

Appendix 3

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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 (CEFs)

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 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

Waste

- Development of circular economy principles to utilise waste streams

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

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).