My Science Inquiry (September 2022)

For more information about the enquiry please visit: https://committees.parliament.uk/work/6845/my-science-inquiry/

Background:

The Physiological Society (The Society) is Europe's largest network of physiologists, at the forefront of science for 146 years. Physiology is the science of life, and research in physiology helps us to understand how the body works in health, what goes wrong in disease, and how it responds and adapts to the challenges of everyday life. The Society's membership is made up of researchers in all of these areas, from neuroscience through to endocrinology, nutrition and sport and exercise science with the science ranging from the mechanistic to the applied, from molecular to whole body.

The Commons Science and Technology Committee launched a call for potential topics of inquiry in the areas of science and technology. The 'My Science Inquiry' invited proposals on what the Committee should investigate next and why, including what action is needed from the Government. The Committee sought ideas for inquiries from the science, research and innovation communities as well as the wider public.

The Physiological Society proposed the topic *Climate change and its impact on human health research priorities*' since climate change is the single biggest health threat facing humanity. Physiology and the science community as a whole is an essential part of the response to the climate crisis as it helps us understand the consequences of climate change for humans and other animals. As the science of how the body works, physiology explains the impact of climate change on our health and productivity, as well as the scope we have for mitigation and adaptation. In so doing, physiology is integral to the future of life.

Consultation response:

Why the Science and Technology Committee should examine this area

The World Health Organization (WHO) has identified climate change as the single biggest health threat facing humanity. Progressive heatwaves, together with the increase in ground-level ozone, worsen respiratory as well as cardiovascular health. Similarly, floods, droughts and storms are ever more frequent and severe due to climate change. They are an immediate risk to life as well as subsequently affecting health and physical work capacity.

Such catastrophic events will also increase the demand for resources to counter them such as protective equipment design, respiratory protection, designing new cooling mechanisms, acclimatisation, developing public health and occupational health guidelines as well as tools to protect vulnerable populations.

Why is this the right time for the Committee to examine the area

Last year, the UK had the Presidency of COP26 and a number of key commitments were made including the Glasgow–Sharm el-Sheikh work programme on the global goal on adaptation. As we prepare for COP27 in Sharm-El-Sheikh later this year, we believe the Committee should look closely at how human health research can work through individual and interdisciplinary research to mitigate, adapt and solve this existential emergency.

Why this area would benefit from parliamentary scrutiny

The Government has made significant policy targets as part of its Net Zero strategy. As cost-of-living and energy crises continue to be salient in voters' minds, we must ensure that the new administration does not deprioritise the previous Government's commitments to climate change and ensures that securing human health and reducing our reliance on fossil fuel-derived energy is at the heart of our response to climate change.

Why the Government needs to act in this area

Extreme weather events can result in the loss of biodiversity and cause collapse ecosystems to collapse, which in turn can lead to mass starvation and conflict. The government will also have to consider the financial cost of dealing with floods, droughts and other extreme weather events.

How Government policy in this area could be developed or improved

Physiology and biomedical research are essential parts of the scientific response to climate change as they help us understand ways to mitigate climate change as well as the consequences of climate change for humans and other animals. There are other areas of research too beyond biomedical science that will need to be deployed and work collaboratively to address the climate emergency. Physiology will represent an essential component of such collaboration.

Related reading

Physiology and Climate Change

The Climate Emergency: Research Gaps and Policy Priorities