

YNYCA Rapid Adaptation Pathway Framework

Draft for Discussion v1.0

Collated Actions

Adaptation actions identified through the sectoral RAPA process and supporting climate action plans. Actions are presented by adaptation sector and comprise both 'C-series' and 'R-series' actions. The C-series actions are drawn from the York Climate Change Action Plan (City of York Council, 2024c) and primarily comprise carbon reduction measures that also contribute to climate resilience, with most closely aligned to the Built Environment and Infrastructure & Transport sectors. The R-series actions were identified by stakeholders through the sectoral Rapid Adaptation Pathway Assessment (RAPA) sessions and are specifically focused on strengthening resilience and adaptation, with delivery spanning local authorities, partnerships, and regional and national organisations. Some actions are duplicated across sectors where stakeholders identified the same or similar measures as supporting resilience across multiple systems or areas of responsibility. This reflects the cross-cutting and interconnected nature of climate adaptation rather than duplication in proposed delivery. Further detail, including the sector-specific adaptation pathways and supporting actions, is provided in Appendix 10 – Rapid Adaptation Pathways – Further Information.

Links + Resources

Supporting evidence, guidance and examples for adaptation actions. The table provides links to relevant guidance, policy, funding programmes, research and examples of good practice that may support the development and implementation of the identified actions. The sources are intended to provide additional context and illustrate potential approaches to delivery rather than prescribe specific interventions. They include national and regional guidance, local examples, sector-specific resources and evidence from wider practice that can inform future adaptation planning and implementation.

Ref	Action Summary
C01	Deliver 600 Passivhaus homes
C02	Develop large-scale retrofit mechanisms
C03	Provide home-retrofit funding
C04	Stock Condition Survey
C05	Identify routine retrofit opportunities
C06	Proactive landlord regulatory engagement
C07	Engage landlords on efficiency
C08	Run low-carbon retrofit pilots
C09	Plan council-building decarbonisation
C10	Improve health Care building Sustainability
C11	Create building risk register
C12	Give climate-smart planning advice
C13	Produce sustainability planning SPD
C14	Raise commercial environmental standards
C15	Issue retrofit planning guidance
C16	Grow sustainable construction skills
C19	Create transport risk register
C22	Funding bids for Net Zero
C23	Implement heat-cold response plans
C24	Mainstream adaptation in governance
C25	Expand climate-change communications
C26	Support York Climate Commission
C27	Promote citywide sustainability
C28	Share circular case studies
C29	Promote zero-waste businesses
C30	Enable circular economy growth
C31	Support SME decarbonisation
C32	Support business emissions reduction
C33	Develop green skills workforce
C34	Support business climate adaptation
C35	Promote regenerative local agriculture
C36	Promote local supply chains
C37	Facilitate business collaboration
C38	Deliver tourism strategy
C39	Implement biodiversity net gain
C40	Assess carbon sequestration opportunities
C41	Protect and manage trees
C42	Expand tree canopy cover
C43	Map natural capital opportunities
C44	Develop nature recovery strategy
C45	Map ecosystem health
C46	Develop carbon offsetting strategy
C20	Improve climate-risk mapping
C21	Weather and flood costs
C49	Monitor river water quality
C50	Identify district heating opportunities
C51	Deliver City LEAP project
C52	Optimise electric grid capacity
C53	Explore renewable generation opportunities
C54	Increase solar capacity deployment
C55	Assess Green Energy Park
R152	Resilience investment partnership
R153	Flexible (siesta) working
R154	Combined retrofit net zero / adaptation
R155	Air-conditioning installation
R156	Contractor heat-mitigation upskilling
R157	Property heat / humidity monitoring
R158	Urban tree planting
R159	Tree-planting guidance
R160	Homeowner heat advice
R161	Increased CAPEX

R162	Passive cooling adoption
R163	Extensions - Upgrade ventilation
R164	Private rental heat policy
R165	Designated cool spaces
R166	Cooling focused master planning
R167	Stronger building standards
R168	National SuDS consistency
C47	Upgrade flood defences
C48	Promote natural flood management
R171	Resilient development advocacy
R172	Biodiversity Net Gain
R173	Enhanced drainage maintenance
R113	Contingency planning - Flooding
R115	Flood protection schemes
R176	Climate-informed funding
R177	New home guidance
R117	Real-time flood info
R179	Multifunctional SuDS design
R180	Future Homes Standards
R181	Climate-ready long-term planning
R118	Flood-response training
R183	Cross-LRF collaboration
R12	Property flood resilience
R185	Resilient development strategy
R121	Resilience innovation support
R187	Developer engagement
R188	Retrofit SuDS
R122	Property flood resilience
R190	Climate-adaptive SFRA
R191	Climate-ready park planning
R192	Resilient archive storage
R110	Safe plant-waste disposal
R111	Flood Risk Adaptation Metrics
R112	Flood Guidance packs
R123	"York is Open" messaging
R114	Managed retreat
R125	Infrastructure maintenance
R116	LRF adaptation support
R127	Flood action groups
R13	Tourism communications plan
R119	Strategic adaptation planning
R120	Business recovery guidance
R134	Business forum collaboration
R135	Funding guidance / support
R138	Urban tree funding
R124	Resilient storage facilities
R14	Resilient artefact storage
R126	Transport resilience measures
R144	Historic-building funding
R128	Extreme-weather planning
R129	Gutter/drainage upgrades
R130	Historic building maintenance
R131	Supply-chain contingency
R132	Inclusive adaptation communication
R133	Roads & bridges upgrades
R15	Infrastructure maintenance
R169	Mandatory YNYCA SuDS
R136	Resilience investment partnerships
R137	Water literacy promotion
R17	Community resilience groups
R139	Resilience-forum support
R140	Business resilience guidance

R141	Contingency planning - Extreme Heat
R142	Business sustainability programme
R143	"Water Me" scheme
R170	Catchment-scale joint SFRA
R145	Resilient archive storage
R146	Flexible working
R195	Unified severe-weather plan
R148	Cool public spaces
R149	Street-tree planting
R150	Post-event recovery
R151	Tree-planting strategy
R174	Community flood preparedness
R175	Managed retreat approach
R194	Prioritise essential NHS services
R178	Stronger building standards - Flooding
R196	Advocate climate-resilient funding
R197	LRF climate subcommittee
R182	LNRS flood integration
R199	Embed climate impacts
R200	Integrate climate risks
R184	Humber 2100 support
R202	Guidance and monitor resilience
R203	Adaptation awareness stories
R204	Structured adaptation training
R205	Resilient ambulance power
R206	Resilient emergency plans
R186	Land-use policy monitoring
R208	Care-home sustainability grants
R189	Property flood retrofits
R210	Apply adaptation framework - Flooding
R211	Assign adaptation responsibility
R212	Lobby care-home funding - Flooding
R213	Communicate heat-health risks
R214	Issue heat alerts
R215	Install climate monitors
R216	Apply adaptation framework - High Temperatures
R217	Guide and monitor resilience
R218	Track heat-related cancellations
R219	Embed resilience in plans
R220	Provide adaptation training
R221	Share case studies
R222	Consider long-term cooling costs
R223	Monitor vector-borne diseases
R193	Flooding stakeholder engagement
R225	Develop cooling spaces
R226	Assign adaptation leadership
R227	Coordinate LRF adaptation
R228	Protect critical NHS services
R229	Use procurement for resilience
R230	Advocate better building standards
R231	Ensure backup power
R209	Climate-resilient procurement
R233	Combine net-zero retrofits
R234	Expand climate-health monitoring
R235	Grant support for care homes
C17	Develop Movement and Place plan
C18	Sustainable active travel investment
R198	Strengthen flood-alert systems
C56	Develop renewable energy skills
R1	Develop Flood-risk metrics
R2	Public flood toolkit
R3	LRF contingency planning

R201	Check and manage floods
R207	Retrofit and flood-proof
R6	LRF adaptation support
R22	Climate-smart farming
R224	Unified severe-weather planning
R9	Climate-adapted planning
R10	Business resilience guidance
R11	Resilience innovation programme
R232	Lobby care-home funding - High temperatures
R240	Develop integrated water plans
R238	Collaborate on flood management
R242	Implement strategic catchment planning
R16	Transport resilience measures
R29	Soil moisture enhancement
R18	Water awareness campaigns
R19	Future resource modelling
R20	Sustainable land partnership
R32	SuDS implementation
R249	Avoid high-risk infrastructure sites
R23	Permeable surfaces promotion
R24	Water-efficiency incentives
R252	Co-ordinate drought-flood planning
R26	Behavioural water savings
R69	Blue-green strategy
R28	Reservoir approval reform
R71	Increase soil carbon
R30	Upland water storage
R31	Greywater reuse expansion
R75	Agroforestry adoption
R78	Agricultural resilience training
R34	Place-based renewables
R79	Farm tree planting
R36	Housing rainwater systems
R37	Reservoir capacity restoration
R38	Agricultural rain harvesting
R39	Water conservation incentives
R40	Leak reduction measures
R41	Mains renewal
R42	Treatment capacity expansion
R43	Efficiency-linked incentives
R44	Reservoir expansion
R45	Water-grid upgrades
R46	Raw-water transfers
R236	Guide care homes preparation
R237	Establish shared resilience targets
R147	Rainwater harvesting - Business premises
R239	Report climate adaptation progress
R4	Managed retreat implementation
R241	Align partner investment timing
R5	Flood-protection schemes
R243	Integrate climate in emergencies
R244	Plan for higher maintenance
R245	Coordinate LRF and utilities
R246	Maintain underground asset register
R247	Map critical infrastructure assets
R248	Harden and add redundancy
R57	Floodplain restrictions
R250	Apply updated climate allowances
R251	Continue collaborative reporting
R58	Updated land-use policy
R73	Rainwater harvesting
R48	Catchment planning

R49	Farming collaboration
R50	Landscape partnerships
R51	Joint funding
R52	Agricultural training on regenerative practices
R53	Improve livestock impact
R54	Soil aeration
R55	Expand hedgerows
R56	Adopt agroforestry
R64	Seasonal flooding support
R66	SuDS implementation
R59	Upper-catchment tree cover
R60	Catchment partnership support
R61	River restoration
R62	Protected species habitat
R76	Coordinated abstraction planning
R68	Natural flood management
R65	Wetland tourism assets
R7	Visitor flood updates
R83	Cross-sector water planning
R8	Flood Group training
R84	Soil health improvement
R33	Arid-region standards
R77	Reservoir legislation reform
R72	Climate-smart planning
R88	IDB funding access
R74	Cover crop expansion
R25	Landscape restoration
R67	Peatland restoration
R70	Landscape rewetting
R80	Increase water storage
R82	On-farm reservoir pilots
R86	Irrigation system integration
R81	Climate-resilient flora species research
R21	Drought-resilient planning
R27	Climate-ready design
R47	Groundwater exploration / new groundwater sources
R63	Rainwater harvesting
R85	Irrigation technology assessment
R87	Swales & drainage maintenance
R35	Desalination development
R89	Address invasive species
R90	Strengthen catchment collaboration
R91	Species-control agreements
R92	Implement GB INNS strategy
R93	Deliver regional INNS measures
R94	Utilise YW funding
R95	Expand citizen-science mapping
R96	Apply INNS legislation
R97	Increase biosecurity funding
R98	Coordinate public-land management
R99	Support INNS forum
R100	Enhance public awareness
R101	Integrated pest management
R102	Targeted trapping programmes
R103	AQUA accreditation uptake
R104	Rainwater-harvesting promotion
R105	Increase INNS resources
R106	Public INNS education
R107	Behaviour-change campaigns
R108	Implement RBMP actions
R109	Install wash-down stations

Action / Description

Deliver 600 new homes across the city on council-owned land to Passivhaus standards in accordance with the Council Design Manual

Explore new commercial mechanisms and delivery programmes for achieving domestic retrofit at scale — including setting up a “Retrofit One-Stop Shop”, regional loans, “comfort as a service”; ensure embodied carbon is considered in retrofits

Deliver funding programmes (e.g. Home Upgrade Grant (HUG) etc.) and identify new funding (e.g. Social Housing Decarbonisation Fund Wave 2) — to support retrofit / energy-efficiency improvements in homes

Complete a condition survey of Council property stock and produce archetype-specific plans for council homes — identify works needed to reach EPC C (or higher) and net-zero carbon standard

Identify “business as usual” retrofit opportunities in planned capital works, voids, and through support for vulnerable tenants

Proactive engagement with landlords around current and future regulatory obligations

Proactive engagement with landlords to support & enforce minimum energy-efficiency standards for private rented housing

Deliver local pilots / demonstrator projects that showcase low- and zero-carbon retrofit (through Retrofit One-Stop Shop / Passivhaus / Net-Zero funding schemes)

Develop a decarbonisation/resilience plan for all council-owned buildings (including schools) to identify viable solutions to achieve net zero by 2030 — building resilience/adaptation as part of retrofit/upgrade

Deliver actions in the health care sustainability programmes

Consider creating a register of buildings at-risk from weather events (e.g. extreme weather, flooding) — to support resilience planning

Provide climate-change advice and sign-off of planning conditions; issue guidance to developers on sustainability measures (including in conservation contexts)

Develop planning materials (i.e., documents that will supersede Supplementary Planning Documents) to raise sustainability / resilience standards for all developments across the city

Update Local Plan to require all new commercial developments to meet highest environmental standards (e.g. BREEAM Excellent)

Provide planning guidance & supporting documents for retrofit of existing buildings (including listed or historic buildings)

Develop construction skills and promote jobs in sustainable building industry — from school age to professionals — to support retrofit and future resilience building

Consider creating a register of transport infrastructure at-risk from weather events and flooding — to inform resilience planning

Bid for funding opportunities to progress projects aligned to Net Zero targets

Implement extreme heat / cold response plans (e.g. aligned to national health-security guidance) — to respond to weather-related health risks

Embed adaptation into council policies, strategies, risk registers, service plans — to mainstream resilience across all council activity

Increase climate-change communications and information for residents and city partners — via website, press releases, social media, monthly newsletter, events — to build awareness and support for adaptation & mitigation actions

Support ongoing operation of the York Climate Commission — with working groups across sectors (biodiversity, buildings/retrofit, transport, health & climate, waste/circular economy, etc.) to coordinate adaptation, mitigation and resilience actions city-wide

Engage with networks across the city to encourage sustainability actions from a wide range of city stakeholders

Work with other local authorities to share case studies from businesses on circular economy practices to maximise environmental and economic opportunities

Champion zero waste cafes and low waste business to residents to encourage behaviour change to low waste services

Support growth in the circular economy including the development of a circular economy roadmap for the city, which maps material flows to identify opportunities for circularity and colocation. Bring stakeholders together and create the conditions for a circular economy to flourish by supporting community groups to develop the

Support SME decarbonisation and access to green finance offering energy audits and potential grant funding

Engage with businesses to minimise emissions across a range of business areas

Develop green skills and promote green jobs for all levels of education from schoolage to experienced professionals

Support business to adapt to climate change

Encourage regenerative and local food growing and agriculture

Encourage short, local, and consolidated supply chains

Provide forums for business collaboration and highlighting of best practice

Support the delivery of the Tourism Strategy and Implementation Plan

Fully support implementation of Biodiversity Net Gain on all developments

Consider Green & Blue infrastructure strategy - Assess the carbon sequestration potential of current council land and identify opportunities to increase sequestration, looking into different natural carbon capture options

Develop a strategy to protect and manage maintenance of existing trees in the city as well as any new trees planted

Grow York tree canopy cover to 13% by 2050 - include biodiverse and developing green corridors and improving access to nature

Conduct a mapping exercise to assess which areas of the city could be designated, natural capital enhancement through innovative investment

Create a Local Nature Recovery Strategy (York and North Yorkshire)

Consider a mapping exercise to create a database of ecosystem health

Develop an offsetting/insetting strategy to address residual emissions not tackled by direct actions in the city with a validated offsetting method

Consider improved mapping of climate-risk data (extreme weather, flooding, etc.) to support enhanced targeting of adaptation and resilience measures

Capture cost and impact of extreme weather events and flooding

Monitor water quality in rivers and consider creating a register of risks from sewage and surface water pollution

Identify opportunities for decarbonised district heating solutions across the city

Deliver City LEAP Accelerator project

Work with stakeholders to ensure understanding and best use of the city's electric grid capacity

Explore opportunities for renewable generation

Support increase of solar capacity across York including homes, schools, and community energy schemes

Assess opportunities for a Green Energy Park in York

Work with partners such as AVIVA through the YNYCA collaboration to mobilise investment in climate-resilience projects.

Introduce and encourage the use of flexible and siesta-style working practices to reduce heat exposure during peak temperature periods.

Retrofit buildings to achieve net-zero goals while integrating climate-adaptation measures at the same time.

Install air-conditioning or air-to-air heat-pump systems to provide effective cooling during extreme heat.

Train contractors to identify and install measures that minimise solar heat gain and improve ventilation.

Monitor heat and humidity inside properties to identify high-risk buildings and target interventions.

Expand street and urban planting of trees and shrubs to increase cooling through shading and evapotranspiration.

Provide guidance on street-tree planting to avoid negative impacts on underground infrastructure and foundations.

Offer clear advice to homeowners and tenants on heat-adaptation measures and available financial support.

Increase capital investment in building quality now to avoid higher future costs for installing passive and active cooling systems.

Apply passive cooling strategies—such as shading, ventilation, and reflective materials that have proven effective in warmer climates to new UK developments and retrofit to existing properties.

Require property extensions to upgrade the existing building to meet current new-build ventilation standards.

Develop policy and guidance to improve heat resilience within the private-rental sector.

Create designated cool spaces in public facilities to protect vulnerable residents during heatwaves.

Integrate cooling features—such as street trees and passive-cooling design—into master planning and urban-development frameworks.

Advocate for stronger climate-adaptation requirements within national building standards for heat resilience.

Establish consistent national SuDS requirements to give developers clarity and improve long-term resilience.

Upgrade and renew the city's flood defences to better protect homes and businesses against surface water flooding.

Incentivise the uptake of natural flood risk management measures across the River Swale, Ure and Nidd, Ouse catchments.

Advocate for national planning-policy changes that strengthen the climate resilience of new developments.

Implement the YNYCA Biodiversity Net Gain Strategy to enhance ecological resilience.

Enhance drainage-system maintenance and upgrade infrastructure to cope with future climate pressures.

Strengthen flood contingency planning for businesses through Local Resilience Forum leadership.

Deliver major flood-protection schemes to safeguard business districts and industrial areas.

Factor climate-related impacts into future funding decisions for drainage maintenance and risk-management schemes.

Provide a New Home User Guide to ensure residents understand maintenance responsibilities for resilient features.

Offer real-time flood-status information to help visitors and businesses plan safely.

Implement multifunctional SuDS that combine vegetation, biodiversity benefits, pollutant removal, and accessible sediment-management design.

Adopt and align with future national standards for climate-resilient homes.

Embed climate-impact considerations into long-term YNYCA planning frameworks.

Expand flood-response training for community and business action groups.

Facilitate cross-LRF collaboration to share lessons learned and best practice on climate resilience.

Expand property-level flood-resilience support, including PFR information and grant/subsidy schemes.

Embed climate resilience within the YNYCA Development Strategy and Land-Use Framework.

Improve business protection through national Flood & Coastal Resilience Innovation Programme support.

Include developers as active partners in the region's climate-adaptation strategy.

Retrofit SuDS into existing developments to improve surface-water flood management.

Increase uptake of Property Flood Resilience measures through grants and subsidy schemes.

Incorporate adaptive actions into the next SFRA update to keep planning guidance climate-ready.

Integrate climate-impact considerations into park-management plans to protect green-space resilience.

Create a shared, climate-resilient storage facility for historic archives and collections.

Promote safe disposal of diseased or infected plant material (e.g., elm wood) to reduce pathogen transmission.

Develop a toolkit of indicators to help businesses monitor risk and resilience.

Provide public-facing guidance packs to support organisations during high-river events.

Use "York Is Open" messaging to maintain economic activity during and after flood events.

Support relocation or managed retreat for at-risk commercial sites.

Increase preventive maintenance of buildings and infrastructure to reduce flood vulnerability.

Enhance Local Resilience Forum assistance for business adaptation planning and funding access.

Expand community and business involvement in Flood Action Groups.

Implement a flood-communications plan to protect and sustain tourism.

Embed climate adaptation requirements within regional strategic planning processes.

Provide recovery and resilience guidance tailored to business continuity needs.

Build collaboration through local business forums for flood-watch and recovery support.

Provide Local Resilience Forum guidance on funding for businesses affected by floods or wildfires.

Work with partners to secure funding for planting trees in hard urban landscapes to reduce surface-water flooding.

Establish shared, climate-resilient storage facilities for artefacts and business assets.

Establish a shared, flood-resilient artefact-storage facility.

Strengthen transport resilience systems to support business supply chains and operations.

Advocate for government funding to help historic buildings adapt to climate risks such as flooding and overheating.

Encourage businesses to create extreme-weather and continuity plans for staff and assets.

Support upgrades to gutters and drainage on older and historic commercial buildings.

Improve maintenance of heritage buildings to prevent water damage and business disruption.

Promote supply chain contingency planning to reduce weather-related interruptions.

Use neutral, inclusive language in adaptation communications to support business engagement.

Upgrade roads and bridges to ensure resilient access for commercial activity.

Increase maintenance of buildings and infrastructure to boost resilience to all flood sources.

Maintain mandatory SuDS policies across YNYCA to manage surface-water flooding effectively.

Develop partnership programmes e.g. YNYCA and Aviva to increase resilience investment in business infrastructure.

Improve public understanding of water conservation and climate resilience by promoting water literacy.

Strengthen community resilience by supporting and expanding Flood Action Groups.

Collaborate with the Local Resilience Forum to support climate-adaptation planning and access funding opportunities.

Provide guidance and resources to help businesses strengthen their capacity and resilience to climate impacts.

Develop coordinated heat contingency plans with the Local Resilience Forum to prepare for extreme-weather events.

Deliver the YNYCA Business Sustainability Programme to help organisations adopt climate-resilient and sustainable practices.

Encourage community care for young trees through a "Water Me" scheme that labels trees needing watering during hot, dry periods.

Develop joint Strategic Flood Risk Assessments at catchment scale to resolve cross-boundary issues & support coordinated flood-risk planning.

Create a shared, climate resilient storage facility to safeguard historic archives and collections.

Support flexible working arrangements to maintain service continuity during severe weather and climate-related disruptions.

Ensure this is a unified severe-weather plan that combines cold-weather, flooding, and heatwave responses into one adverse-weather framework.

Promote designated cool spaces in York, such as the Art Gallery, to support public health during heatwaves.

Increase street-tree planting to reduce the urban-heat-island effect and cool built-up areas.

Provide post-event grants / loans and tourism-recovery packages to help communities and local economies recover after extreme-weather events.

Implement a tree-planting strategy that expands canopy cover and protects existing trees from climate impacts.

Strengthen community flood-preparedness initiatives to reduce local vulnerability.

Apply managed-retreat approaches where appropriate to reduce long-term flood risk.

Ensure NHS and local authority business continuity and critical service plans are in place to identify and prioritise essential health, social care, public health and other critical local services during climate-related disruptions.

Lobby national government to improve building standards for flood resilience.

Advocate for national funding to adapt NHS and care-sector buildings for climate resilience.

Establish an LRF sub-committee dedicated to coordinating climate-adaptation activity.

Integrate catchment management and flood-resilience measures into the LNRS.

Embed long-term climate impacts into NHS Emergency Preparedness, Resilience and Response (EPRR) arrangements and corresponding local authority emergency planning, business continuity and resilience frameworks.

Integrate climate-risk considerations into long-term NHS health planning and local authority health, public health and social care strategies.

Continue partnership support for the Humber 2100 flood-risk-management programme.

Provide guidance and monitor compliance across the primary-care estate to improve climate resilience.

Improve communication on adaptation through case studies and stories (e.g., Pam's Story) to raise awareness across the sector.

Deliver structured climate adaptation training for NHS and local authority sustainability, estates, emergency planning and other relevant service teams.

Ensure ambulance stations and charging hubs have resilient backup power, such as generators or battery storage.

Build climate resilience into emergency preparedness plans, including contingencies for power loss.

Monitor implementation of land-use policies to ensure they actively reduce flood risk in new development.

Offer sustainability grants and support programmes for private care homes through the NYC Business Sustainability Programme.

Retrofit property-level flood-protection measures to reduce household and business vulnerability.

Apply the NHS Climate Adaptation Framework alongside relevant local authority adaptation and resilience frameworks to strengthen climate adaptation capabilities across health, public health, social care and wider local services.

Establish clear senior-level ownership and accountability for climate adaptation and resilience across NHS Trusts and local authorities.

Lobby for increased public funding to help care homes implement resilience measures.

Communicate heat-health measures – Improve awareness among staff and patients about heat stress risks and preventive actions to reduce health impacts.

Provide timely warnings and guidance to NHS and local authority staff, care providers, partner organisations and communities, enabling protective measures for vulnerable people and essential services during extreme heat events.

Install temperature/humidity monitors – Equip healthcare facilities with monitoring systems to track indoor climate conditions and identify areas needing intervention.

Apply NHS adaptation framework – Use the NHS Climate Adaptation Framework to strengthen adaptation planning and increase sector-wide resilience.

Guide and monitor resilience – Provide guidance and monitor compliance across primary care facilities to ensure buildings and operations are resilient to climate impacts.

Collect heat-related treatment data – Record incidents of cancelled treatments or heat-related health impacts to inform cost-benefit analyses and resilience planning.

Embed resilience in emergency plans – Include heatwave contingencies, power loss scenarios, and other climate risks in NHS Trust and local resilience forum emergency planning.

Deliver adaptation training – Provide structured training for sustainability, estates, and emergency planning teams to increase knowledge and preparedness. Offer entire healthcare workforce awareness training (private care sector)

Share adaptation case studies – Use stories and examples from across the sector to raise awareness of practical adaptation measures and their benefits.

Consider whole-life cooling costs – Factor in ventilation and air conditioning requirements when designing new care facilities to ensure long-term comfort and resilience.

Monitor vector-borne diseases – Conduct ongoing research and surveillance to detect emerging health risks that may be exacerbated by climate change. Local monitoring and response plans needed (UKHSA/LA)

Engage early with landowners and stakeholders on flood schemes to accelerate planning and delivery.

Develop cool spaces – Create designated cooling areas in healthcare and community settings to protect vulnerable populations during extreme heat events.

Assign adaptation responsibility – Ensure clear leadership within NHS Trusts in and all related agencies for climate adaptation and resilience actions.

LRF climate adaptation coordination – Establish Local Resilience Forum sub-committees to coordinate climate adaptation across health and emergency services.

Local authority and NHS business criticality planning – Identify, prioritise and protect essential council services to maintain critical operations and support vulnerable communities during extreme weather events.

Use procurement for care-home resilience – Include resilience requirements in care-home contracts to ensure commissioned facilities are prepared for heat and other climate risks.

Advocate improved building standards – Push for stronger national and local building regulations to ensure new and refurbished facilities are climate-resilient.

Resilient ambulance power provision – Ensure ambulance stations and electric vehicle charging hubs have reliable backup power, such as generators or battery storage.

Use commissioning and procurement processes to require care-home providers to meet climate-resilience conditions, including flood resilience.

Integrate resilience into net-zero retrofits – Combine energy efficiency, decarbonisation and climate adaptation measures when upgrading local authority and NHS buildings and estates to maximise sustainability and resilience to future climate impacts.

Expand climate-health impact monitoring – Extend monitoring of climate-related health impacts, including illness and hospital admissions, to support evidence-based interventions.

Provide grants/support for care homes – Offer financial and technical assistance to help private care homes implement climate-resilient measures.

Develop a "Movement and Place" Plan — reallocating road space to prioritise sustainable modes of travel (walking, cycling, public transport), creating high-quality public spaces that support nature recovery

Significant new investment in cycling walking and public transport planning integrating green areas and SUDS

Strengthen flood-alert systems – Improve early warning, communication and preparedness across NHS & local authority buildings, critical services, social care facilities and vulnerable communities.

Develop renewable energy skills and promote jobs in this sector for all levels of education from school age to experienced professionals

Develop a suite of metrics and indicators to monitor thresholds for action in YNYCA.

Produce a public information toolkit with guidance, checklists, and resources for residents and organisations during high river levels in York.

Strengthen contingency planning through Local Resilience Forum leadership.

Require health-care providers to check flood maps and actively manage property-level climate risks.

Combine net-zero retrofit works with flood resilience upgrades to Local Authority & NHS buildings.

Provide Local Resilience Forum support for adaptation planning and funding applications.

Strengthen agricultural resilience with farm reservoirs, swales, and enhanced soil-care practices to cope with drought and floods.

Unified severe-weather planning – Combine responses to cold, heat, and flooding into a single adverse-weather plan to ensure coordinated and efficient action. UKHSA Adverse Weather and Health Plan needs to be adopted and implemented by each agency

Integrate climate-adaptation measures into the YNYCA Strategic Planning Update.

Issue recovery and resilience guidance tailored to businesses.

Enhance local resilience through the Flood & Coastal Resilience Innovation Programme.

Lobby public funding for care homes – Secure additional funding to help care homes implement adaptation measures, protecting residents and staff from extreme heat and flooding.

Develop integrated water management plans – Plan water use and infrastructure holistically to manage risks from droughts, floods, and other climate extremes.

Collaborate on flood risk management – Work with multiple partners to identify, prevent, and mitigate flooding risks, reducing impacts across communities and infrastructure.

Implement strategic catchment planning – Plan and manage water and land use at the catchment scale to address combined flood, drought, and water-quality risks.

Improve transport-network resilience utilising adaptive reporting powers.

Increase soil organic matter to improve soil moisture retention and resilience to both drought and heavy rainfall.

Improve public understanding of water issues through education and awareness campaigns.

Create long-term water resource models to guide future housing development decisions.

Partner with Yorkshire Water's Beyond Nature programme to support sustainable land and water management.

Implement Sustainable Drainage Systems (SuDS) to improve infiltration and reduce runoff, supporting drought resilience.

Avoid siting new critical infrastructure in high-risk zones – Prevent future vulnerabilities by restricting development of essential services in areas prone to flooding, heat, or other hazards.

Promote the adoption of permeable driveway materials to increase groundwater recharge.

Provide financial incentives for water-efficient infrastructure, such as rainwater harvesting or drip-irrigation systems.

Integrate water resource and drought-flood planning at catchment scale – Co-ordinate strategies for both water scarcity and excess water to enhance resilience across multiple sectors and ecosystems.

Reduce water demand by encouraging long-term behavioural changes in water consumption.

Collaborate with Yorkshire Water on the Living with Water blue-green infrastructure strategy.

Update policies to simplify the approval and installation of farm reservoirs.

Increase soil organic carbon to boost water retention in agricultural land.

Enhance upland and moorland management to increase natural water storage capacity.

Expand greywater recycling for non-potable uses to reduce freshwater demand.

Encourage agroforestry practices to improve soil water storage and buffer crops against climate extremes.

Provide sector-wide training and cooperation within agriculture to increase awareness and adoption of resilience methods.

Use renewable energy solutions tailored to place, such as solar power to compensate for reduced hydropower during low-flow periods.

Increase tree and shrub planting on farmland to enhance habitat, shade, soil stability, and moisture retention.

Integrate rainwater harvesting systems into new housing developments.

Remove silt from reservoirs to restore and expand their storage capacity.

Encourage rainwater harvesting for agricultural operations.

Promote water conservation through incentives, such as smart metering and usage-based billing.

Increase efforts in leak detection and pressure management to minimise water loss.

Replace or renew water mains to improve network resilience and reduce leakage.

Construct new water treatment facilities to expand supply and improve abstraction capacity.

Offer reduced business rates or utility charges for buildings that achieve high water-efficiency standards.

Expand existing reservoirs to increase available water storage.

Upgrade the water grid to enable more flexible and robust water transfers.

Develop additional large-scale raw-water transfer connections with external suppliers.

Guide care homes on heat preparedness – Provide advice on medications, medical conditions, and practical steps to reduce risk during heatwaves.

Establish shared resilience targets – Agree on common goals across sectors and agencies to improve overall resilience to climate-related risks and ensure coordinated action.

Encourage businesses to adopt rainwater-harvesting systems to improve water efficiency and drought resilience.

Require climate adaptation reporting for utilities and transport – Ensure key sectors regularly report on their adaptation measures to track progress and identify vulnerabilities.

Implement managed retreat strategies in the most flood-prone areas.

Align financing and investment timing across partners – Coordinate funding and investment periods (e.g., with Yorkshire Water, Environment Agency, and local authorities) to maximise resilience improvements.

Deliver major flood-protection schemes, including the York (2039) project and forthcoming schemes for Tadcaster and Selby.

Integrate climate risks into emergency planning – Embed climate projections and potential cascading hazards into emergency response strategies to enhance preparedness.

Plan for higher maintenance costs due to climate impacts – Anticipate increased repair and upkeep needs for infrastructure affected by extreme weather and other climate impacts.

Coordinate emergency planning across LRF and utility services – Strengthen joint planning between Local Resilience Forums and utilities to improve response to interconnected risks.

Maintain and use a National Underground Asset Register (NUAR) – Keep an updated register of underground utilities to prevent damage, improve emergency response, and reduce cascading failures.

Map critical assets across agencies – Identify key infrastructure (e.g., masts, pumping stations, substations, roads) and dependencies to understand and mitigate cascading risks.

Harden and add redundancy to critical infrastructure – Install backup systems such as onsite power generation and reinforce structures to maintain service during extreme events.

Increase planning controls for development in floodplains.

Apply updated climate allowances in LRF risk registers – Use the latest climate projections to adjust risk assessments and emergency planning assumptions.

Continue collaborative adaptive reporting with stakeholders – Share data and lessons learned across agencies to improve understanding of interconnected risks and effective adaptation strategies.

Update the SFRA and develop land-use policies that consider flood and climate risks.

Promote rainwater collection systems for farming to support irrigation during dry periods.

Align land-use planning across the catchment to enable integrated catchment management.

Strengthen collaboration with groups such as Future Farmers Yorkshire.

Join or develop landscape restoration partnerships through schemes like the Landscape Enterprise Networks with organisations like Diageo and Nestlé.

Coordinate joint funding efforts for initiatives such as Slow the Flow.

Provide training to improve knowledge of soil-enhancing, water-absorbing farming practices.

Improve livestock management to reduce soil compaction / improve soil health.

Enhance soil health by increasing aeration and infiltration.

Expand hedgerow coverage to support landscape resilience.

Support adoption of new farming systems such as agroforestry.

Build acceptance of seasonal flooding and associated land-use transitions.

Implement SuDS to reduce surface-water flooding and improve natural drainage.

Promote land-use changes such as increased tree cover in upper catchments.

Support delivery of Ousewem and Catchment Partnership programmes.

Restore river systems through rewiggling and other natural channel restoration.

Create protected habitat areas for international species in alignment with Humber 2100.

Strengthen joint oversight and strategic planning between the Environment Agency and local authorities for sustainable water abstraction.

Apply natural flood management using wetlands to reduce peak river flows.

Develop visitor infrastructure—hides, trails, educational signage—to highlight wetland value.

Supply real-time flood-status information to visitors.

Foster cross-sector collaboration between industry and agriculture on long-term water resource planning.

Deliver LRF-led training for Flood Action Groups.

Promote soil-health improvements—such as adding organic matter and improving aeration—to boost infiltration and drought resistance.

Adopt lessons from arid-region infrastructure standards to strengthen local drought preparedness.

Advocate reforms to the Reservoirs Act and planning rules so farmers can more easily build small on-farm storage reservoirs.

Incorporate climate-impact mitigation into land-use planning frameworks.

Explore and promote Internal Drainage Board (IDB) funding to support climate-resilience investments.

Expand the use of cover crops to help soils retain moisture and withstand variable weather.

Restore natural water-retaining landscapes to counteract historic land-use changes that reduced drought buffering capacity.

Restore peatlands to enhance water storage and carbon sequestration.

Rewet landscapes by blocking drainage channels to raise water tables.

Support the expansion of on-farm water storage capacity to safeguard supplies during drought.

Run pilot projects to identify practical challenges and solutions in developing new on-farm water storage reservoirs.

Integrate sprinkler, drip, and solid-set irrigation systems where appropriate to increase efficiency and adaptability.

Conduct research into climate-resilient tree / flora species tailored to regional conditions / integrate resilient species lists from Natural England into forestry plans.

Boost community drought resilience by integrating water-scarcity planning into urban design and development standards.

Require developers to factor climate-change impacts into planning and design to ensure drought-resilient construction.

Explore new groundwater sources to diversify and increase water supply during drought.

Promote rainwater harvesting initiatives with Yorkshire Water.

Assess best-fit irrigation technologies suited to local climate and crop types.

Implement swales and improved field drainage maintenance to manage water more effectively and reduce flood impacts.

Develop desalination facilities as an alternative source of water during drought conditions.

Address invasive species pressures identified in the Nature Partnership Plan.

Strengthen regional catchment-based collaboration on invasive species management.

Use species-control agreements with landowners to support coordinated INNS intervention.

Implement actions aligned with the Great Britain Invasive Non-Native Species Strategy.

Deliver region-specific INNS adaptation measures under the YNYCA Invasive Species Strategy.

Secure and utilise Yorkshire Water funding to support INNS control and resilience measures.

Expand use of citizen-science INNS mapping tools to improve early detection and monitoring.

Apply relevant legislation (e.g., Invasive Alien Species Regulation) to manage ecological risks.

Increase investment in biosecurity and INNS response funds to enhance resilience.

Coordinate INNS management across local parks, greenspaces, and public land through YNYCA.

Support the Yorkshire Invasive Species Forum to strengthen regional action and knowledge-sharing.

Enhance public awareness through Yorkshire Water biodiversity teams and ranger engagement.

Promote integrated pest-management approaches to reduce ecological vulnerability.

Deploy targeted trapping programmes (e.g., American mink) to support species recovery initiatives.

Encourage uptake of AQUA Biosecurity Accreditation to improve water-related biosecurity standards.

Promote rainwater harvesting in new housing developments to support climate-resilient water use.

Advocate for increased resources to fully implement the regional INNS strategy.

Deliver public education on INNS risks and prevention to reduce spread under climate change.

Support behavioural campaigns such as Check, Clean, Dry to limit aquatic species transfer.

Implement INNS actions identified in River Basin Management Plans to strengthen catchment resilience.

Install biosecurity wash-down stations at high-risk recreational sites to prevent species spread.

Timeframe / Phase Impact		Cost band	Adaptation Sector
L	3	£££	Built Environment
M	3	£££	Built Environment
M	2	££	Built Environment
S	2	££	Built Environment
S	1	££	Built Environment
O	2	££	Built Environment
O	2	££	Built Environment
M	3	£££	Built Environment
M	1	££	Built Environment
M	1	£	Built Environment
M	1	£	Built Environment
O	2	£	Built Environment
S	2	£	Built Environment
S	2	£	Built Environment
O	2	£	Built Environment
O	2	££	Built Environment
M	1	£	Infrastructure & Transport
O	3	£	Built Environment
M	1	£	Built Environment
O	2	£	Built Environment
S	1	£	Built Environment
O	2	£	Built Environment
O	2	£	Built Environment
M	1	£	Built Environment
O	1	£	Built Environment
O	2	££	Built Environment
S	1	££	Built Environment
O	3	£	Built Environment
O	2	££	Built Environment
O	2	£	Built Environment
O	2	£	Built Environment
M	3	£	Built Environment
O	2	££	Built Environment
O	2	£	Built Environment
O	2	££	Built Environment
M	3	££	Built Environment
M	2	££	Built Environment
L	3	£££	Built Environment
S	1	£	Built Environment
M	2	££	Built Environment
S	1	£	Built Environment
M	3	££	Built Environment
M	1	£	Health & Communities
M	1	££	Built Environment
M	2	££	Built Environment
O	1	£	Built Environment
M	3	£££	Built Environment
O	1	£	Built Environment
O	3	££	Built Environment
O	2	£	Built Environment
M	3	£££	Built Environment
E	2	£	Built Environment
M,L	1	£	Built Environment
M,L	3	££	Built Environment
M,L	2	££	Built Environment
E,M	2	££	Built Environment
E	1	£	Built Environment
M	2	££	Built Environment
E	1	£	Built Environment
E,M	1	£	Built Environment
M,L	3	££	Built Environment

M,L	2	££	Built Environment
M,L	2	£	Built Environment
E	1	£	Built Environment
M	1	£	Built Environment
M	2	££	Built Environment
E	2	£	Built Environment
E,M	2	£	Built Environment
O	3	£££	Built Environment
M	3	£££	Built Environment
E,M	1	£	Built Environment
E	2	££	Built Environment
E,M	2	££	Built Environment
E,M	2	£	Business & Industry
E,M	3	£££	Business & Industry
E	2	££	Built Environment
E	1	£	Built Environment
E,M	2	£	Business & Industry
E,M	2	££	Built Environment
E,M	2	£	Built Environment
E,M	2	£	Built Environment
E,M	1	£	Business & Industry
E,M	1	£	Built Environment
E	3	££	Infrastructure & Transport
E,M	2	£	Built Environment
E,M	2	££	Business & Industry
E	1	£	Built Environment
E,M,L	2	££	Built Environment
E	3	££	Business & Industry
E,M	2	£	Built Environment
E	2	££	Built Environment
E,M,L	2	££	Built Environment
NA	NA	NA	Business & Industry
E	1	£	Business & Industry
E	1	£	Business & Industry
E,M	1	£	Business & Industry
M,L	3	£££	Business & Industry
E,M	2	££	Business & Industry
E,M	2	££	Business & Industry
E,M	2	£	Business & Industry
E,M	1	£	Infrastructure & Transport
M	2	£	Business & Industry
E,M	1	£	Business & Industry
E,M	1	£	Business & Industry
E,M	1	£	Business & Industry
E,M	2	££	Business & Industry
E,M	2	££	Business & Industry
E,M,L	2	££	Infrastructure & Transport
E,M	3	££	Business & Industry
E,M	2	£	Business & Industry
E,M	2	£	Business & Industry
E,M	3	££	Business & Industry
E,M	2	££	Business & Industry
E	2	£	Business & Industry
E,M	1	£	Business & Industry
E,M	3	£££	Business & Industry
E,M	2	££	Infrastructure & Transport
E,M	2	£	Built Environment
E	2	£	Business & Industry
E,M	1	£	Business & Industry
E,M	2	£	Infrastructure & Transport
E,M	1	£	Business & Industry
E,M	1	£	Business & Industry

E,M	2	£	Business & Industry
E,M	2	££	Business & Industry
E,M	1	£	Business & Industry
E,M	2	£	Built Environment
E,M,L	2	££	Business & Industry
E,M,L	1	£	Business & Industry
E,M	2	£	Health & Communities
E,M	2	£	Business & Industry
E,M,L	3	££	Business & Industry
E,M	2	££	Business & Industry
E,M	2	£	Business & Industry
E,M	2	£	Built Environment
M,L	3	£££	Built Environment
E,M,L	3	£	Health & Communities
E	3	£	Built Environment
E,M	1	£	Health & Communities
E,M	1	£	Health & Communities
E,M	2	£	Built Environment
E,M	2	£	Health & Communities
E,M	2	£	Health & Communities
E,M	2	£	Built Environment
E,M	1	£	Health & Communities
E	1	£	Health & Communities
E	1	£	Health & Communities
E,M,L	3	££	Health & Communities
E,M	2	£	Health & Communities
E,M	1	£	Built Environment
E	2	££	Health & Communities
E,M	2	££	Built Environment
E,M	2	£	Health & Communities
E	1	£	Health & Communities
E,M	1	£	Health & Communities
E,M	1	£	Health & Communities
E,M	2	£	Health & Communities
E	2	£	Health & Communities
E,M	2	£	Health & Communities
E,M	1	£	Health & Communities
E	1	£	Health & Communities
E,M,L	2	£	Health & Communities
E	1	£	Health & Communities
E	1	£	Health & Communities
E,M,L	3	££	Health & Communities
E	2	££	Health & Communities
E	1	£	Health & Communities
E,M,L	3	£	Health & Communities
E	1	£	Health & Communities
E,M,L	2	£	Health & Communities
E,M,L	3	£	Health & Communities
M	2	££	Health & Communities
E,M	2	£	Health & Communities
E,M,L	3	££	Health & Communities
E,M	2	££	Health & Communities
E,M,L	2	££	Health & Communities
E,M,L	2	£	Health & Communities
E,M	2	££	Health & Communities
M	2	££	Infrastructure & Transport
M	3	£££	Infrastructure & Transport
E,M	2	£	Health & Communities
O	3	££	Infrastructure & Transport
E	1	£	Infrastructure & Transport
E	1	£	Infrastructure & Transport
E,M	2	£	Infrastructure & Transport

E,M	2	£	Health & Communities
E,M	3	£££	Health & Communities
E,M	2	£	Infrastructure & Transport
E	2	££	Infrastructure & Transport
E,M	2	£	Health & Communities
M,L	2	£	Infrastructure & Transport
E	1	£	Infrastructure & Transport
E,M	2	££	Infrastructure & Transport
E,M	1	£	Health & Communities
E,M	2	£	Interconnected
E,M	2	£	Interconnected
E,M	2	£	Interconnected
E,M	3	££	Infrastructure & Transport
E,M	2	££	Infrastructure & Transport
E,M	1	£	Infrastructure & Transport
M,L	1	£	Infrastructure & Transport
E,M	2	££	Infrastructure & Transport
E,M	3	££	Infrastructure & Transport
M,L	3	£	Interconnected
E	2	£	Infrastructure & Transport
E,M	2	££	Infrastructure & Transport
M	2	£	Interconnected
E	1	£	Infrastructure & Transport
E,M	2	£	Natural Environment
E,M	1	£	Infrastructure & Transport
E,M	2	££	Natural Environment
E,M	3	££	Infrastructure & Transport
E,M	2	££	Infrastructure & Transport
E,M	3	££	Natural Environment
E	1	£	Natural Environment
M,L	3	££	Infrastructure & Transport
E,M	2	££	Natural Environment
E,M	2	££	Infrastructure & Transport
E,M	3	££	Infrastructure & Transport
E,M	2	££	Infrastructure & Transport
E	1	£	Infrastructure & Transport
E,M	3	££	Infrastructure & Transport
E,M	3	££	Infrastructure & Transport
M	3	£££	Infrastructure & Transport
E	1	£	Infrastructure & Transport
M	3	££	Infrastructure & Transport
E,M	3	££	Infrastructure & Transport
M,L	3	££	Infrastructure & Transport
E,M	1	£	Interconnected
E,M	1	£	Interconnected
E,M	2	£	Business & Industry
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M,L	3	£££	Infrastructure & Transport
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E,M	2	£	Interconnected
E,M	2	££	Interconnected
E,M,L	2	£	Interconnected
E,M,L	2	£	Interconnected
E,M,L	2	£	Interconnected
M,L	3	££	Interconnected
E,M	3	£	Natural Environment
E,M	2	£	Interconnected
E,M	1	£	Interconnected
E,M	2	£	Natural Environment
M	2	£	Natural Environment
E,M	2	£	Natural Environment

[illegible]