

ANNEX E: LITERATURE REVIEW

Analysis of horizon scanning reviews and related papers since 2004 highlights that this Review is not addressing a new issue. Previous reviews have also attempted to understand the nature and solidify the output of horizon scanning across Government. It is clear that there is no set, cross-government agreed definition for horizon scanning, and at times it is used interchangeably with the terms Futures, Strategic Assessment and Challenge.

The literature review identified a number of themes which can be viewed under a broad banner of the term horizon scanning (HS). It may be useful to see these themes under the two wide definitions published by the Cabinet Office in 2008:

'Horizon scanning is the systematic anticipation of potential threat, opportunities and likely future developments including (but not restricted to) those at the margins to current thinking and planning.'

'It is important to have a shared understanding of what horizon scanning is and there are varying perspectives across departments. Horizon scanning is a "knowledge radar", scanning for subtle clues and suggestions outside what is known as fact.'

The following are the key themes identified by the literature review:

- 1. Influence policy.** The literature review highlights that the output of HS activity should feed directly into policy making. HS offers a means of providing policy makers with the clearest view of the future. Frequently the words 'support' and 'strengthen' are used to describe how HS work should compliment the decision making process. HS should be integral to policy making, although it is acknowledged that for Government to engage with HS, the products must be relevant and of high quality. The unanswered question remains how best to feed this work into the policy and decision making process.
- 2. Coordination.** A number of reviews draw upon the requirement for cross-government HS to be better coordinated in order to identify emerging themes, and ensure the cross pollination of ideas. The need for a coherent output for the communities' HS products is also discussed with ideas such as a broad dissemination of product, cross community networks and the facilitation of discussion mentioned.
- 3. Short termism.** There has been an emphasis on applying horizon scanning, in the broadest sense, to overcome issues of short termism within Government by adding an element of forward thinking and therefore facilitating better informed forward-planning. The recommendation is that HS priorities are annually reviewed.
- 4. Challenge.** The Butler Review referred to the desirability of utilising formal techniques of 'challenge', and the 2004 Science and Innovation Framework also identified the benefits of improving challenge.
- 5. Issues with HS.** The Literature Review also highlights why HS has not been universally adopted. Primarily analysis indicates that a lack of understanding at the Senior level, in conjunction with few examples to demonstrate the benefits to policy

making of HS, have led to it not being widely accepted. In addition, the fluctuation of resources and time pressures on Senior Leaders has reduced its application.

EVIDENCE BASE

Jul 2004 Review of Intelligence on Weapons of Mass Destruction (Butler Review)

- The Assessments Staff do a remarkable job, given their limited role, in pulling together objective assessments. But they have limited scope for employing formal techniques of challenge. These would clearly not be appropriate in every case but might well be desirable for major issues when the 'prevailing wisdom' risks becoming too conventional. Their limited role also means that much of the task of assessing the influence of informants' circumstances on the nature and quality of their reporting falls to the intelligence agencies, and is vulnerable to agencies championing their own sources.

Jul 2004 Science and Innovation Investment Framework 2004-2014

(http://webarchive.nationalarchives.gov.uk/20060218193036/http://www.hm-treasury.gov.uk/spending_review/spend_sr04/associated_documents/spending_sr04_scienc_e.html)

- Science and innovation underpin evidence-based policy development and improved service delivery. Within this, excellent horizon scanning of current science and technology, looking at opportunities and threats at least five to ten years ahead, and often considerably beyond that, is essential to the effective governance and direction of Government policy, publicly funded research and many of the activities of the private sector, and to the interactions between them. Building on the work already taking place in the OST's Foresight Directorate, in Government more widely, and in Research Councils UK (RCUK), the Government's Chief Scientific Advisers across Government to build up a single centre of excellence in science and technology horizon scanning. This will feed directly into cross-government priority setting and strategy formation, improving Government's capacity to deal with cross-departmental and multi-disciplinary challenges. It will also inform and be informed by the Government's strategy for public engagement with science.
- The Office of Science and Technology's Foresight programme carries out in-depth projects on issues where science and technology may create major future opportunities and challenges. Each project reviews the relevant science and creates visions of the future to help frame choices and debate. Foresight works with a wide range of stakeholders to identify areas for further action.
- Recent projects are now contributing to wider engagement on the implications of potential developments in flood risk and climate change, human and artificial cognitive systems, and next generation information and communication technologies. Future projects will continue to explore selected areas with relevance for public engagement, longer-term regulatory environments and investment.
- Building on the work already taking place in the Foresight Directorate, in Government more widely, and in RCUK, the Government's Chief Scientific Adviser will work with RCUK, the Prime Minister's Strategy Unit and Departmental Chief Scientific Advisers across Government to build up a single centre of excellence in science and technology horizon scanning. This will be co-ordinated by OST's Foresight

Directorate and will bring together high calibre individuals provided and resources by Government Departments, Research Councils and the private sector. This will not replace the requirement for effective horizon scanning in departments, RCUK and elsewhere; rather, it will provide a higher-level strategic contact to those other activities, interacting with and informing them. It will feed directly into cross-government priority setting and strategy formation, improving Government's capacity to deal with cross-departmental and multi-disciplinary challenges. It will also inform and be informed by the Government's strategy for public engagement with science.

Mar 2008 "The role of futures thinking in government strategy" report of the February FAN Club Meeting Fan was prepared for Horizon Scanning Centre

- Tackle short termism by insisting that everything produced has a futures element contained in it;
- Futurists should be integrated into all parts of an organisation
- Help overcome scepticism by presenting a 'cost-benefit analysis' of futures work: Cost: staff time - not huge. Benefit: addressing issues early, avoiding big negatives, delivering big positives.
- Increase the accessibility and 'usefulness' of futures information – and perhaps provide a consultation service to allow question/answer over a follow up period.
- We need to ensure there is genuine understanding and agreement of the importance of futures and strategy work, and to demonstrate its role and relevance to final customers (e.g. politicians/senior officials).
- There is a lack of any clear objective for futures thinking in government strategy and a lack of measurement.
- It is not so much about removing short termism as connecting it with futures and strategic thinking. We need to create a compatible language between short and long term. Secretaries of State should present a 10 year vision, updated once a year. That would instil futures thinking in our leadership culture.

Mar 2008 'The National Security Strategy of the United Kingdom (Security in an interdependent world)'

- Responding to global trends...a commitment to acting early, scanning the horizon for possible future threats; to working with partners in business and elsewhere; and to putting our effort and assets – whether research, enforcement, or diplomatic – behind a multilateral, rules-based approach.
- We will consider: how to strengthen the Government's capacity for horizon-scanning, forward-planning and early warning to identify, measure, and monitor risks and threats; and our capacity for strategic thinking and prioritisation, spanning traditional boundaries between domestic and foreign policy, defence and security, and intelligence and diplomacy.

- The Government is committed to a dialogue with experts, stakeholders, and the public, to build a shared understanding of the security challenges we face, and what we are doing and need to do to tackle them.
- Strengthening our national security structures – future priorities include: strengthening the work of horizon-scanning and forward planning.

Aug 2008 Horizon Scanning Forum: Invitation to inaugural meeting

- The aim of the HSU is to provide a framework for security-related horizon scanning currently undertaken in a number of Government Departments and to ensure that our output is coherent and coordinated. It will also aim to bring together the horizon scanning community to share products, develop contacts and facilitate discussion. The HSU will review existing cross-Departmental and external horizon scanning products, identify gaps and commission new work.
- The HSU will sit within the Joint Intelligence Organisation under Alex Allan. It will draw on open source material and assessed secret intelligence, where relevant. The HSU will work with those involved with the productions of security-related horizon scanning across government and more widely, it will share products and develop a better understanding of unfamiliar threats and opportunities.
- The Unit will work closely with the DIUS FUSION team who will be the source of best practice across the community for horizon scanning and will provide training and development opportunities.
- Horizon scanning is the systematic anticipation of potential threat, opportunities and likely future developments including (but not restricted to) those at the margins to current thinking and planning.
- The HSU should offer an outlet for important horizon scanning work across government to better inform forward-planning and early warning and to identify, measure and monitor risk and threats.
- Alex has asked the HSU to create and support a new Horizon Scanning Forum comprising a matrix group of people from relevant Departments and agencies. The Forum will provide a platform for all forms of scanning which may impact the NSS including products which identify low probability but high impact scenarios.

Sep 2008 Horizon Scanning Forum: Inaugural Meeting

- It is necessary to recognise the boundaries of the HSU and how it will link to horizon scanning work already being undertaken.
- The DIUS Foresight Team under Averil Horton will remain the home of horizon scanning best practice across Government with its production of toolkits and scans. The centre focuses on horizon scanning practise whereas the HSU will solely be looking at the product of Horizon Scanning, its coordination across Government and feeding into policy making processes.

- The Future Security and Intelligence Outlook Network (FUSION) run by the Foresight team bring together scanners and strategic futures analysts. They provide an existing body of expertise and are currently working on some cross agency projects.
- The HSU is in a relatively embryonic stage and it is necessary for the early commitment and buy-in shown from stakeholder Government departments to be built on and consolidated.
- This Horizon Scanning Forum (HSF) will sit annually at the senior level and will form the commissioning body for the HSU. The Forum will also sit quarterly at the working level, chaired by Mark Presley, to maintain a horizon scanning dialogue between those involved in horizon scanning and the associated policy areas to allow better coordination of horizon scanning work, identify emerging themes and build an effective community that can share products, expertise, experience and strengthen Government's capacity for horizon scanning.
- It is important to have a shared understanding of what horizon scanning is and there are varying perspectives across departments. Horizon scanning is a 'knowledge radar', scanning for subtle clues and suggestions outside what is known as fact. It gives advance warning of threats and opportunities that lie just out of sight. Horizon scanning is a strategy tool which provides decision makers with a picture of what could happen in the future in order to support policy development. Horizon Scanning is not built entirely on tangible and established fact. It sifts through and combines faint signals that may mark the start of something important that requires early policy action.
- It is essential that horizon scanning offers purpose and relevance to policy makers. It needs to be anchored in a strategic requirement to look around and ahead in order to inform policy – although in practice it is rarely so linear.
- The aim of this Forum is to formalise and provide a degree of audit to the process. The Forum will act as an intermediary between scanners and policy makers, ensuring a steady, co-ordinated and directed flow of information.
- The catalogue of extant horizon scanning products is the first step towards building a common view of the issues that Government Departments and agencies consider to be important in the coming years. It is, simply, a tool to building awareness of all horizons. The Catalogue will hopefully develop into an electronic repository for all horizon scanning products that will be available to all in the community. The Catalogue is likely to have another valuable function; by making Departments aware of on-going work, they can leverage it, join it or opt to shift resources to investigate other parts of the horizon.
- The HSU will make early links to the National Security Secretariat and National Security Forum to ensure that policy makers are engaged from the start in the HSF. The HSU will also continue to build the network of horizon scanners across the community, link them with strategic planners and extend the network outside Government and internationally.

Sept 2008 HSU TORs

- The aim of the Horizon Scanning Unit is to take a leadership position in the UK and wider horizon scanning community and provide the clearest possible view of the future to national security decision-makers based on the collective output of horizon scanning from across Government commissioning new products where appropriate.

- The Senior Responsible Officer for the horizon scanning function in support of national security will be the Chairman of the Joint Intelligence Committee (JIC).
- The Horizon Scanning Unit will:
 - Coordinate horizon scanning products from across government and build a catalogue of the products and make them accessible to all Departments and Agencies responsible for delivering the National Security Strategy and commission work to fill gaps.
 - Undertake an analysis of government-wide horizon scanning products, produce the clearest possible view of emerging threats and opportunities, assessed on the basis of impact, likelihood and time to the national security strategy and deliver to:
 - The National Security Forum a clear picture of what horizon scanning processes and outputs are available to support the National Security Strategy.
 - The Ministerial Committee on National Security, International Relations and Development a horizon scanning product at least once every year.
 - Deliver to Cabinet Office Secretariats, Government Departments and Agencies, through the Chairman of the Joint Intelligence Committee, horizon scanning products and processes as the Chairman sees fit.
- Convene once per year (in September) a meeting of the Horizon Scanning Forum (Commissioning Board) at Director-General/Director level, to review the output of the Horizon Scanning Unit and set priorities for work in the forthcoming year.
- Convene at least three times per year a meeting of the Horizon Scanning Forum (Coordination Board) at Assistant Director/Desk Officer level, to coordinate, collaborate and communicate on-going horizon scanning work across all Government Departments and Agencies responsible for delivering the National Security Strategy. The meeting will:
 - Coordinate horizon scanning work and links to policy development
 - Give access to and distribute horizon scanning product to all Departments and Agencies
 - Identify gaps in existing horizon scanning and advocate the commissioning of work to fill the gaps.
- Draw on all sources and from intelligence assessed by the JIC machinery, as appropriate, to undertake horizon scanning aimed at identifying threats and opportunities related to the national security strategy.
- Support the National Security Secretariat as directed by the Chairman of the Joint Intelligence Committee on all issues related to National Security to providing horizon scanning context to policy determination.
- Establish a network of Department/Agency strategic planners and horizon scanners to ensure cross-pollination of ideas.
- Extend the horizon scanning community beyond government to include academia, industry and horizon scanning organizations internationally.

- Regularly brief the JIC Chairman on emerging issues of concern to national security.

Oct 2008 ‘Integrating horizon scanning into the national security strategy’ Alex Allan

- It is important that we find a way to integrate the Government’s horizon scanning activity into strategy development, and into strategic decision-making. This is particularly true for the national security strategy.
- Recommended the Government’s horizon scanning activity be reported on in the annual update to the national security strategy. This was to include analysis and discussion of how HMG might best respond to these results.
- Alex Allan highlighted that for horizon scanning work to have a clear purpose and effect, there was a requirement for departments to respond to it and, therefore, the product needed to be of “...sufficient quality, value and coherence...”

Nov 2008 Strategic Horizons Unit Update

- It was decided that The Horizon Scanning Unit will be known from now on as the Strategic Horizons Unit (StratHzU).

Jun 2009 249902 Maude Horizon Scanning Unit FoI Request

- The Strategic Horizons Unit was established in accordance with the Prime Minister’s written ministerial statement of 22 July 2008 on the National Security Strategy: “Alongside [the National Security Secretariat] a horizon scanning unit will be established which will co-ordinate the security-related horizon scanning currently undertaken in a number of Government Departments, with the intention of giving it an overarching framework and a more coherent output.” The unit began operations on 23 September 2008.
- The Strategic Horizons Unit co-ordinates horizon scanning across government in support of the National Security Strategy.
- Four full-time equivalent staff work in the Cabinet Office’s Strategic Horizons Unit, and the unit is in the process of hiring one further member of staff for a total of five. The functions of the vacant post are currently being performed by a member of the Intelligence Corps (Volunteers). There is no other Cabinet Office division for which horizon scanning is its main mission.
- The Strategic Horizons Unit co-ordinates, commissions and participates in horizon scanning work in support of national security, but the government’s centre of excellence in horizon scanning is the Horizon Scanning Centre which works for the Government Chief Scientist.

Oct 2010 ‘Securing Britain in an Age of Uncertainty: The Strategic Defence and Security Review’

- Strategic all-source assessment, horizon-scanning and early warning are integral parts of the work of several government departments and should feed directly into policy-making, into the annual domestic National Risk Assessment and into the

biennial strategic National Security Risk Assessment review process. We need to ensure that the National Security Council has timely, relevant and independent insight to inform its decisions, and that assessment capabilities are coordinated to support cross-cutting strategic policy work. Priorities will be agreed annually by the National Security Council.

- Cross-departmental cooperation will be further strengthened by closer collaborative working and a common framework for analytical skills and training to promote analytical career development.
- An annual mandate for cross-Whitehall horizon scanning, based on the National Security Council-agreed priorities, will ensure focus on key areas of concern while allowing scope for consideration of new, emerging issues, the Cabinet Office horizon scanning staff, working in the strategy team of the National Security Secretariat, will be responsible for coordinating this work and producing reports for the National Security Council.
- The National Security Council will provide focus and overall strategic direction to the science and technology capability contributing to national security, so that decisions by individual departments and agencies take account of the needs of Government as a whole and make best use of available resources. This capability will support horizon scanning and risk assessment...

Oct 2010 ‘A Strong Britain in an Age of Uncertainty: The National Security Strategy’

- We must do all we can, within the resources available, to predict, prevent and mitigate the risks to our security. For those risks that we can predict, we must act both to reduce the likelihood of their occurring, and develop the resilience to reduce their impact.
- In order to ensure that we are able to anticipate future risks, we will ensure that strategic all-source assessment, horizon-scanning and early warning feed directly into policy-making through biennial reviews of the National Security Risk Assessment. In particular, we will ensure the flow of timely, relevant and independent insight to the National Security Council to inform decisions.

Jan 2011 “Annual Mandate for cross-Whitehall Horizon Scanning” (National Security Strategy and Strategic Defence and Security Review Implementation Board) and Cabinet Office response

- The SDSR Implementation Board agreed that the final horizon scanning product to the NSC in October should be a selection of those products which have been assessed to most impact upon the 10 SDSR priority areas and/or specific National Security Risk Assessment (NSRA) risks, or which identify new risks, with the collated SRO responses.
- The purpose of an annual mandate for cross-Whitehall horizon scanning is to ensure this work is drawn together in a coherent fashion based on NSS and SDSR-agreed

priorities. This framework should assist in focusing on key areas of concern whilst also allowing consideration of new, emerging issues.

- The cross-Whitehall horizon scanning mandate sits within a wider commitment of the SDSR (also articulated in Section 6.5), for increased focus on central coordination and strategic all-source assessment, horizon scanning and early warning. These are seen as integral parts of work for several Government Departments and should feed directly into policy-making, the Civil Contingencies Secretariat's National Risk Assessment (NRA) and the biennial strategic NSRA review process. This horizon scanning will also contribute to thinking on the strategic environment in a number of different areas developed in strategic threat assessments for Organised Crime, Border Security and Counter Terrorism.

Apr 2012 “Strategic thinking in Government: without National Strategy, can viable Government strategy emerge?” by House of Commons Public Administration Select Committee.

- We do not consider the process of strategic thinking in Government currently reflects a virtuous circle of emergent strategy.
- We have little confidence that Government policies are informed by a clear, coherent strategic approach, itself informed by a coherent assessment of the public's aspirations and their perceptions of the national interest.
- Policy decisions are made for short-term reasons, little reflecting the longer-term interests of the nation. This has led to mistakes which are becoming evident in such areas as the Strategic Defence and Security Review (carrier policy), energy (electricity generation and renewables) and climate change, and child poverty targets (which may not be achieved), and economic policy (lower economic growth than forecast).
- The clearer expression of the nation's strategic aims would help to ensure that short-term decisions are made in the context of the long term national strategic framework.
- Emergent strategy therefore requires a coherent directing mind, individual or collective, to drive the process. The driving force of emergent strategy is what will determine whether the momentum generated results in a virtuous or vicious circle.
- Strategic thinking was about “...promoting a way of thinking or a culture in senior Ministers and officials that is always looking at not just two or three months, or the next couple of years of policy implementation, but also at the further horizon.” (Geoff Mulgan)
- Lord Carter of Coles noted that “the urgent tends to trump the important”.
- There remains a critical unfulfilled role at the centre of Government in coordinating and reconciling priorities, to ensure that long-term and short-term goals are coherent across departments.

- When considering strategy over a long timescale, many witnesses recommended that to work strategically, governments should undertake scenario planning.
- Lord Burns: “Government has never been very good, in my experience, at what you might describe as looking at plan B, because Government do not like to think that plan A is not going to work. They fear that by looking at plan B, there will be a loss of confidence in plan A.”
- The barriers between government departments can prevent Civil Servants from working strategically, and across departments, creating incentives to defend their departmental territory at the expense of the good of the whole.
- Central strategy units were therefore useful in ensuring coherence between individual departmental strategies, but the trade-off was a lack of ownership by departments and ministers of the resulting strategic thinking.
- The reality, however, is that short-term and media pressure means that Ministers have little time to work strategically. On our study visit to Washington DC we found that short-termism was a common problem in other legislatures, with foresight extending only as far as the next election.
- We believe that there is considerable unused capacity for strategic thinking in Whitehall departments which should be allowed to grow and flourish.
- The Government’s response to this Report must address the question of whether there should be a stronger, perhaps constitutional role for the Civil Service in promoting the long-term national interest, to help counteract the negative, short term pressures on Ministers.
- Ministers and the Senior Civil Service are alone in their complacency that cross-departmental working is adequate.
- We advocate a greater recognition of the unpredictable nature of the issues which face us as a nation.

Jun 2012 “Government Horizon Scanning Capability” by Go Science

- All departments recognise the value of horizon scanning, but its use is not found to be systematic, and resources allocated are not generally significant.
- Challenges, across departments, limiting the use of horizon scanning include: time pressure, lack of access to examples demonstrating the benefits of horizon scanning, and inadequate resources.
- Reviews by the Government Chief Scientific Adviser found examples where good HS helped inform Departmental Strategic Board decisions.

Jun 2012 “Review of futures training” prepared for Foresight Horizon Scanning Centre

- There is a growing sense of confidence that futures thinking is valued and that senior staff in particular are keen to use and promote it.
- Futures work must connect to – and support – policy development and decision making if it is to retain its value. Training must therefore help practitioners achieve this.
- Policy makers and senior decision takers need a better knowledge of what horizon scanning can do and how it can contribute to policy and strategy development. This will help to manage their expectations about what futures can deliver and encourage them to be informed, sophisticated and demanding consumers.

DRAFT date TBD “The use of strategic futures analysis in policy development in government” Wahid Bhimji & Averil Horton, Foresight Horizon Scanning Centre.

- Futures work aims to assist policymakers in developing strategies to manage uncertain or complex futures.
- The Foresight Horizon Scanning Centre, the Cabinet Office’s Strategy Unit and the National School of Government jointly hosted a meeting of the *Futures Analyst Network* in February 2008 (Waverley (2008)) which asked a range of futures analysts and strategists what barriers they saw to the effective take up of futures thinking in strategy development in government. They found that 4 out of the top 5 most significant barriers are related to short-termism in the organisation. These spanned several different categories: political, institutional (in terms of action being delivery led), leadership (leaders not trained or rewarded to cultivate long-term thinking); and cultural (people preferring to look at the present rather than the future).
- Make futures work more accessible to policy makers. The connection between futures work and strategy or innovation needs to be made clearer to demystify such work and increase the demand for it.
- In order for there to be demand for futures work in government it will need to tackle the organisational short-termism mentioned in Section 4.2. In addition to high-profile futures work, we propose that this be achieved by developing a programme of targeted training for Ministers, Permanent Secretaries, senior civil servants and fast streamers making clear the benefit and the need for futures work.