

Sector plan for health and safety: **Bioeconomy**

This sector covers a diverse range of activities, cutting across many industries and exploiting biologically-based technologies to tackle global challenges facing humanity in food, chemicals, materials, energy production, health and environmental protection.

The UK is a global leader – the life sciences

sub-sector alone employs 233 000 workers and has an annual turnover of £64 billion.

In addition, the UK aims to grow a £10 billion synthetic biology market. The Organisation for Economic Cooperation and Development (OECD) estimates that the bioeconomy could grow to achieve almost 3% of GDP in OECD countries by 2030.

Current position

The sector has a good health and safety record, with a high level of control of the most hazardous organisms. However, the major-hazard dimension to some organisms and technologies means there is no room for complacency.

At the heart of a thriving bioeconomy is cutting-edge science and the development of new technologies, such as biodesign, precision-personalised medicine, genome editing and synthetic biology.

Rapid innovation requires a flexible and proportionate regulatory framework and responsible leadership across the sector, extending to non-traditional users, such as engineers and ‘citizen scientists’.

Societal concern, particularly around genetically modified organisms and biosecurity, means incidents could have a negative impact on the future growth of the sector.

Outcomes and priorities

Working on the most dangerous organisms affecting humans, animals and plants requires high levels of containment and security. The ability to create new disease-causing organisms – either deliberately or

accidentally – requires strong risk management as well as national and international collaboration and leadership to achieve the following outcomes:

- Prevent incidents with the potential for extensive harm to workers, members of the public and the environment
- Deliver competent leadership across the sector
- Ensure risk management keeps pace with innovation and change



What HSE will do to #HelpGBworkwell

We will reduce the likelihood of low-frequency, high-impact catastrophic incidents by:

- providing a proportionate, prepared and timely response to the changing human and animal disease picture, through:
 - delivering a programme of assessments and interventions focused on the highest-hazard sites;
 - providing the government's contribution to controlling the accidental release of hazardous organisms, as part of the UK biosecurity strategy refresh;
 - delivering interventions at facilities handling the polio virus to support the government's response to the World Health Organisation's polio eradication programme;
 - making sure new developments in containment systems are safely applied.

We will lead and engage with others to improve workplace health and safety by:

- leading and supporting the establishment of a new cross-sector strategic leadership group for Great Britain;
- engaging and supporting non-traditional users of biotechnology to develop safety frameworks for their communities using insight research and modern communication approaches.

We will provide an effective regulatory framework by:

- playing an active role in the national Governance Subgroup of the Synthetic Biology Leadership Council;
- a targeted programme of appropriately designed interventions for developments in modern biotechnology.