AGILE INITIATIVE

OXFORD MARTIN SCHOOL

UNIVERSITY OF OXFORD

Managing Demand: Energy Security, Food Security and National Security

PRIORITY POLICY QUESTIONS: SUMMARY OF KEY FINDINGS

Environment and National Security: Exploring the Risk Pathways

July 2026



About

This document is one of a series of reports from the Agile Initiative's Environment and National Security: Exploring the Risk Pathways project. The Priority Policy Questions: Summary of Key Findings reports respond to questions emerging from discussions with policymakers. Designed to be concise and accessible, each provides a list of key findings, a synthesis of available scientific evidence, a graphic illustrating the pathways between environmental pressures and national security, an explanation of the implications for UK national security, a list of priority policy recommendations, and description of relevant uncertainties and evidence gaps.

The Priority Policy Questions Series

- The role of critical natural infrastructure in supporting national security
- Managing demand: energy security, food security and UK national security
- Climate risks and opportunities for maritime shipping and UK trade
- Environment-driven mobilities and UK national security
- Weaponisation of nature
- Environment and social resilience

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Policy Questions

Q1a

How will communities react to changes in food/energy access and price?

Q1b

How will communities react to policy responses to reduce demand for food and energy?

Q2

How might efforts to increase UK food and energy production result in increased pressure on the environment and feedback to other aspects of the food and energy systems?

Q3a

To what extent are the UK food and energy systems currently resilient?

Q3b

What conditions need to be 'true' for the UK food and energy system to be resilient under current climate change projections?



Summary

- Energy security and food security are not peripheral to national security; they are foundational. When exposed to price shocks, infrastructure failure, ecological degradation, or geopolitical disruption, risk to energy and food security can cascade rapidly across households, businesses, public services, and government, especially as current food and energy systems are already quite vulnerable to disruptions. Interventions to mitigate shocks and/or stresses traditionally include **Robustness** measures to maintain the *status quo* ('stay still'), and/or **Recovery** to return to it '(bounce back'.) However, a new concept of **Reorientation** (Transformative Resilience) aims for alternative system outcomes (e.g., changed diets and energy use) as a strategy *before* disruption ('bounce forward')[1]. *Managing* (rather than *meeting*) demand can be seen as a strategy for this, as less demanding systems are less exposed to disruption. Managing demand enhances resilience, a key aspect of UK security.

  The UK population's preference for freedom of choice and aversion to market interference can however constitute a barrier to change [Q1a]. Not surprisingly, radical policies are less favoured and there can be lobbying against policy proposals for energy reduction and changes to food composition from interest groups with entrenched corporate control over the food and energy systems, which also influences the public response [Q1b]. More positively, emphasising the multiple benefits of such policies can increase acceptability[2]. Key incentives to engage society in reducing demand (to deliver more sustainable and resilient food and energy systems) include a major public awareness and education campaign to increase food system 'literacy', together with changes to the food and energy environments that shape purchase and consumption decisions. This would be a fundamental part of the overall strategy to enhance UK security and will need cross-government and cross-party consensus on policy interventions which support an integrated food and energy strategy.

  Given potential upheaval in international markets, a reasonable assumption is for UK production to increase as dependence on food and energy imports leaves the UK exposed to their vulnerabilities. There are also increasing calls for more localised production to increase resilience. However, efforts to boost domestic yield through intensification typically rely on fertilizers, other synthetic inputs and heavy farm machinery all of which negatively affect soils, biodiversity and GHG emissions [Q2]. This challenges policy and governance but can be mitigated by continued reduction in fossil fuel reliance, boosted by electrification, efficiency and sufficiency, and changing diets together with increased use of alternative farming practices. This should be complemented by efforts to halve per capita food waste by 2030, all as part of the overall 'reorientation' strategy.

  The UK's food and energy systems are both currently very reliable and wide-spread or long-lasting disruptions are rare. However, there are also persistent significant levels of fuel poverty

exacerbated by energy price spikes, which limit access to energy, and many households are food insecure due to low economic access to healthy diets [Q3a][3]. Both systems have seen price inflation due to environmental, geopolitical, pandemic, and other macroeconomic shocks.

The 'conditions' that need to be "true" to enhance resilience [Q3b] therefore relate to either the food system 'drivers' (which influence peoples' activities) or 'outcomes' (which the food system delivers to society). Policy can determine whether a driver is an opportunity (e.g. a subsidy) or a disincentive (e.g. a tax), causing people to change their behaviour to achieve desired outcomes.[4] The nature of, and balance across these outcomes collectively defines societal well-being, i.e., the conditions that define the nature of the system resilience

Key Findings



The UK's exposure to disruption in food and energy supply is significant due to uncertainties in global prices. Enhancing national security requires reducing overall demand for both food and energy resources, while maintaining or enhancing nutrition and health. This also alleviates environmental pressures while improving system resilience. [HIGH CONFIDENCE]



Reducing overall demand by accepting alternative system outcomes (reorientation) *before* a disruption enhances food and energy resilience and hence national security. [HIGH CONFIDENCE]



A resilient food system requires functioning energy systems, logistics, storage, skilled workers, and rapid adaptability. So, energy shocks can become food shocks, while food system pressures can feed back into energy demand and wider environmental stress[5]. [HIGH CONFIDENCE]



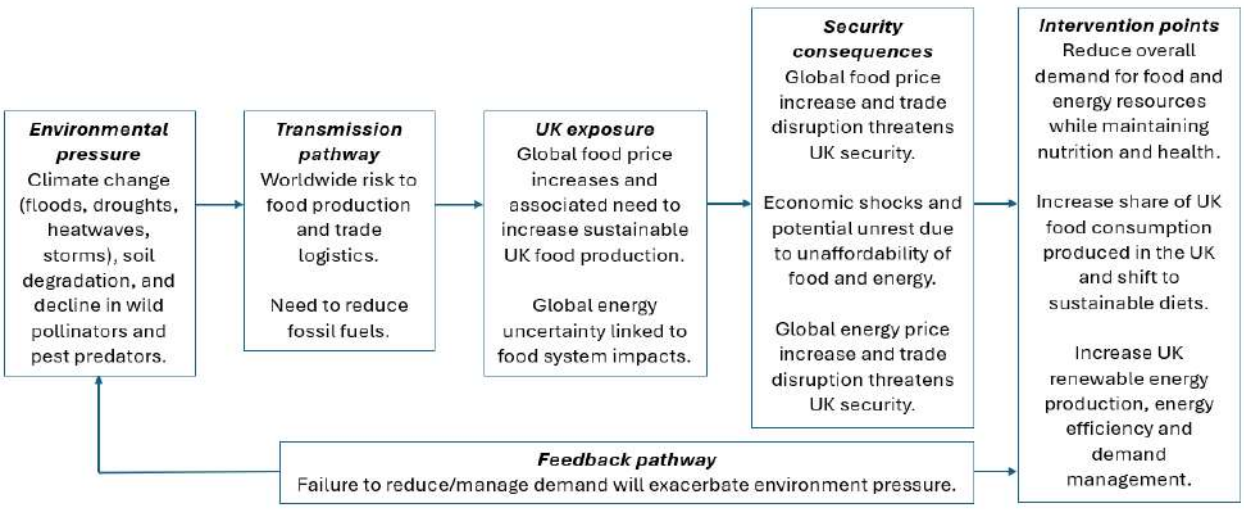
A more resilient UK security strategy should treat low-carbon energy, resilient food systems, ecosystem protection, and supply chain preparedness as connected national security priorities. [HIGH CONFIDENCE]

Why This Matters for UK National Security

- Farming is exposed to volatile input costs and extreme weather, and supporting ecosystems are degrading[6]. Supply chains are fragile, and the cold chain (essential to keep fresh food safe) and other logistics are highly dependent on energy. Further, notable pinch points for food imports (e.g., via the Dover Strait network) are vulnerable to disruption, e.g. from emergency quarantine measures. So, while supermarket shelves may be well stocked today, disruptions can lead to price increases which make healthy diets unaffordable for many. This can lead to adverse health impacts and potentially to social and political unrest, especially as social inequities are highlighted[7]. Similarly, if energy prices rise, many people must balance 'heat or food'.

The UK's national security therefore increasingly depends on treating energy and food systems as connected resilience priorities, not separate policy silos. This is because the connection between energy security and food security is direct and structural, and both are exposed to shocks and stresses. Failure to develop more integrated food/energy policies would exacerbate environmental pressure and thereby reduce UK security.

Causal Pathway



Evidence Synthesis

Coordinated policy frameworks

For the UK food system to be resilient under current climate change projections, significant governance, socioeconomic and material transformations are required. Current food and energy system governance is hampered by a siloed approach that suffers from political instability and a lack of consistent policy, with responsibilities split across departments often working at cross-purposes[8]. Strong cross-party consensus can provide the political stability for challenging entrenched corporate control of the food and energy systems, while providing the necessary framework for local and regional initiatives to be coordinated.

Policy implications

Long-term, coordinated policy frameworks are needed to facilitate the implementation of the necessary legal conditions for resilient food and energy systems. Multi-level coordination will also be necessary for place-based transitions[9].

Reducing consumer demand

A significant reduction in consumer demand for foods with high-embedded fossil energy is needed, moving away from high-emission red meat and high fat, salt and sugar (HFSS) foods towards more sustainable, UK-grown plant-rich diets[10], while also shifting towards more local storage and fewer 'just in time' systems. This will decrease the environmental impact and increase the resilience of the food system, reduce pressure on the food-related energy system and increase self-sufficiency, thus enhancing UK security.

Policy implications

Structural redesign of food environments needs to be encouraged to promote healthy, sustainable food as the most affordable, appealing, and convenient default option. A combination of short-term affordability and long-term demand reduction strategies will be needed to reduce energy demand[11] including a review of energy retail market regulation[12].

Early warning systems

Persistent climate-related impacts on food production and inflation are forecasted[13]. Sudden spikes in food and energy prices and shortages of popular products can quickly erode social cohesion and trust in authorities. Disproportionate impacts on vulnerable populations can exacerbate social disparities and generate a sense of inequitable distribution. In turn, this can generate a loss of confidence in public institutions, undermining the state's legitimacy and, ultimately, lead to hunger and desperation. It is probable that such outcomes would, in certain parts of the UK at least, result increasingly in a breakdown in law and order and escalations of crime and violent looting.[14]



Policy implications

Early warning systems and monitoring need to be developed for thresholds in both independent and integrated food and energy systems[15] to mitigate fundamental risks to national security from disruptions.

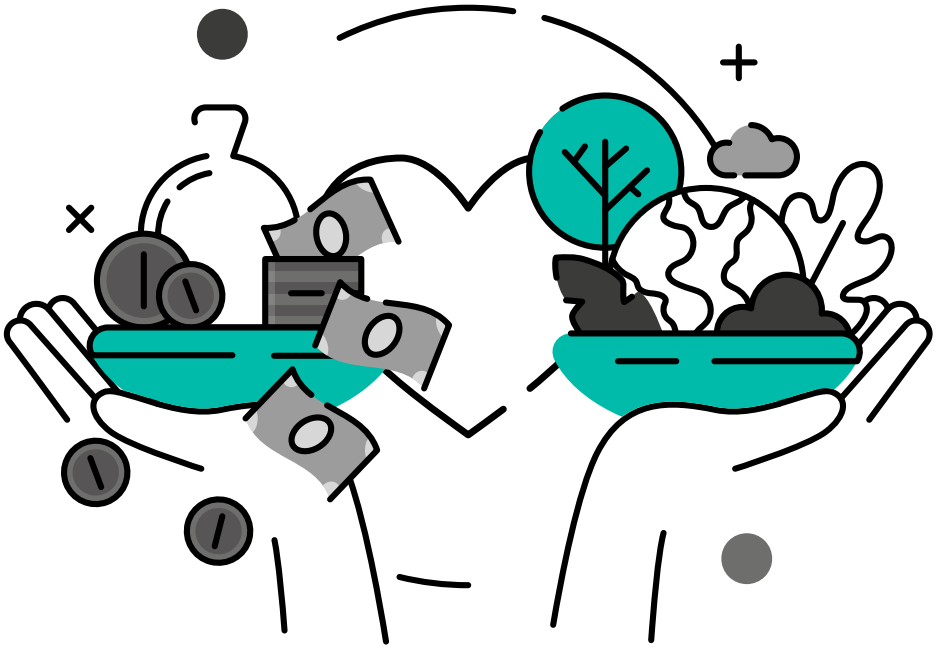
Policy Recommendations

Recommendation	Lead department(s)	Time Frame	Evidence confidence	Implementation complexity	Dependencies or trade-offs
Shift to coordinated, cross-departmental governance that integrates agriculture, health, energy, environment, and trade.	CO, Defra, DBT, DESNZ, DHSC, FCDO	**5 yr**	**HIGH**	**HIGH**	Political will
Focus policy frameworks on mandatory regulations with statutory targets for energy efficiency standards, sustainable food production, consumption and retail etc.	CO, Defra, DBT, DESNZ, DHSC	**5 yr**	**MEDIUM**	**MEDIUM**	Political will
Enable local authorities to empower local responses to engage the public and businesses on sustainable demand patterns etc.	MHCLG, local authorities	**3 yr**	**MEDIUM**	**MEDIUM**	Business potentials
Deliver a major public awareness and food system education campaign to engage society more effectively in the drive for reduced demand.	DCMS, DfE, DHSC	**3 yr**	**HIGH**	**LOW**	Risk of 'nanny state'
Restrict advertising of High Fat, Salt, and Sugar (HFSS) products to promote health and reduce demand.	DBT, DHSC	**2 yr**	**HIGH**	**MEDIUM**	Pusk back from industry
Develop early warning systems to mitigate fundamental risks and tie welfare measures to them.	CO, Defra, DBT, DESNZ, DHSC	**3 yr**	**HIGH**	**LOW**	Society buy-in

Uncertainty and Priority Evidence Gaps

- It is clear that food and energy security are fundamental to overall UK security. They must be seen as coupled systems with significant overlap in terms of energy demand for food system activities. It is also clear that increasing stresses and shocks affect both systems independently as well through their interconnections. Policy and practical measures need to be put in place to mitigate this additional risk, which adds to an existing sub-optimal situation. Such measures would boost the resilience of the food-energy system and enhance overall UK security, but more insights are needed into the political economy of food and energy systems.

  It is less clear whether there is the political will to take the bold steps necessary to mitigate risk, especially as one of the most promising strategies is the 'reorientation' of societal expectations around what is wanted from the food and energy systems. Attention to food resilience so far has been limited, and focussed on food supply rather than consumer responses, impacts and behaviours[16]. UK resilience and national security can be enhanced through consuming less resource-intensive (but more nutritious) food and using less energy without compromising health and well-being. However, this is socially and economically very challenging, as it would require a substantial shift in societal and business mindset. More evidence is therefore needed from the behavioural sciences and the food and energy 'environments'. A significant improvement in governance is also required, including national-local and cross-department coordination. While challenging, this is an essential pillar in strengthening UK national security.



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