## Farming For Climate Action - What Are We Waiting For?



	Action 1	Action 2	Action 3	Benefits for you
Fertiliser Use	Create a nutrient management plan to identify how to minimise artificial fertiliser application	Lock nitrogen (N) into soil by using catch & cover crops and prevent the loss of fertile topsoil and nutrients. Plant species that require less N fertiliser or will 'fix' N into the soil e.g. legumes such as clover, vetches, trefoil, sainfoin or lucerne	Use organic manures & slurries instead of synthetic N-fertiliser. Review your domestic regulations on storage and use of organic manures, slurries and synthetic fertilisers	<ul> <li>Less vulnerable to market forces, e.g. current high price of N fertiliser</li> <li>Soil fertility improves with less N fertiliser</li> <li>Reduce the need for pesticides: N fertiliser fosters fungal diseases and weeds – which need pesticides</li> <li>Improved biodiversity</li> <li>Improved water &amp; air quality with a reduction in run-off</li> <li>Reduction of emissions</li> </ul>
Crop Management	Use catch & cover crops to reduce nitrate leaching, reduce soil erosion risk, improve soil structure and provide an N source to the following crop	Cultivate land in spring not autumn for spring cropping to avoid stimulating the mineralisation of N from organic matter when there is little N uptake by the subsequent crop, resulting in increased nitrate (NO3) leaching	Increase diversity and duration into your crop rotations by introducing legumes in arable rotations and grass leys and livestock onto arable farms	<ul> <li>Funding may be available via government incentive schemes for catch &amp; cover crops</li> <li>Crop rotations help to prevent disease and pest outbreaks in annual crops</li> <li>Complying with regulation on soil erosion, leaching and run off</li> <li>Improved biodiversity, soil health &amp; weed management through livestock grazing</li> <li>Reduces reliance on synthetic fertilisers with a reduction in cost</li> </ul>
Soil Management	Carry out soil analysis, mapping & testing. Routinely analysing soil is a first step in effective decision making on soil health - apps to support you include the SOCiT App, Farm Crap App and Soil Mentor App	Increase soil organic matter by using animal manure and certified composts in place of N fertiliser, bringing livestock onto arable farm grass leys, using green manure, using cover and undersown crops	Reduce soil movement & disturbance by using lighter machinery, trying reduced till/no till farming, avoiding over-grazing, avoiding trafficking over and grazing wet land. On peat soils, less disturbance helps increase organic matter in soils vulnerable to oxidation	<ul> <li>Healthy soil is a valuable long-term asset</li> <li>Soil compaction can lead to increased surface run- off as well as drought stress, fewer grazing days, poor root growth and reduced yields overall</li> <li>Incentives available through England's Sustainable Farm Incentive for creating a soil management plan, increasing soil organic matter and for reducing soil compaction. Future schemes in devolved nations are likely to place more emphasis on good soil husbandry and associated environmental benefits</li> <li>Comply with regulations</li> </ul>
Livestock Management	Introduce legumes & herbal leys into grassland which reduces the need for nitrogen fertiliser	Improve animal health, breeding & breed selection to increase fertility, growth rates and reduce morbidity. Consider using low- input native breeds which can be outwintered. Match the stocking rates to the natural carrying capacity of the land	Change feeding techniques & feed sources by pasturing feeding or using home-grown protein sources for animal feed, co- and by-products in livestock feeds, and new technology (e.g. precision feeding). Reduce use of imported feedstocks. Consider changing grazing patterns, e.g. rotational or mob grazing	<ul> <li>Adapting to changes in demand: consumers are moving towards less but better meat production and higher-welfare animal products</li> <li>Prepared for the marketplace: retailer and supplier requirements for net-zero production methods</li> <li>Improved profitability in the medium- long-term by reducing costs &amp; being less reliant on market forces (e.g. imported feed)</li> <li>Comply with regulations</li> </ul>

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Trees and Hedgerows	Fill in gaps in hedges & increase hedge width. Allow hedges to grow taller and wider and ensure flowering plants are allowed to grow around hedgerows at the field margin. For biodiversity, coppice no more than half of a hedgerow for wood fuel & no more than 5% in any year	Manage existing woodlands by creating & following a woodland management plan and by working with nature and natural processes to enable successive generations of trees and shrubs to adapt to climate change	Plant new trees and hedgerows. Start by getting advice on the possibilities available for tree planting on your farm and create a management plan	<ul> <li>Carbon capture</li> <li>Financial incentives available</li> <li>Improved biodiversity &amp; habitat connectivity</li> <li>Natural pest management</li> <li>Flood risk management</li> <li>Improved water quality</li> <li>Improved soil health and quality</li> <li>Improved animal health, fertility and reduced morbidity when trees introduced into livestock systems (and vice versa)</li> <li>More stock-proof, reliable field boundaries</li> </ul>
Habitat Management	Identify & record farm habitat. Understand the potential and take stock of what you already have by identifying and documenting the current habitats on your farm and creating a habitat map	Improve $\vartheta$ expand existing habitats by following the habitat map improving and expanding the habitats you already have, e.g. linear features like hedgerows; wet features such as ponds, ditches and water courses; field and riparian margins; meadows; and even scrub. Improve areas of natural $\vartheta$ semi-natural habitat	Create and connect habitats to achieve more for nature and climate. Consider working with neighbours and local advisors to identify priorities for nature restoration. Engage with local Councils to understand species and habitats to support in your area & enter land management schemes which encourage landscape-scale projects	<ul> <li>Carbon capture</li> <li>Financial incentives available</li> <li>Improved biodiversity &amp; habitat connectivity</li> <li>Natural pest management</li> <li>Flood risk management</li> <li>Improved water quality</li> <li>Improved soil health and quality</li> <li>Resilience to changing climate (e.g. pest and disease outbreaks) and extreme weather events (drought, flooding, wildfire)</li> </ul>
Water Management	Buffer and protect water courses by establishing grass and/or woodland buffer strips alongside watercourses, or sensitive habitats, to intercept any overland flow, trap sediment, pesticides & prevent access for livestock	Plan & manage to prevent flooding & drought. Soil, crop & habitat management actions plus tree planting will support this. Monitor and appropriately maintain field drains and ditches. Identify places where run-off happens & manage impacts. Harvest & store rainwater	Re-wet and create new wetlands. Consider constructing a wetland or sustainable drainage system (SuDS) which can reduce localised flooding, trap/treat pollutants and provide a wetland habitat. Re-wet peatland soils	<ul> <li>Financial incentives available</li> <li>Improved biodiversity</li> <li>Protecting natural assets and farm infrastructure, which provides resilience to changing climate and extreme weather events, such as drought, flooding, wildfire</li> <li>Carbon capture</li> <li>Comply with regulations</li> </ul>
Whole Farm Management	Create a whole farm plan Look at existing opportunities and constraints for your land, and the surrounding land. Create a whole-farm plan which looks to the future and factors in potential changes coming from climate change (e.g. drought, flooding, rising temperatures, pests and disease) and which seeks to work with farmers, foresters and land managers in the surrounding landscape	Work towards your Maximum Sustainable Output. Use the work of the NFFN and Nethergill Associates to consider getting advice from a trusted advisor to support you in reviewing your MSO and considering how profitability could be linked to your partnership with nature	Review your farming systems and find the best within your own system. You may want to consider whole system change, e.g. pasture-fed livestock, agroforestry, organic, paludiculture or agroecology	<ul> <li>Stop production being pushed beyond the limits of the landscape – or risk nature and farm businesses being wiped out</li> <li>Getting a balance between food production and nature means and farming businesses are more profitable</li> </ul>