

Forward-looking Information in Policy- making



IEHRF

Institute for Environment,
Health, Risks and Futures

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Head of Institute

What do we mean by 'horizon scanning'?

Cranfield University undertakes a range of horizon scanning and futures research - 'strategic foresight' - which is often defined as:

- *“The systematic examination of potential threats, opportunities and likely future developments which are at the margins of current thinking and planning. [The research] may explore novel and unexpected issues, as well as persistent problems or trends. Overall, it is intended to improve the robustness of policies and the evidence base.”* (from: Defra, 2002)
- Our research is the act of gathering new insights that may point us towards affirming or discrediting existing trends and developments as well as identifying new and emerging trends and developments which are on the margins of our current thinking, but which will impact on our lives in the future
- The futures methods we employ include horizon scanning, scenario building (morphological approach and axis of uncertainty approach), back-casting, visioning, and wind tunnelling, etc.

What do we aim to achieve?

IEHRF's strategic foresight research aims to...

Enable clients to stay resilient over time and to meet the needs of government and society, by identifying:

- **Risks** and preparing for them to future-proof policies; and
- **Opportunities** to foster innovation, where this might help deliver strategic objectives

This enables IEHRF work with its clients to...

- prepare for events that may happen in the future, which are uncertain and not necessarily under their control;
- gain efficiencies by ensuring that policies and strategies are robust and resilient over time;
- take a structured approach to exploring a range of futures rather than predicting a single expected or 'most likely' future

How do we do it?

- The IEHRF at Cranfield University conducts futures research under 4 work streams:
 - **Work-stream 1:** Provide a programme of regular, monthly horizon scanning to identify and disseminate emerging issues on the short, medium and long term horizons;
 - **Work-stream 2:** Integrate risk analysis methods and techniques to assess and prioritise the importance/likelihood and impact of emerging issues identified in [1] above;
 - **Work-stream 3:** Develop a programme of large / medium scale futures (foresight) studies (e.g. scenario building) to investigate a range of plausible futures from [1] and [2] and their implications for high priority issues;
 - **Work-stream 4:** Build wider capacity to assess future risks and opportunities, through a range of up-skilling training courses and knowledge exchange activities and materials

What can it do?

Foresight helps us to understand, analyse & communicate information about the future, and:

1. Understand uncertainty
2. Build a knowledge base about the future
3. Inform strategic decisions and develop robust policy options
4. Prepare for/ manage/ mitigate/ prevent emerging risks
5. Improve long-term resilience
6. Create a space for long term thinking
7. Exploit emerging opportunities (including new markets)

 www.parliament.uk

Good practice: how can government foresight be improved?


Department
for Environment
Food & Rural Affairs

What are the emerging trends that should inform our evidence investment strategy?



What is the future of marine planning in the UK and how might this shape policy?



Social media & big data. How can we use this trend to value ecosystem services?



What are the emerging risks that might require future regulation?



What is the future of food and feed in the UK, and how might this impact delivery of official controls?



Futures Exchange. How can we make space for strategic discussion?

www.cranfield.ac.uk

What it cannot do

We cannot predict the future!

The future is too complex and uncertain, with too many interdependencies to accurately predict its outcomes.



**FORESIGHT RESEARCH IS
ABOUT HELPING
ORGANISATIONS
UNDERSTAND, PLAN FOR
AND MANAGE
CHANGE**

Types of change



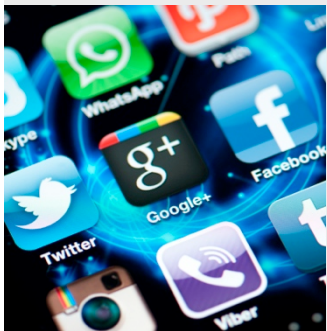
Cycles

Things which change and then change back : e.g. industry cycles



Events

Happenings that are still affecting the future: e.g. Kyoto Protocol



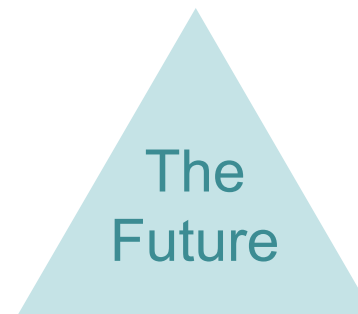
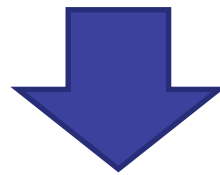
Trends

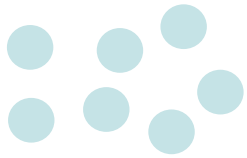
Things which change in one direction over a long period of time: e.g. increase in e-commerce



Discontinuities

Sharp disruptions to the baseline or likely future: e.g. 9/11, financial crisis





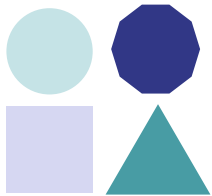
Horizon Scanning

- What are the emerging risks and opportunities we need to consider?



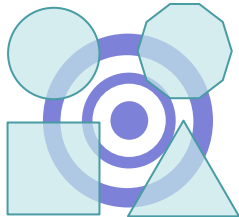
Risk prioritisation

- What are the top issues?



Scenario-building

- What are the plausible, alternative future scenarios?



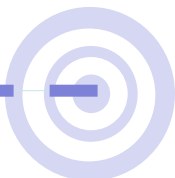
Wind-tunnelling

- How could the different scenarios affect our ability to achieve our vision/ objectives?



Visioning

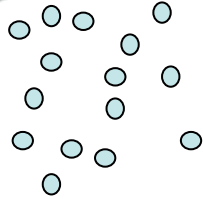
- What do we want to achieve in the future?



Back-casting

- How can we achieve our vision?

Method – in a nutshell



The brand revolution – from CSR to PSR (Public Social Responsibility)

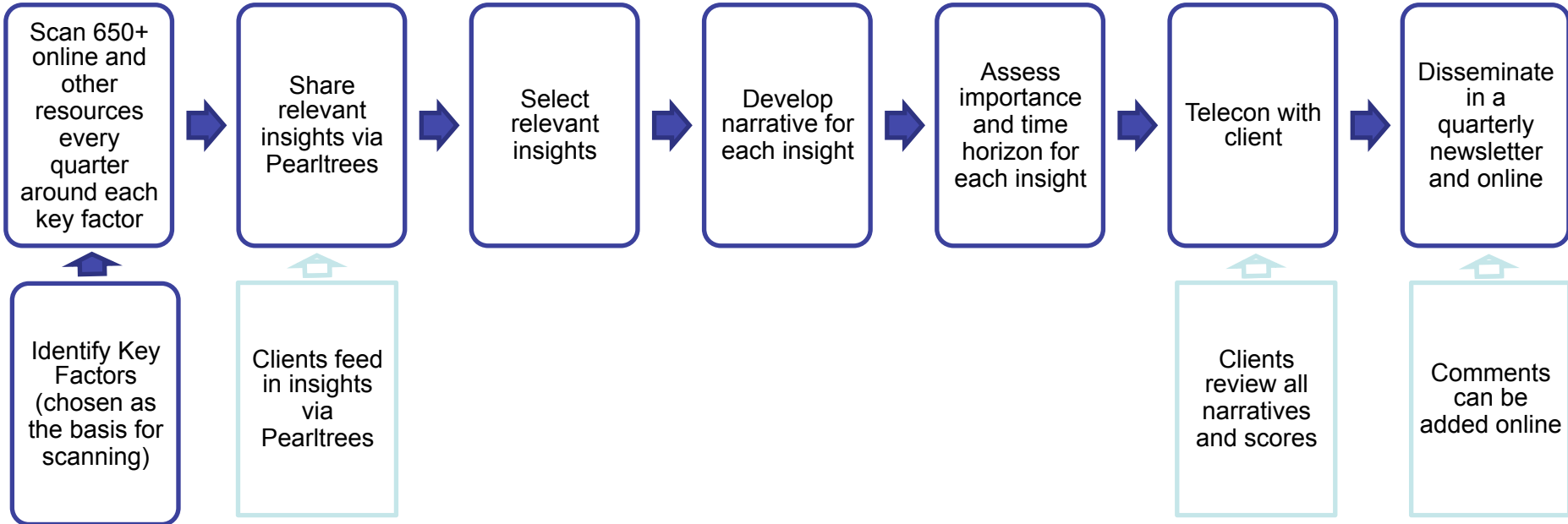
- Over the last decade, large brands have become increasingly adaptable, tailoring their services to make our lives better and easier. Many consumers now expect convenience and look for brands to help save money, automate ordering and make information more accessible. In addition, consumers have also come to expect corporate social responsibility (CSR).
- However, we may be seeing a shift to something new and all the more exciting. Some organisations are taking their corporate responsibility to a new level by demanding consumers actively support their CSR values.
- This has been called brand-enforced Public Social Responsibility (PSR).
- One example is the Brazilian football team, Victoria, who usually sport a red and black striped kit. To restore blood stock levels, the team have been stripped of their red stripes (now white), until the public donate enough blood to meet donor targets. Each milestone earns the team a new red stripe and contributes to public health.

Brand watching.com: <http://tinyurl.com/8t3qyl>, Concepts.net: <http://tinyurl.com/d6twe63>

Implications and next steps
Innovative PSR demands from brands could be just what is needed to spur social change initiatives like this could save cash, and spur large-scale improvements in society and health. It is also likely that some economic and environmental returns will result from PSR.

Horizon:
2

Importance:
11



Method – identifying key factors

- Key factors are **broad drivers or areas of change used to guide horizon scanning.**
- **These and are designed to reflect the most important topic areas shaping the future of our clients.**
They may be different for every organisation/ industry and act as a foci for scanning.
- As an example, through consultation, we identified 13 key factors which drive change for the environmental sector:
 1. Consumer attitudes and behaviour
 2. Health and well-being
 3. Science, technology and innovation
 4. Energy supply and demand
 5. Natural resources and waste management
 6. Agriculture, forestry and rural communities
 7. Food production, processing and distribution
 8. Land use and land management
 9. Climate, environment and biodiversity
 10. Oceans, marine life and fisheries
 11. Economy and industry
 12. Globalisation, (geo)politics and national security
 13. Demographics and urbanisation

Method – identifying insights

- We regularly scan 650+ quality controlled sources for signals of change, around each of the key factors
- This is essentially an intelligence gathering function, which entails the systematic scanning of online and offline sources for signals of change
- Identification of potential threats, opportunities and likely future developments that are at the margins of current thinking and planning
- Provides the basic evidence for other future methods including trend research and scenario building



- ▶ 02 - Health (741)
- ▶ 03 - Science (998)
- ▶ 04 - Technology (1574)
- ▶ 05 - Energy (787)
 - AEI - Energy Outlook
 - Alternative Energy - ENN (2)
 - Bio Fuel (55)
 - BNET Energy Industry (59)
 - Business Wire Energy (200)
 - Consumer Energy Report (4)
 - DECC
 - EIA - Energy Brief (14)
 - EIA - Petroleum (2)
 - EIA - What's New (3)
 - Energy (30)
 - Energy & Climate
 - Energy & Renewables - EE (63)
 - Energy and Climate Change
 - Energy Daily (57)
 - Energy Farms
 - Energy Focus (16)
 - Energy Policy
 - Energy Technologies News
 - Energy UK (1)
 - Farming UK Renewable Energy (1)
 - Global Power and Energy (12)
 - Gregor.us (10)
 - IFPRI - Bioenergy
 - MIT World: Energy
 - Oil and Gas - Business Exchange (75)
 - Oil Prices - Business Exchange (7)
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 - Westminster Blog (1)
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- ▶ 08 - Mobility (518)

05 - Energy

Today

▶ Alliance to promote offshore wind power





 Share | Today 18:19 | Wind Energy

Washington (UPI) Jun 11, 2010 Ten U.S. East Coast states have formed an alliance with the U.S. Department of the Interior to promote offshore wind energy. The alliance includes Connecticut, Delaware, Maryland, Massachusetts, New Jersey, New York, North Carolina, Rhode Island, Virginia and West Virginia.

▶ American Municipal Power and Standard Energy Announce 300MW Solar Energy Development





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Gaithersburg, MD (SPX) Jun 16, 2010 American Municipal Power (AMP) and Standard Energy have announced an agreement to develop a 300MW solar energy generation capacity. The 30-year agreement has the potential to yield one of the largest groups of solar energy projects in the United States.

▶ Caltech Researchers Find Schooling Fish Offer New Ideas For Wind Farming





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California (SPX) May 19, 2010 The quest to derive energy from wind may soon be getting some help from California's schooling fish. As head of Caltech's Biological Propulsion Laboratory, Dabiri studies water- and wind-energy... [\[More\]](#)

▶ China to dominate wind power





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Berlin (UPI) Jun 15, 2010 China is quickly developing into the world's biggest wind power market. The Asian giant is expected to have the world's largest total capacity, said Angelika Pullen, spokeswoman for the Global Wind Energy Council... [\[More\]](#)

▶ Chinese wind turbine-maker confirms IPO to be shelved





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Hong Kong (AFP) June 14, 2010 A Chinese wind turbine-maker confirmed Monday that it has axed a 1.2 billion-US-dollar initial public offering.

Organising and selecting the insights

Alert to new content



Flexible Dwelling That Adapts With Your...

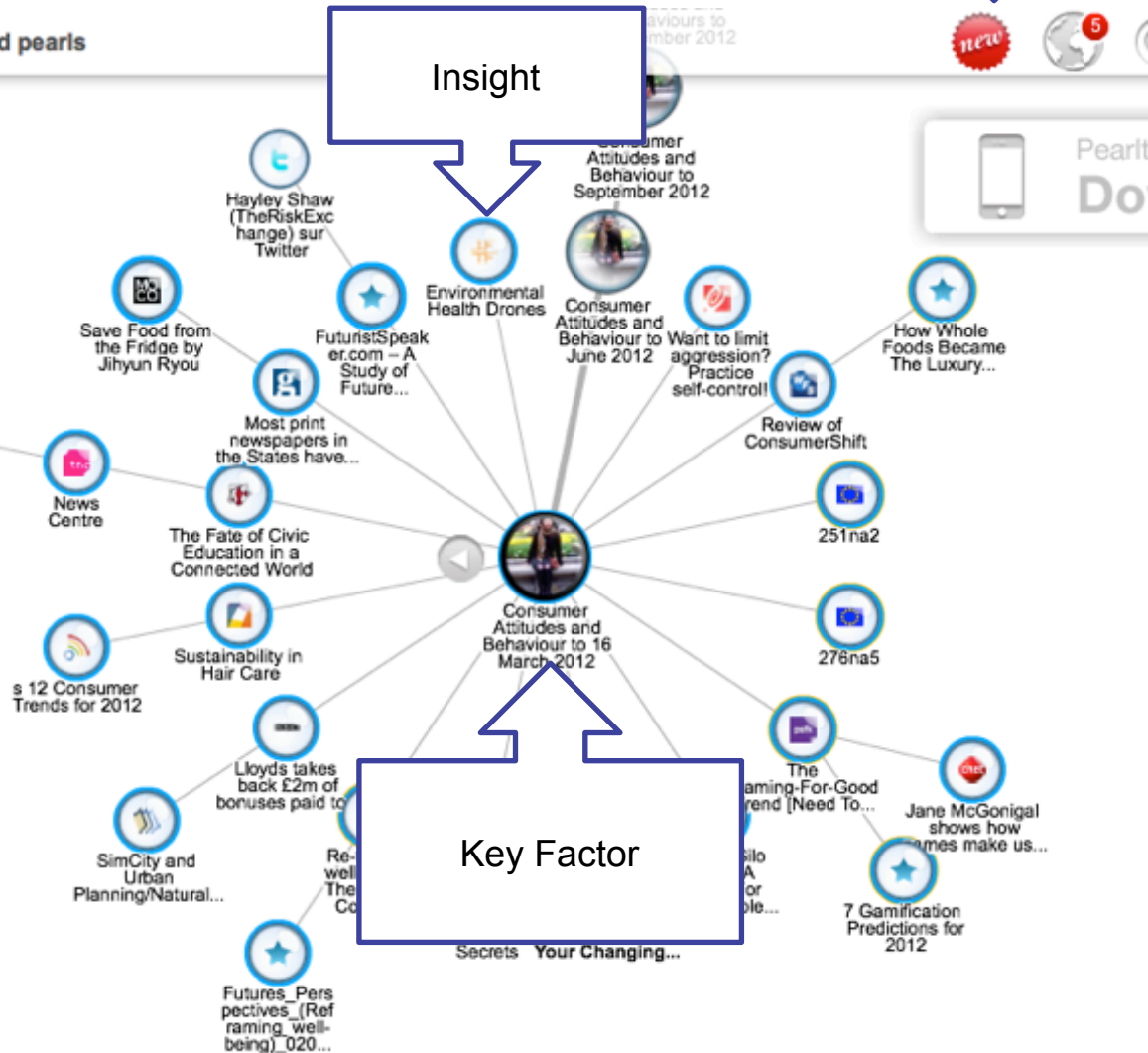
A simple, cheap and ecological housing concept made for dense cities that grows and shrinks as your needs evolve.

FLEXIBLE DWELLING THAT ADAPTS WITH YOUR CHANGING LIFESTYLE

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The brand revolution – from CSR to PSR (Public Social Responsibility)

- Over the last decade, large brands have become increasingly adaptive, offering services to make our lives better and easier. Many consumers now expect brands to help save money, automate ordering and make services more accessible. In addition, consumers have also come to expect brands to be socially responsible (CSR).
- However, we may be seeing a shift to something new and all the organisations are taking their corporate responsibility to a new level. Consumers actively support their CSR values.
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Trend watching.com: <http://tinyurl.com/cl9c9q4>, Concepts.net: <http://tinyurl.com/dxkweb3>

Implications and next steps

Innovative PSR demands from brands could be just what is needed to spur social change. Initiatives like this could save cash, and spur large-scale improvements in society and health. It is also likely that some economic and environmental returns will result from PSR.

First, main impact

Likelihood x impact (S,E,E)

Links to similar insights

Horizon: 2

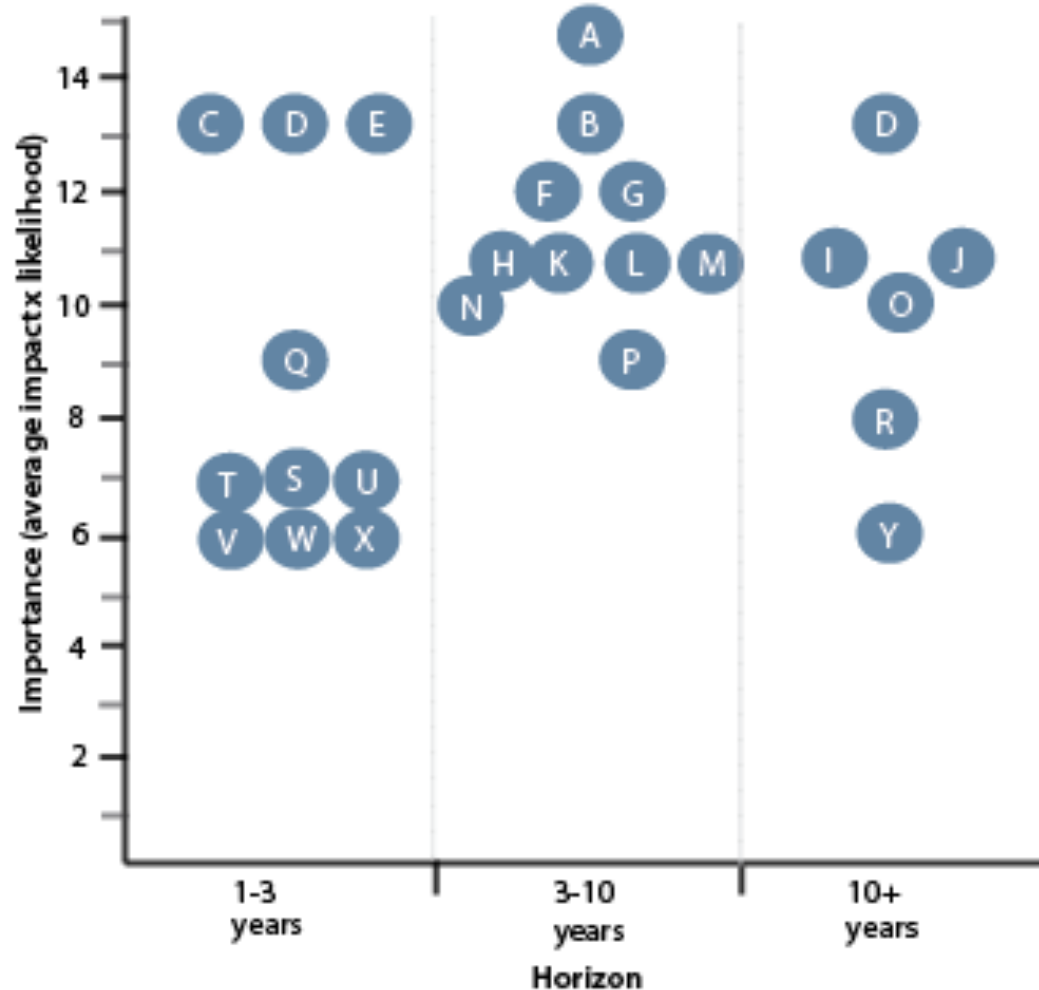
Importance: 11

Links: ●

Links to original articles

Implications and next steps

Prioritising the insights



Importance is indicative, highly uncertain and should be considered in the context of each individual organisation.

Note: These horizons should not be used as an indicator of when action is needed. An event likely to occur in 15 years may still require action now to mitigate against it.

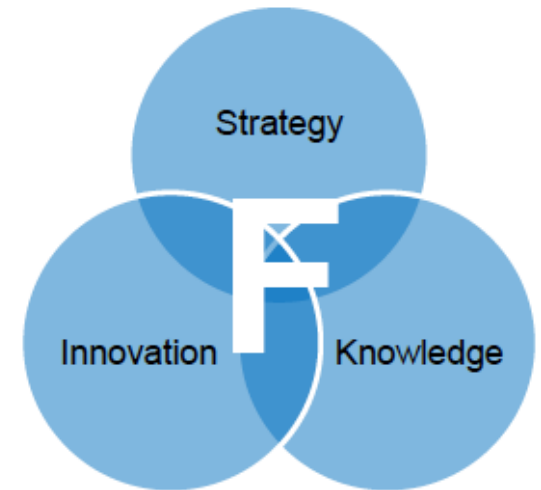
What happens to the insights?

- **Quarterly newsletters**
 - highlight priority issues of interest, but also inter-relationships to identify emerging trends
- **Online, public database of insights**
 - E.g. to search insights related to biofuel/ noise
- **Annual Key Factors Report**
 - Identifies trends which have emerged over the past year of scanning under each key factor
 - Identifies cross cutting issues which prevail across all key factors
- **Inform information/evidence needs** concerning more in-depth foresight research projects and other research requirements

What happens next?

Our clients engage in foresight research to...

1. Reduce uncertainty by identifying new and relevant trends
2. Prepare for strategic decisions
3. Develop new and future business fields/markets
4. Create orientation on future developments
5. Build a knowledge base
6. Identify and manage emerging risks
7. Identify risks or opportunities which may challenge/ contribute to organisational objectives
8. Inform long-term planning
9. Facilitate strategic discussions and plan for resilience
10. Identify new information needs and inform evidence investment...



Horizon Scanning

Business intelligence function: Horizon Scanning provides a steady stream of new insights and trends

Key Factors

Filter and framework for structuring, analysis and communication of insights

1 2 3 4 5 6 7 8 9 10 11 12 13

Key Factors & Foresight Research Reports

Integration of internal expertise via surveys, expert workshops and direct feedback

Our reports provide an analysis of most important long-term trends, including identification and analysis of the most important cross-cutting themes

Analysis of internal and external evidence including other futures studies

Risk

Identification and analysis of short- medium- and long-term risks; input into organisational performance management

Evidence

Relates to evidence investment strategies and provides insights into emerging evidence needs

Policy

Resilience tests to ensure policy and programmes are considering important long-term issues

Strategy

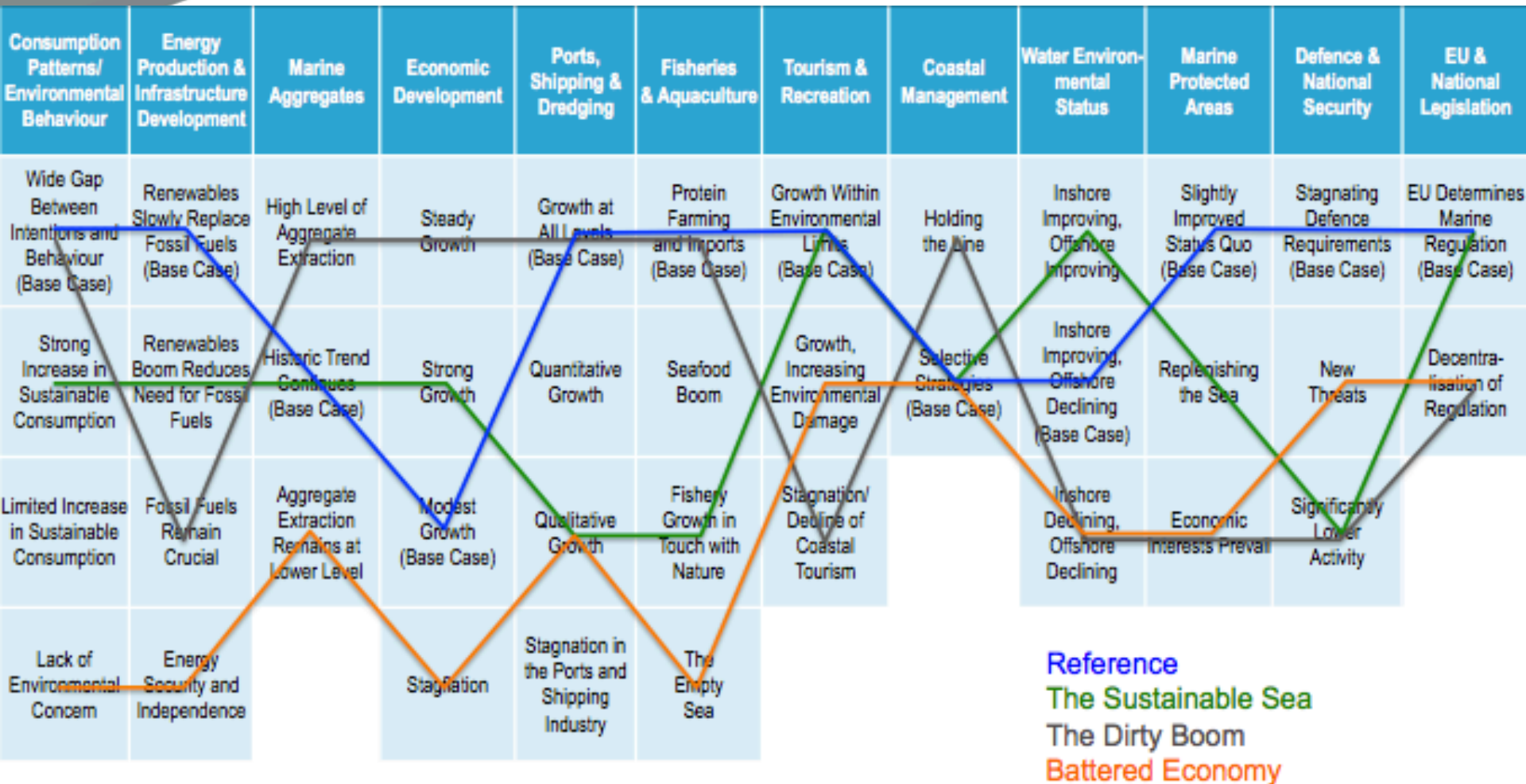
Knowledge-base and insights used for underpinning strategic thinking processes

The outputs from our initial horizon scanning work are used to develop medium- to large-scale research projects which:

- Provide plausible descriptions of how the future may develop
- Envision alternative evolutions of whole systems rather than individual entities
- Identify critical decision points and strategic options
- Develop of a clear context for future strategies and policies
- Explore the strengths and weaknesses of current strategy and/or policy approaches
- Provide a long-term vision independent of any political timetable

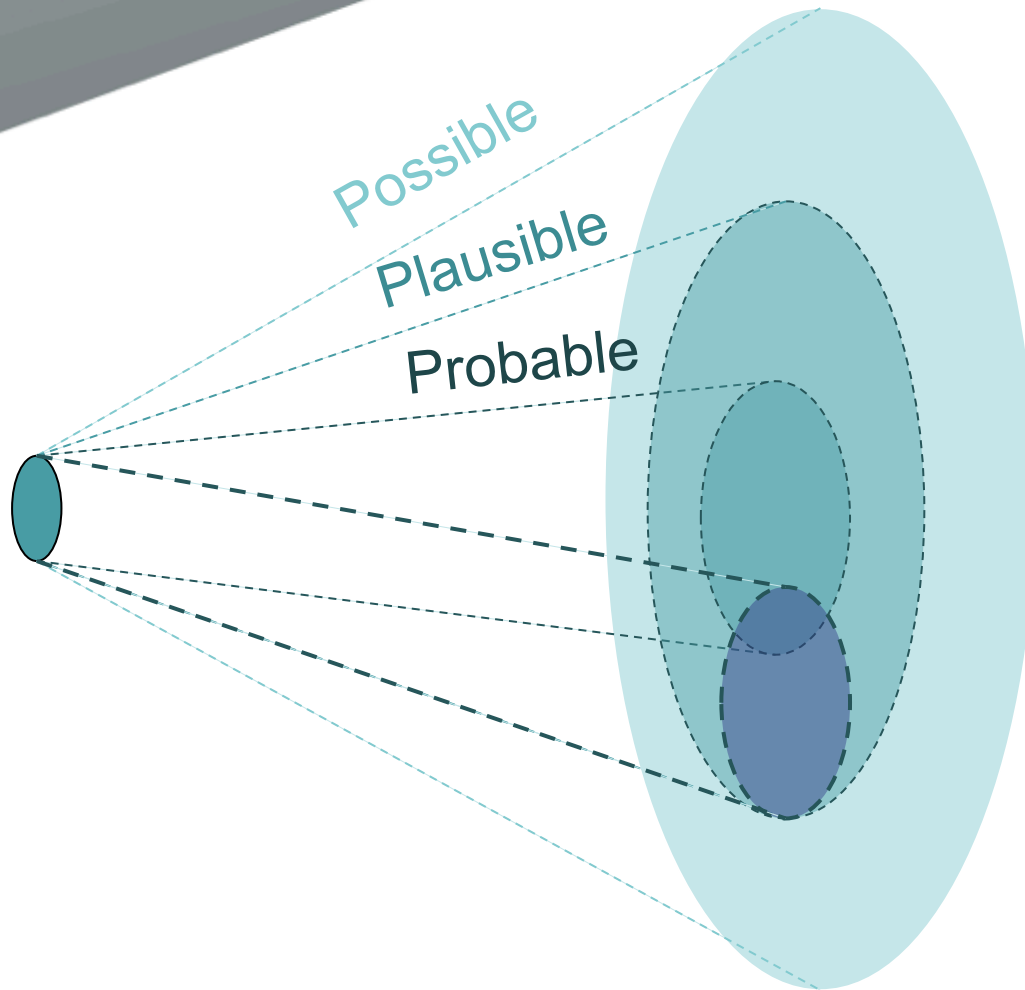
Building scenarios

Exploring the range of possible and plausible futures rather than predicting a single expected or 'most likely' future



Reference
 The Sustainable Sea
 The Dirty Boom
 Battered Economy

Why predicting the 'probable' is not enough



Our predictions of 'probable' futures are often flawed

Anchoring heuristic

When making an estimate, we often start with an initial value (anchor) and adjust from this

Representativeness heuristic

We expect the future to be representative of the past

Availability bias

We think it's more likely if it's just happened and we can remember it

Groupthink. Bandwagon effect.

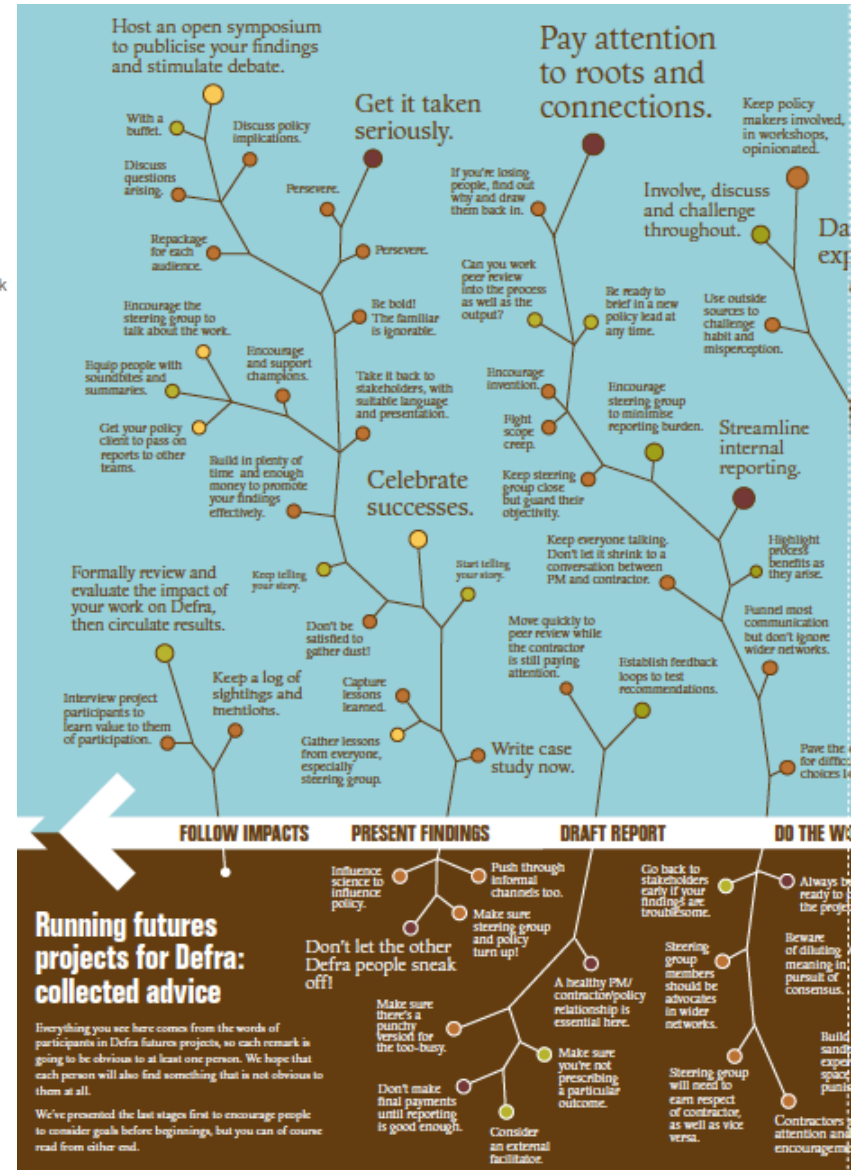
What have we learned?

1. The distinctive qualities of foresight research
2. Finding a suitable method
3. Involving and empowering critics
4. Good, clear governance and roles
5. The power of multidisciplinary
6. Language and understanding
7. Ownership and keeping it relevant
8. Making a long-term difference
9. Dealing with discomfort

Contents of this document

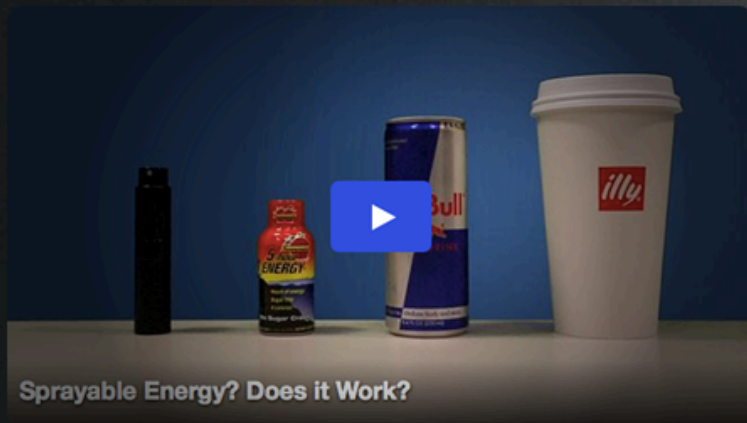
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1. Introduction
 2. Distinctive qualities of futures work
 3. Growing a suitable methodology
 4. Involving & empowering critics
 5. Governance & Steering Groups
 6. Multidisciplinary
 7. Language and misunderstanding
 8. Ownership and relevance
 9. Long term Impact
 10. Requirements for success
- A1. Glossary of futures methods
A2. Table of roles



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Sprayable Energy is a revolutionary spray-on caffeine applied to your skin for a smooth focused boost of energy.



SEE WHAT  NEWS THINKS OF SPRAYABLE ENERGY



Sprayable energy ends personal tiredness?

This portable phial of sprayable caffeine is marketed as providing energy through the skin at a steady pace over several hours and apparently, without the 'buzz' or crash afterwards.

SCiO: Your Sixth Sense. A Pocket Molecular Sensor For All !

by Consumer Physics, Inc.

Home Updates **11** Backers **12,958** Comments **1,357**

Tel Aviv, Israel Hardware

Funded! This project was successfully funded on June 15.



12,958

backers

\$2,762,571

pledged of \$200,000 goal

0

seconds to go



Project by
Consumer Physics,
Inc.
Tel Aviv, Israel

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A pocket molecular sensor for all?

SCiO is a hand-held spectrometer. It can scan the molecular fingerprint of materials or physical objects – food, medicine, plants, etc. - and send information straight to your smartphone. www.cranfield.ac.uk

Contact:
f.lickorish@cranfield.ac.uk



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