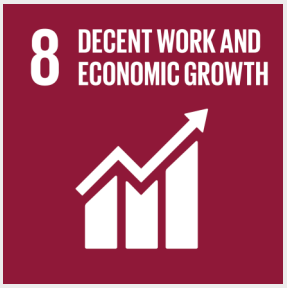

UNIVERSITY OF EXETER

Research partnerships and collaborations helping to address the sustainable development goals

Below is an example demonstrating our response to Target 8.4:

Improve progressively, through 2030, global resource efficiency in consumption and production and endeavour to decouple economic growth from environmental degradation, in accordance with the 10-year framework of programmes on sustainable consumption and production, with developed countries taking the lead

Exeter's National Interdisciplinary Circular Economy Research Hub (CE Hub) is the lead co-ordinating centre working with the five UK Circular Economy Centres (CE Centres) which are exploring how reusing waste materials in a wide range of industries, including textiles, construction, chemical and metals, could boost the economy as well as deliver massive environmental benefits.

Areas of research include research on multidisciplinary plastics research. This work used the principles of the circular economy to address the accumulation, impact and costs of plastics in the environment, whilst maintaining applications for multiple high value purposes. The programme looked to address both the causes of the problems and efforts to solve them, rather than just treating the symptoms. This research effort connected technical solutions, human behaviours, social, environmental and economic systems with circular economy principles. Another of its research strands investigated the use of innovative manufacturing methods to enable the reliable and scaleable production of evolvable bio-hybrid systems that possess the inherent ability to sense and repair damage and 'self-heal' in the form of 'immortal' products. This will ultimately lead to the development of products and devices that can continue to function without needing repair or replacement over the course of their life.

Also led by Exeter is research on how to create a circular economy for the technology metals such as cobalt, rare earths and lithium that are essential in all clean and digital technologies including electric cars and wind turbines. The Centre will apply circular economy principles to every aspect of mineral use in clean and digital technologies, including the initial extraction stage.

The research will start with a case study of the industry ecosystem in Cornwall. With its exploration projects for the technology metals, lithium, tin and tungsten, the region has the opportunity to lead in whole systems circular economy actions for these metals.

To find out more about the Exeter Centre for Circular Economy: Centre for Circular Economy | The Exeter Centre for Circular Economy | University of Exeter