmentally sustainable practices, such as power save modes and shutdown of systems when not used
* Adoption of environmentally efficient platforms such as shared compute and storage infrastructure, magnetic tape storage
* None of the above
* Other

**22. If you selected 'other' please specify.**

**23. Please tell us about any new ideas you may have to improve the environmental sustainability of your research (open question)**

**24. Which of the following sustainable research policies and recommendations are you aware of?**

* Wellcome Trust Environmental Sustainability Policy
* Concordat for the Environmental Sustainability of Research and Innovation Practice
* NIHR Carbon Reduction Guidelines
* Wellcome Trust compiled list of initiatives for sustainable health research

**25. Which of the following University of Liverpool policies and initiatives are you aware of?**

* Sustainability Strategy
* Environmental Policy
* Waste Management Plan and Waste Initiatives
* Environmental Management System
* Sustainable travel guidance
* Climate Plan
* Food and Drink Sustainability Policy
* Sustainable Events Guidance
* Responsible and Sustainable Procurement Policy
* Ethical Investment Policy
* Laboratory Efficiency Assessment Framework (LEAF)

**26. Which of these challenges do you see to the uptake of more sustainable research practices within your Department/School?**

* Competing time pressure at leadership level
* Lack of training and guidance
* Staff attitudes / general workplace culture
* Financial constraints
* Resource constraints
* Lack of engagement
* Lack of authority to influence change
* Lack of motivation due to bureaucracy/change requiring complex procedures
* Additional cost of sustainability adaptations/measures
* Time
* Lack of support
* Competing priorities
* All of the above
* None
* Other

**27. If you selected 'other' please specify.**

**28. Which of the following potential actions to monitor or reduce the climate impact of research is relevant to your research?**

* Using alternatives to flying to conferences/project meetings where possible (for example train travel)
* Joining conferences/project meetings virtually instead of travelling to them
* Attend fewer international conferences
* Taking public transport when commuting to work
* Working remotely
* Online/remote data collection, rather than travelling to meet with participants
* Replace old equipment with newer energy-efficient equipment
* Using less energy-intensive data collection methods
* For lab-based research, adopting the LEAF framework
* Storing less data on university (or other) servers
* Using more efficient green computing/analysis methods
* Adding a sustainability statement to papers for journal publication
* Embedding considerations of sustainability into initial ethics applications or when initially planning/designing studies
* Calculating the carbon footprint of research activities
* Other action

**29. If you selected 'other action' please specify.**

**30. What else would encourage you to embed sustainability within your research process more in the future? What incentives could be provided? If anything, how could the university help support this?**

**31. Do you consider research sustainability in external funding applications?**

* Yes
* No

**32. Do you include time/costings to mitigate the environmental consequences of the research that you undertake?**

* Yes
* No

**33. Can you think of any potential downsides/negatives to embedding sustainability in research more?**

* Yes
* No

**34. What downsides/negatives can you think of?**

**35. Would you be willing to volunteer or champion sustainability actions in your department?**

* Yes
* No
* Maybe

**36. Please share any thoughts/comments relating to environmental sustainability not already covered above**