



Government  
Office for  
**Science**



# The UK Foresight Programme

NISTEP Conference

Tokyo (8<sup>th</sup> – 9<sup>th</sup> March 2011)

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"The UK's Foresight Programme aims to bridge the gap in policy making between the short and the long term."

*Professor Sir John Beddington,  
Government Chief Scientific Adviser*

## 21<sup>st</sup> century challenges need enduring solutions

- Population
- Water resource and food production
- Energy security and supply
- Health and disease
- Environment and climate change
- Conflict and terrorism
- Sustainability



# Foresight

**We help Government to think systematically about the future to develop robust policies for the 21<sup>st</sup> century**



## Foresight achieves this in 3 ways:

1. **Foresight Projects:** landmark studies looking at big issues 20 - 100 years in the future
2. **Foresight Horizon Scanning Projects:** small projects on discrete issues across the entire spectrum of public policy futures 10 - 15 years in the future
3. **Foresight Toolkits and Networks:** share best practice within and across government



## Previous projects



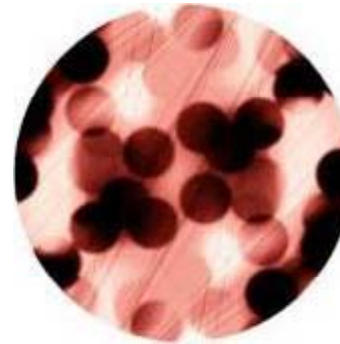
Land Use Futures



Mental Capital  
and Wellbeing



Sustainable  
Energy & the Built  
Environment



Detection &  
Identification of  
Infectious Diseases



Intelligent  
Infrastructure  
Systems



Tackling Obesities:  
Future Choices



Brain Science  
Addiction & Drugs



Flooding &  
Coastal  
Defence



Cyber Trust &  
Crime Prevention



Exploiting the  
Electromagnetic  
Spectrum

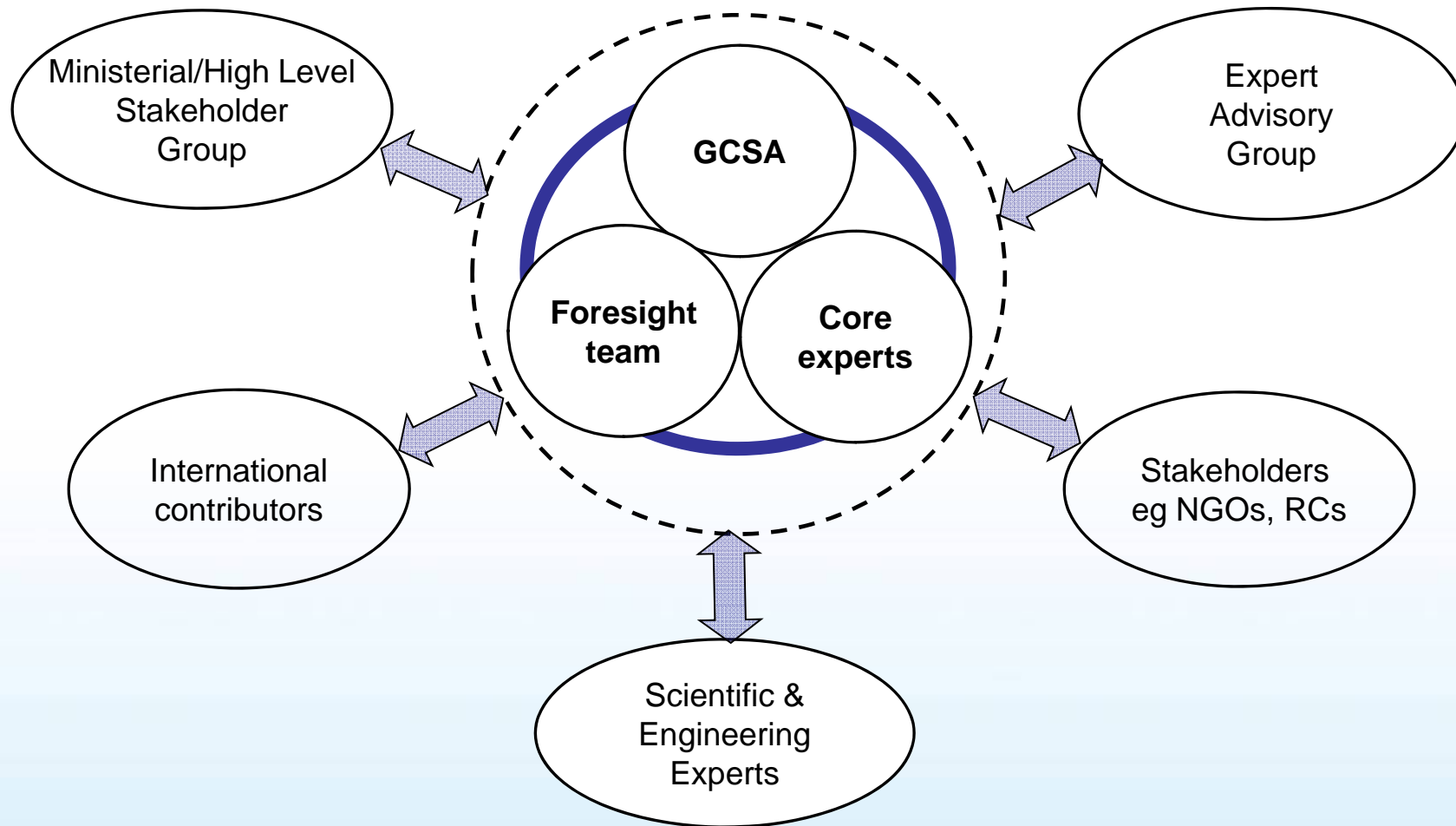
## Recent projects

- **Global Food and Farming Futures**  
(January 2011)
- **International Dimensions of Climate Change**  
(March 2011)
- **Global Environmental Migration**  
(Autumn 2011)
- **Computer Trading in Financial Markets**  
(Summer 2012)



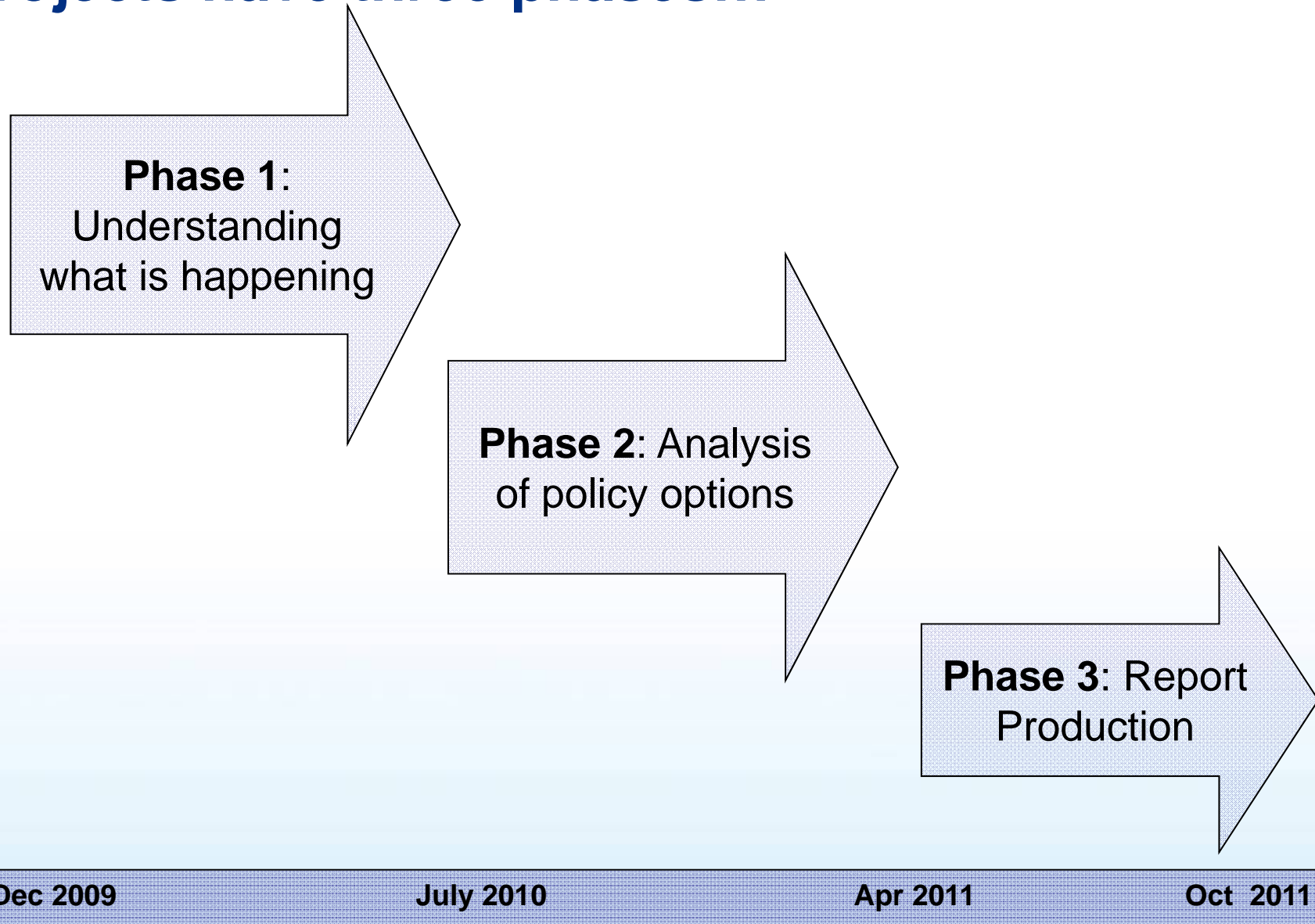


## Who is involved?

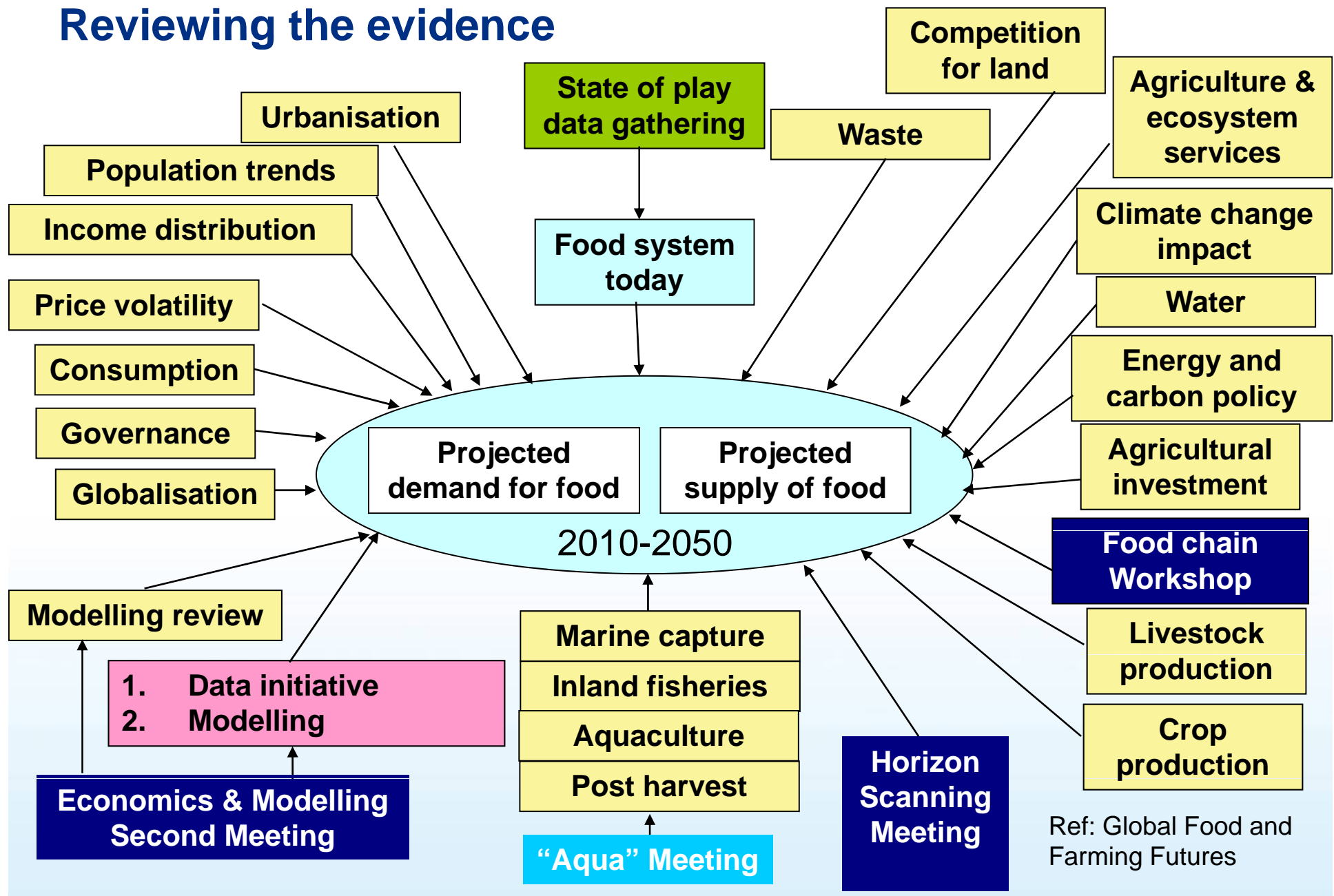




## Projects have three phases...

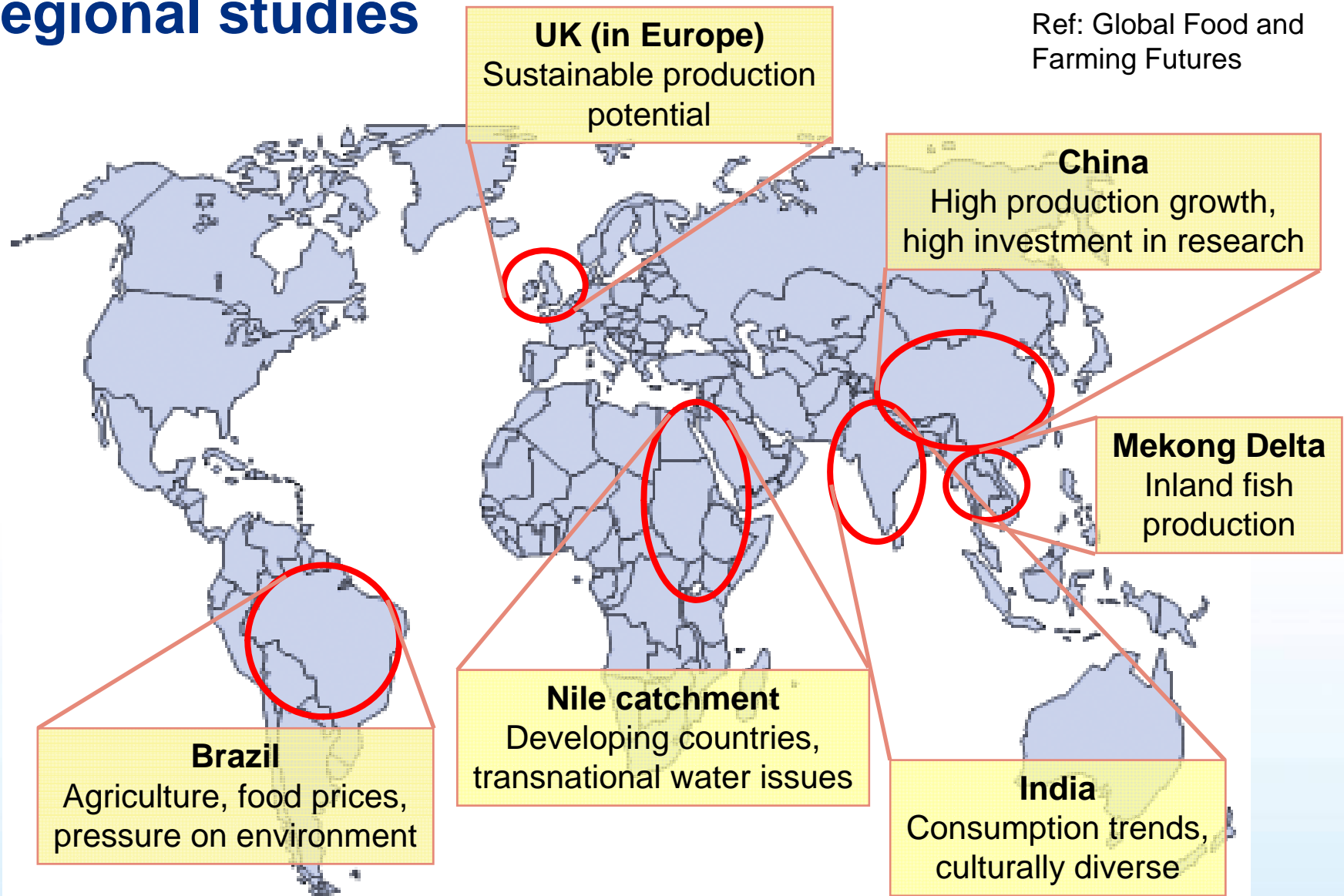


# Reviewing the evidence



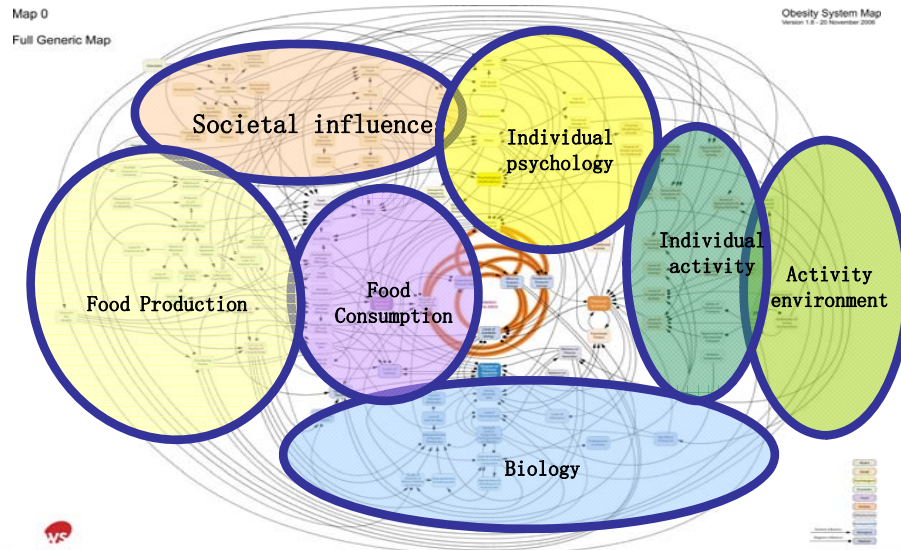
# Regional studies

Ref: Global Food and Farming Futures

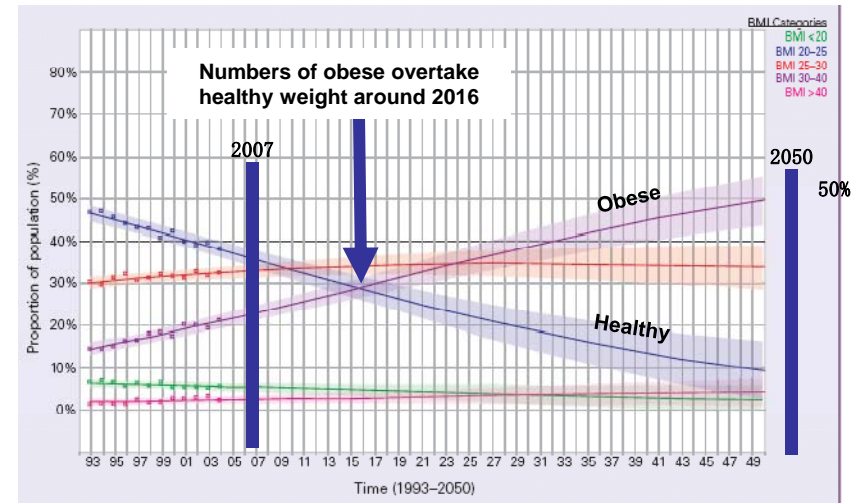


# Examples of futures analysis...

## Systems maps

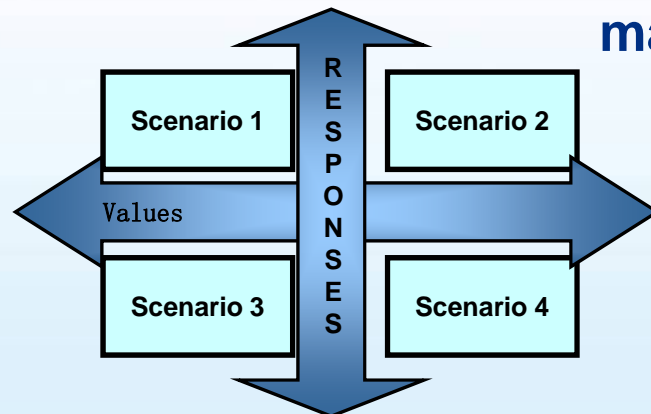


## Quantitative analysis

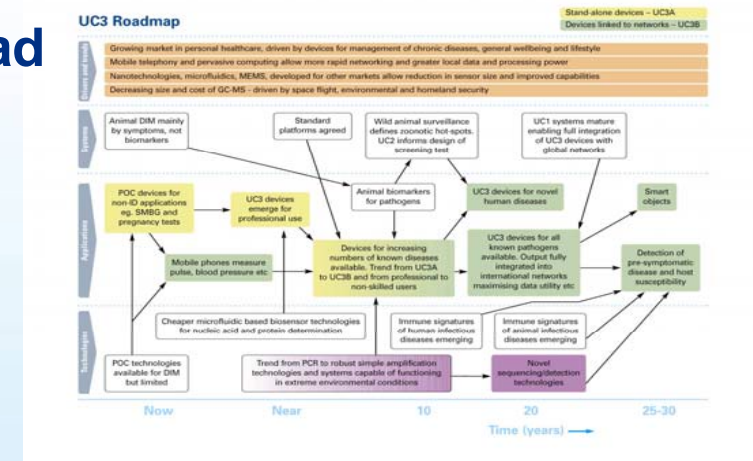


Data source: HSE

## Scenarios



## Technology road mapping





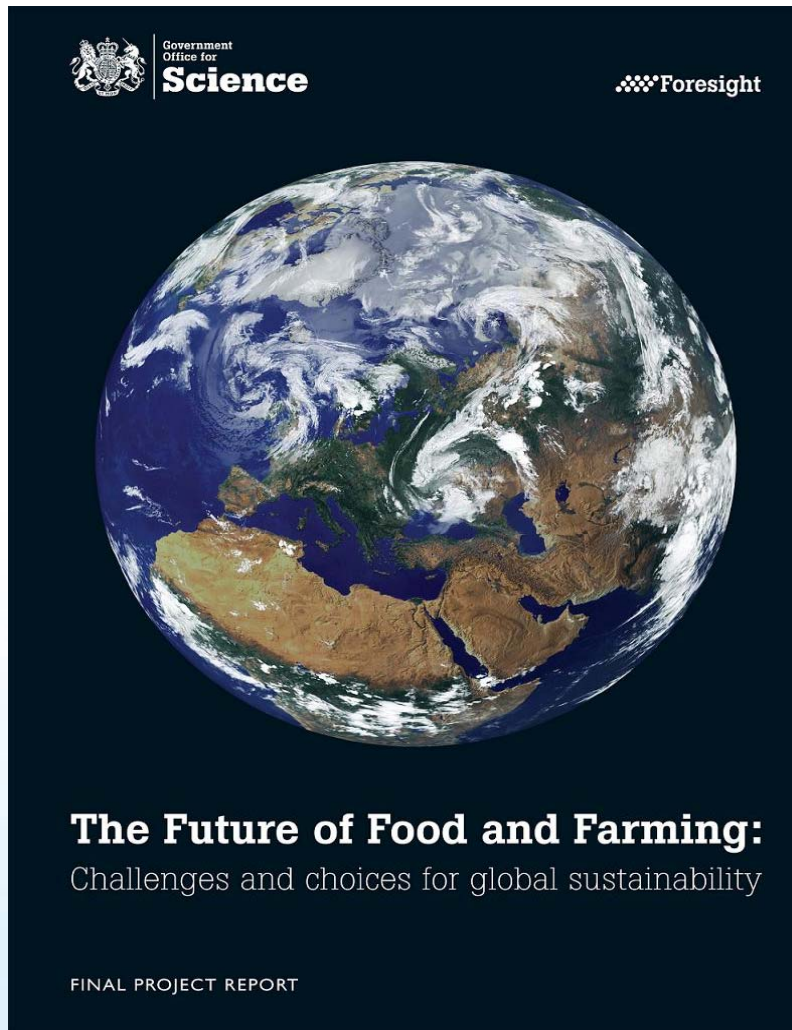
## Typical project outputs

- Analysis of recent developments
- Visions of possible futures
- Recommendations for action
- Networks of people keen to take findings forward



# The Future of Food and Farming

*(Launched: January 2011)*

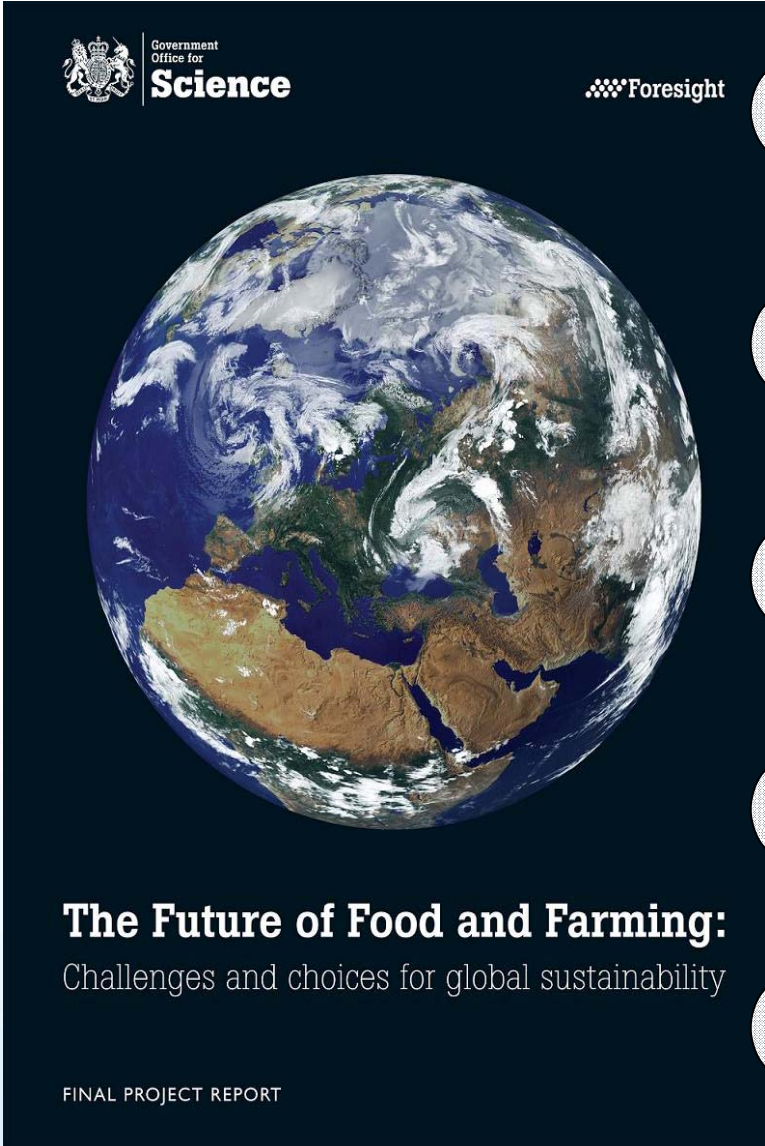


## Three key messages

- Radical redesign of the global food system
- “No action/change” is not an option
- Policies and decisions outside of the food system also critical



# Five Challenges



**Government Office for Science**

**Foresight**

**The Future of Food and Farming:**  
Challenges and choices for global sustainability

FINAL PROJECT REPORT

- A** Balancing future demand and supply sustainably
- B** Addressing the threat of future volatility in the food system
- C** Ending Hunger
- D** Meeting the challenges of a low emissions world
- E** Maintaining biodiversity and ecosystem services while feeding the world



## Achieving impact - International

- **North America**
  - Canada - Animal Health Strategy
  - US – Modelling obesities
- **China**
  - Flood risk management
  - Drivers of infectious disease
- **EU**
  - Nutrition Platform
  - European Centre for Disease Control
- **Africa**
  - AU and Southern African Centre for Infectious Disease Surveillance

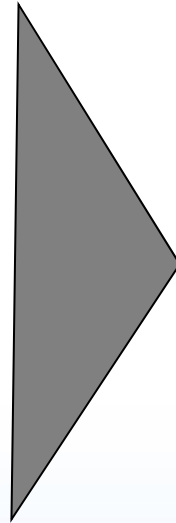


# Foresight Horizon Scanning Centre

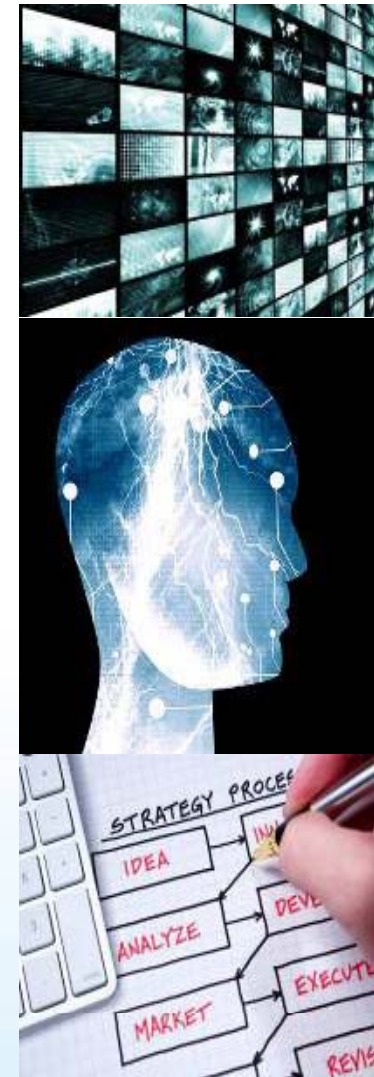
**Looking ahead** –  
*beyond usual timescales*

**Looking across** –  
*beyond usual sources*

**Looking around** –  
*beyond usual cultures*



**More than  
one type of  
future**



# Horizon Scanning Previous Projects



UK Futures  
Project



The Future of  
Ageing



The Future of  
Communications  
Convergence



WIST (Wider  
Implications of  
Science &  
Technology)



EU Neighbours



Future of  
Food



The Future  
Families  
Project

# Technology and Innovation Futures

(Launched: November 2010)

Friday Nov 10 2010  
All times are London time

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FINANCIAL TIMES

UK  
**Politics & policy**

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**Technology to boost UK growth**

By Peter Marsh  
Published: November 4 2010 19:35 | Last updated: November 4 2010 19:35

Novel technologies including "swarm robotics" – small and cheap robots operating in "teams" to do complicated jobs – could transform the UK economy in the next two decades, says a government study commissioned by the Treasury.

Other areas of new thinking that could boost growth, and where Britain has the potential to excel, include new applications of **"smart" manufacturing**, intelligent power and communications networks, and biotechnology-assisted medicine, according to the [report by the Government Office for Science](#).

The report was sparked by suggestions by the Treasury last year that in an era of austerity the government should set out a "growth agenda" based on areas of science and technology in which **the UK had a leading role**.

After the change of government the same thinking was taken up by the Con-Lib coalition, with ministers led by David Cameron keen to identify **ways in which private companies could expand**, even against the background of anaemic global growth and cuts in public spending.

David Willetts, the science minister, said: "This is a very useful study that will provide guidelines for the government as we attempt to identify broad areas of the economy with growth potential."

According to the study, published on Thursday, the government has a role to play in assisting the take-up of new ideas by judicious spending on science and technology research, and by ensuring the education system produces sufficient brainy and motivated people.

A series of **55** basic technologies – some of them centred on a smaller number of "clusters" of ideas where there is a particular opportunity for innovation – "have the

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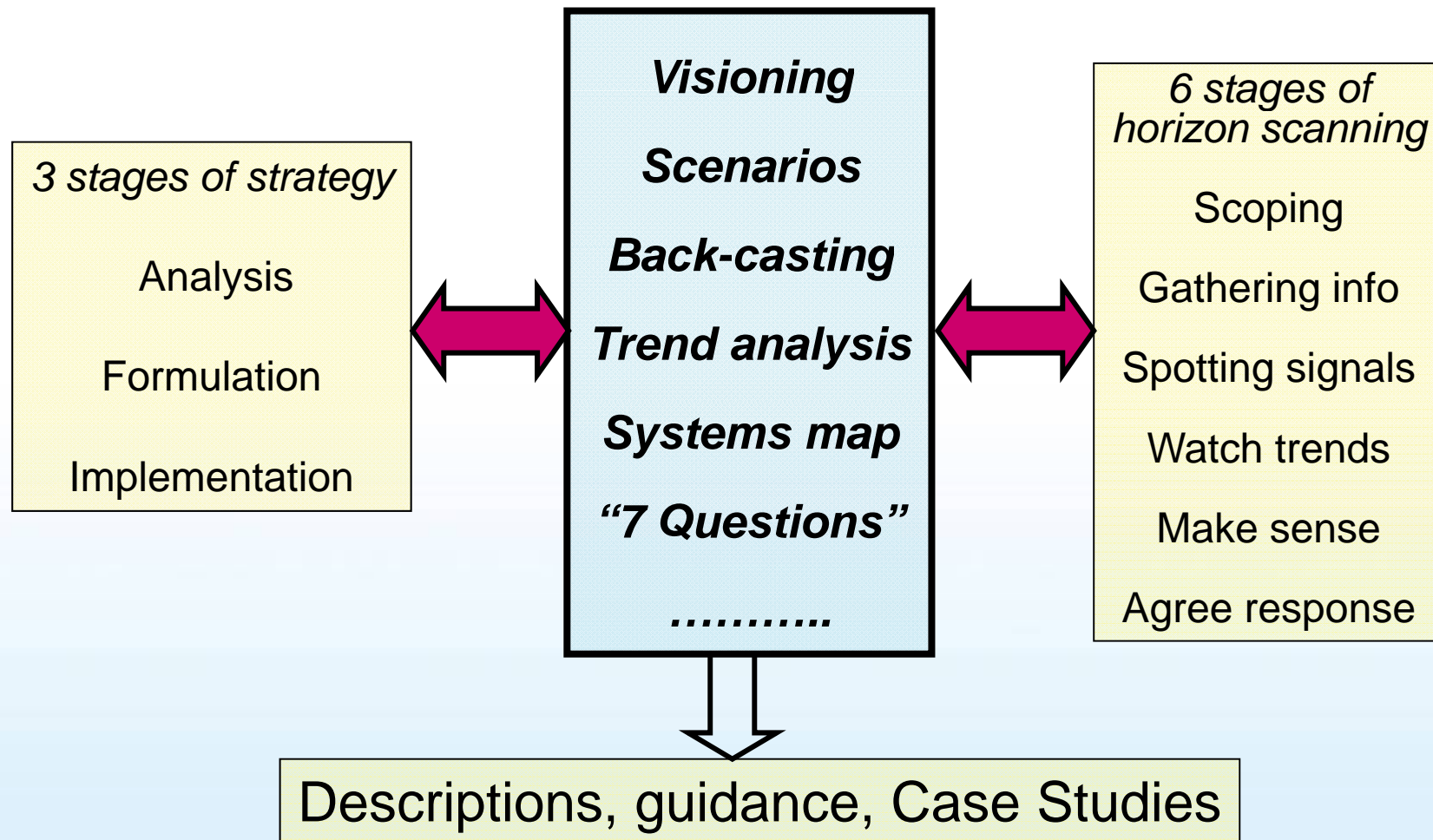
**ALPHAVILLE**  
instant market insight

**mergermarket**

**DEBTWIRE**

Done

# HSC toolkit : *24 futures techniques*





# Conclusions

- Foresight is critical to long term policy-making
- Foresight is able to understand and impact policy, through evidence-based, peer reviewed strategic insights
- Our findings have supported the Government to think beyond normal time horizons to identify enduring solutions



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## Useful web-links:

- Foresight: <http://www.bis.gov.uk/foresight>
- Horizon Scanning Tool Kit: <http://hsctoolkit.tribalhosting.net/>
- Government Office for Science: <http://www.bis.gov.uk/go-science>
- Department of Business Innovation and Skills: <http://www.bis.gov.uk/>