

# Appendix 3

## In this guide

[In this guide](#)

- 1. [Online Survey Responses](#)
- 2. [Appendix 1](#)
- 3. [Appendix 2](#)
- 4. [Appendix 3](#)
- 5. [Appendix 4](#)
- 6. [Appendix 5](#)
- 7. [Appendix 6](#)
- 8. [Appendix 7](#)
- 9. [Appendix 8](#)
- 10. [Appendix 9](#)

**Table 3. Summary of responses: Are there other changes (at any stage of development) aimed at achieving net zero that you expect to make an impact? What are they?**

Category	Academia	Manufacturing	Farmers & veterinary surgeon	Other
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**Farming  
methods**

- Gene editing
- For crop and livestock resilience
- Livestock and rumen microbes as part of the pangenome approach
- Land use
- Balance between for agriculture and for carbon storage
- Supply shed natural climate solutions
- Novel carbon-storing soil amendments (biochar, enhanced rock weathering)
- Alternative to the Haber-bosch process
- Controlled environment farming (CEF)

## Energy

- Green energy
  - Bioenergy with carbon capture and storage - not in the food system, but uses land so will affect the food system
  - Replace water heated, jacketed pipework with lower energy electrical systems
  - Solar powered thermally efficient systems working at the 50-95 degree Celsius range.
  - Energy reduction
- Green energy
  - Governmental support for the development of new sustainable energy technologies to replace hydrocarbon use
  - Clean hydrogen instead of methane as a gas supply.
  - Fusion
- Green energy
  - Electrification
  - Decarbonisation of crop systems grown in tunnels
  - Hydrogen economy investment by government
  - Carbon capture for soil sequestration

- Government investme
- Adoption National I Strategy

**Government**

**Transport**

- Shorter supply chains
- Reduced car use post Covid; reduced flying.

- Move to predominantly sea freighted / road transported imported produce away from Air freight.

- Vehicle electrifica

**Consumer diet change**

- Public attitude and education, cultured meat expansion and acceptance and fermented meat substitutes expansion and acceptance.

- Reducing import of animal protein from high Greenhouse Gas (GHG) emission intensity systems
- 'Quality not quantity' changes in consumer eating habits.

- Consumer being par solution
- Novel foo
- Alternativ protein production

- Conversion  
reduction  
food waste
- Into 'ferti'  
at scale
- Valorisati  
side strea
- Reducing  
waste
- Recycling  
polypropy

**Waste**

- Development  
of circular  
economy  
principles to  
utilise waste  
streams

**Packaging**

- Bio-based  
materials in  
long-lived  
consumer and  
construction  
products

**Measurement**

- Better  
diagnostics and  
analytical  
approaches
- Measuring  
baselines on  
farm
- Measure  
and moni  
of Greenh  
Gas (GHG  
emissions  
environm  
performa

## **Technology**

- Robotics, Information and Communication Technology (ICT) developments on farm and in factory environment (Industry 4.0).