Appendix 1

In this guide

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Table 1. Summary of responses: What new changes towards net zero are being implemented already? (Inside your sector)

Category	Academia	Manufacturing	Farmers & Veterinary Surgeon	C

Farming methods	• Soil Management
	  ◦ Improving nutrients
	  ◦ Increase carbon sequestration
	  ◦ Offsetting carbon pollution through NPP
	• Manure management
	  ◦ Anaerobic digestion
	• Animal husbandry
	  ◦ Improving utilisation of feed
	  ◦ Improve fertility
	  ◦ Improve genetics
	• Changes to procurement practices
		• Regenerative farming techniques
		  ◦ No/minimal till
		  ◦ Cover crops and nitrogen fixing crops
		  ◦ Mixed rotations which include livestock
		  ◦ Nutrient management
		  ◦ Hedgerow and woodland management
		• Productivity improvements
		  ◦ Animal and plant health
		  ◦ Basic knowledge exchange
		  ◦ Improved genetics
		  ◦ Energy efficiency
		  ◦ Precision farming
		  ◦ Nutrition
		  ◦ Reproduction

Energy	• Green energy
	  ◦ Closer connectivity between heating and cooling systems
	  ◦ Renewable energy
	  ◦ Changing energy grid
	  ◦ Enhanced efficiency in existing systems through energy conservation, monitoring and utilisation
	• Crop breeding
	  ◦ Low energy rice and grain processing, potential for 90% energy reduction.
		• Green energy
		  ◦ Removal of coal and fossil fuels
		  ◦ Renewable sources
		  ◦ Solar panels
		  ◦ Electric vehicles
		• Energy use reduction
			• Green energy
			  ◦ Through anaerobic digestion
			  ◦ On-site renewable sources

Farming inputs	• Integrated pest management (IPM)
	• Targeted pesticide and agrochemical use.
		• Alterations to fertiliser practises
		  ◦ Move from inorganic to organic fertilisers
		  ◦ Abated fertiliser due to supply in the UK
		  ◦ Reduced reliance on ammonium nitrate fertiliser
		• Integrated Pest Management (IPM)
		• Reduced reliance of Plant Protection Product (PPP)

Land use	• Environmental Land Management (ELM) • Trials associated with soil carbon	• Land use change • Planting woody biomass

Consumer diet change	• Protein self sufficiency • Use of alternatives to imported protein sources.	
Waste	• Food waste reduction	• Waste reduction and management ◦ Zero waste to landfill • Water recycling and reduction.

Packaging	• Food packaging material and weight changes.	• Packaging materials
		  ◦ Net impact is negative as packaging protects and preserves products through the supply chain and the product loss that it prevents has a greater Greenhouse Gas (GHG) footprint than packaging itself.
		  ◦ Media and Corporate Social Responsibility (CSR) driven reduction of packaging (particularly substitution of plastics packaging by alternative materials) will increase GHG impact and must "follow the science" not rhetoric.
		  ◦ Including recycled content into primary food

Measurement	• Measuring of parameters	• Complete carbon footprints on-farm
Manufacturing	• Improved manufacturing efficiency • Reduce rejection and reduce rework and achieve zero waste • Deforestation policies among manufacturers	
Technology		• Innovation • Increased use of high-tech production systems (glasshouses, Controlled Environment Agriculture (CEA), hydroponics)

Transport

Processing methods

Shelf-life

Retail