

ADAS's research and consultancy services support government and private sector organisations in assessing climate change vulnerability and risk to inform policy and decision making on the impacts of climate change. ADAS considers both mitigation and adaptation options at a strategic level, while taking into consideration differences in availability of data, uncertainties in climate projections, and other social, economic and environmental factors.



Key drivers for government and financial stakeholders

- ✓ Implementing strategic policy advice
- ✓ Food security and long-term sustainability of agriculture
- ✓ Basis to support effective investment opportunities
- ✓ Avoiding loss of life, assets and natural capital
- ✓ Social Responsibility to adapt to climate change
- ✓ Meeting national and international climate targets

Climate change is one of the most significant, yet overlooked issues facing mankind. Projected increases in the frequency and severity of extreme weather events, such as precipitation extremes, floods, droughts and heatwaves will cause widespread displacement and disruption to many communities. Furthermore, climate change, combined with a growing population, is putting increasing pressure on government and private sector organisations to consider key issues such as food security and national self-sufficiency.

Climate hazards are expected to have consequences for many businesses and communities across multiple sectors in some form or other, particularly those that rely on the natural environment for their livelihoods, products or services. ADAS helps our clients to understand which parts of the agricultural sector and natural environment are most vulnerable to harm, identifying and prioritising risk to adapt. ADAS often works in collaboration with other partners that specialise in specific sectors (e.g. infrastructure, transport, energy) to provide clients with a full, comprehensive assessment using a robust evidence-based approach.

We combine our research and consultancy expertise in the agri-food industry, including both crop and livestock production, with our experience conducting vulnerability and climate change risk assessments. This allows our consultants to expertly quantify the risks and opportunities from a changing climate, utilising a multi-step approach to consider key interactions and identify effective solutions for agriculture.

ADAS services in climate change adaptation

- ✓ Identification of climate hazards and extreme weather impacts
- ✓ Data analysis and interpretation of metrics, indicators and trends
- ✓ Modelling, forecasting and scenario analysis
- ✓ Quantitative assessment and prioritisation of risk
- ✓ Economic and cost-benefit analysis
- ✓ Consideration of both mitigation and adaptation options
- ✓ Development of strategic plans to address risk
- ✓ Monitoring and evaluation of climate change action plans



“ADAS have helped a range of clients to understand and manage climate risk to inform policy”



Climate change risk assessments

- ✓ Identified key climate impacts and risks for Wales
- ✓ Tool quantified and prioritised risk by likelihood and severity
- ✓ Signposted potential adaptation solutions

ADAS carried out a review of the evidence base for climate change action in the agriculture, land use and wider food chain sectors in Wales. Risks were prioritised and climate change adaptation actions identified using a risk analysis tool. The review for the Welsh Government was used to inform and develop policy and climate change strategies for Wales.



Data analysis and interpretation

- ✓ Supporting research for the ASC 2017 Report to Parliament
- ✓ Metrics identified to measure observed changes through time
- ✓ Indicators provided for risk, adaptation action, and climate impact

ADAS researched, assessed and updated a number of key sector indicators (built environment, infrastructure, communities, agriculture, forestry and the natural environment) that measured observed changes through time. The research accompanied the Adaptation Sub-Committee (ASC) 2017 Report to Parliament: Progress in preparing for climate change.

Modelling and scenario analysis for mitigation and adaptation options

- ✓ Supporting research for the CCC work on managing climate change
- ✓ Assessed the interaction of key metrics for achieving desired outcomes
- ✓ Stakeholder workshop to explore the pathways to net zero emissions

ADAS reviewed the evidence base on land use drivers, metrics and models, and developed a conceptual framework for assessing land use for agriculture, forestry and semi-natural habitats from a climate change mitigation and adaptation perspective. The research was used to inform the Committee on Climate Change (CCC) on the implications of land use change.



Economic costs of climate change

- ✓ Extreme weather scenarios were used to inform Defra policy
- ✓ Reviewed past events through a rapid evidence assessment
- ✓ Framework quantified economic costs of extreme weather events

ADAS developed a methodology for Defra to estimate the economic costs of extreme weather events on agriculture in England using scenarios (rather than modelled outputs). A Rapid Evidence Assessment (REA) was conducted to review past extreme weather events in England by type, severity, frequency and location and costs estimated for ‘worst case scenarios’.

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