

FORESIGHT AND ANTICIPATORY GOVERNANCE

Lessons in effective foresight
institutionalisation



STRATEGIC FORESIGHT UNIT



Strategic Foresight Unit | Office of the Secretary-General

Foresight and Anticipatory Governance in Practice

Lessons in effective foresight institutionalisation



Marek Prítyi, State Advisor, Ministry of Environment of the Slovak Republic
Dexter Docherty, Junior Foresight Analyst, Office of the Secretary General, OECD
Trish Lavery, Foresight Analyst, Office of the Secretary General, OECD

This report is part of a collaborative research project between the Ministry of Environment of the Slovak Republic and the OECD's Strategic Foresight Unit. The contents reflect a variety of inputs and perspectives from leading public sector futurists and foresight practitioners from around the world, both in the countries explored as case studies and others. The opinions expressed and arguments employed herein do not necessarily reflect the official views of OECD member countries.

The authors and the OECD thank all the practitioners who contributed insights to this project and all others who supported in various ways.

OECD 2021
www.oecd.org/strategic-foresight/
foresight@oecd.org

Introduction

1. The purpose of this paper¹ is to identify key lessons about the successful institutionalisation of strategic foresight in government. The paper highlights some cross-cutting themes from countries and organisations with well-established government foresight systems that can serve as a guide for the institutionalisation of strategic foresight within other governments and organisations.

2. This paper stems from collaborative work between the Ministry of Environment of the Slovak Republic and the OECD Strategic Foresight Unit exploring ways to advance the successful institutionalisation of foresight within the Slovak Republic. The paper employs a case study method and uses interviews with foresight experts from several established public sector foresight institutions. The interviewees do not constitute a representative sample and this paper is not meant to be a comprehensive guide on foresight institutionalisation. Rather, this paper draws on the wisdom of many people with leadership experience and expertise in strategic foresight to explore different models and practices that could be employed by those attempting to grow foresight capacity within their country. The lessons and insights collected below may be useful for those in the early stages of building foresight capacity within their institutional context.

Definitions

3. **Strategic foresight** is defined as the “structured and explicit exploration of multiple futures in order to inform decision-making.”² Strategic foresight typically involves scanning the horizon for signs of emerging change, developing and exploring a diversity of possible future scenarios, and identifying potential implications for the strategies and policies being developed in the present. Strategic foresight can provide a powerful foundation for the development of forward-looking public policies and help to ensure the future-readiness of existing policies, particularly in the context of “environments that are both complex and uncertain.”³

4. **Anticipatory governance** is the “systematic embedding and application of strategic foresight throughout the entire governance architecture, including policy analysis, engagement, and decision-making.”⁴ In the context of the present paper, anticipatory governance and the **institutionalisation of strategic foresight** includes: a) establishing dedicated foresight institutions and frameworks (e.g. units,

This paper is based on an analysis of foresight and governance literature as well as consultations with leading experts in the field conducted in 2020 and 2021. The experts consulted were from the following organisations: Australia, Futures Hub, National Security College; Canada, Policy Horizons Canada; Estonia, Foresight Centre; European Commission, ESPAS; European Environment Agency; European Parliament, Global Trends Unit and Science and Technology Assessment Unit; Finland, Sitra; Germany, Federal Environment Agency; Independent expert and former employee of the Asian Development Bank; Netherlands, Environmental Assessment Agency (PBL); United Kingdom, Nature England; Singapore, Centre for Strategic Futures; Slovak Republic, Ministry of Investments, Regional Development and Informatization; Sweden, former Director of Strategic Planning at the Ministry of Defence/former Director for Strategic and Future Issues at the Prime Minister’s Office.

² OECD, (2019) *Strategic Foresight for Better Policies*, 3.

³ Greenblott, J. M. et al. (2017), *Strategic Foresight in the Federal Government: A Survey of Methods, Resources, and Institutional Arrangements*, in *World Futures Review* 1, 14 (2018); see also Thomas Lehr et al., *Scenario-Based Strategizing: Advancing the Applicability in Strategists’ Teams*, in *124 Technological Forecasting & Social Change* 214, 214.

⁴ OECD (2019), *Strategic Foresight for Better Policies*, 3.

committees, networks, legislation, and practices) and b) building a foresight culture within existing institutional structures.

Examples of foresight institutionalisation

5. The following examples, while not exhaustive, serve to illustrate a variety of features of successful foresight institutionalisation. These features may be useful inspiration for governments engaging in their own processes of institutionalising strategic foresight and strengthening anticipatory governance.

Table 1. Institutionalising strategic foresight and strengthening anticipatory governance.

| | |
|------------------|--|
| <p>Australia</p> | <p>Australia's foresight capacities exist within specialised teams in various government ministries, including the Department of Foreign Affairs and Trade, Department of Education, Skills and Employment, and the Department of Industry, Science, Energy and Resources. A Futures Hub is funded by a joint venture between the Australian Government and the Australian National University and is a whole-of-government and whole-of-nation resource to support thinking, planning and policy work through examining strategic futures relevant to national security futures. The Futures Hub leads the Australian Strategic Futures Network, a collaborative network with members from state and federal government foresight teams.</p> <p>The Commonwealth Scientific and Industrial Research Organisation (CSIRO) is Australia's national science agency and has a dedicated foresight team (CSIRO Futures) and an Insight Team that analyses emerging trends, driver and scenarios, and applies modelling approaches to generate insights and inform future strategy and policy decisions with a particular focus on digital technology and data driven science.</p> <p>Australian and New Zealand government agencies collaborate in a shared horizon scanning service and database, the Australasian Joint Agencies Scanning Network (AJASN). The AJASN has been running since 2004.</p> |
| <p>Canada</p> | <p>Canada has one of the most well-established government foresight ecosystems in the world. At its heart is Policy Horizons Canada (Policy Horizons), the federal government's central foresight organisation providing cutting-edge futures research, strategic foresight services, and foresight capacity building since 2009. The institutional structure supporting Policy Horizons ensures a high level of buy-in from public service leadership. Policy Horizons reports to a steering committee of Deputy Ministers, the highest-ranking non-partisan civil servants in Canada. This steering committee provides guidance and direction to Policy Horizons and has strategic conversations about the foresight thought leadership developed by Policy Horizons.</p> <p>With over 40 full-time employees, Policy Horizons is currently one of the largest dedicated public sector foresight organisations in the world. This capacity enables the development of sustained expertise and in-depth foresight analysis on futures issues related to a wide range of public policy topics, as well as a significant outreach function aimed at leading collaborative foresight work and building foresight capacity in departments and agencies across the federal government.</p> <p>Policy Horizons hosts a network of foresight practitioners from across the government of Canada with over 200 representatives from over 50 federal departments and agencies. The network is an important part of mainstreaming foresight capacity throughout the Canadian public service. In 2021, Policy Horizons launched its inaugural Futures Week conference to showcase foresight to an even wider audience of public servants.</p> |

| | |
|---------|---|
| Finland | <p>Finland has one of the most elaborate systems of foresight in the world. The emphasis on foresight in Finland evolved after an economic crisis in the early 1990s and in response to security concerns related to the country's geography.⁵ Finland is home to foresight networks within national and regional government, academia, civil society and the private sector who together form a complex anticipatory ecosystem. By involving so many parts of society, the Finnish foresight ecosystem combines bottom-up and top-down approaches with a high degree of inclusiveness.</p> <p>Finland's National Foresight Network functions under the authority of the Prime Minister's Office in cooperation with Sitra, the Finnish Innovation Fund. Sitra, though technically located under the parliament, is largely independent, including in how it manages its funds. Sitra has a mandate to "ensure the future well-being of Finland" and to "support and challenge" government, often by raising issues that are not always a priority for those in power.⁶</p> <p>In-house foresight capacities exist within various government ministries. This includes regular future reviews taking place since 2003 and efforts to establish dedicated foresight capacity in all ministries. While there are occasional tensions between ministries, due to different sectoral priorities shaping their views of the future, collaborative futures thinking allows participants to articulate and build a shared understanding of these tensions.⁷</p> <p>The flagship foresight product within Finland is the government futures report, which is conducted every four years at the beginning of a new administration's term. This is a tradition dating back to the 1990s with the study's theme set by the Prime Minister in collaboration with an inter-ministerial group. A highly participatory process takes place over two years involving all relevant stakeholders, with dedicated budget and personnel.⁸ Parliament is involved in the drafting of the report focusing on long-term strategic priorities, and the report is intended to serve as a resource for all political parties in the design of their election campaign platforms.⁹</p> |
| Estonia | <p>The Estonian foresight system was inspired by Finland. The Foresight Act is the legal basis for foresight institutionalisation in Estonia. This act established the Foresight Council, consisting of research, technology and business experts, and the Foresight Centre, a think tank within the Estonian Parliament. The Council approves the Foresight Centre's activities. The Centre envisions possible future scenarios for policy makers so that they can "future-proof" policies. The Estonian Foresight Act also makes the inclusion and participation of the wider public mandatory.¹⁰</p> <p>Perhaps most notably, the Centre does post-assessment of old foresight work after a certain period, essentially building in an evaluation component to their work which compares actual progress to scenarios</p> |

⁵ School of International Futures (2021), 49.

⁶ Interview with Finnish foresight expert on 11 August 2020; see also School of International Futures (2021).

⁷ Interview with Finnish foresight expert on 11 August 2020.

⁸ Saritas, O. & Ababio Anim, D. (2017); Rosenström, U. and Balcom Raleigh, N. (2015), *Inclusive Foresight for Finland*, 2.

⁹ Since 1993. The Government's Future Report and foresight-related matters are discussed by the Parliamentary Committee for the Future (School of International Futures, 2021); Shallowe, A. et al. (2020).

¹⁰ Interview with foresight expert from Estonia on 24 April 2020. ; Sec. 6, para 5. of the Estonia Foresight Act, <https://www.riigiteataja.ee/en/eli/509022018003/consolide> (last updated 15 February 2022).

| | |
|-------------|---|
| | and outlooks after a certain period of time. ¹¹ This function makes it possible for foresight practitioners to “demonstrate their value to senior decision makers.” ¹² |
| Germany | <p>There is no central foresight body in Germany but rather a network of public and “independent yet publicly supported or financed institutions.”¹³ The institutions with foresight capacity include: the German Environment Agency (<i>Umweltbundesamt</i>), the Office for Political Planning (<i>Büro für Politische Planung</i>), located in the Office of the Federal Chancellor (<i>Bundeskanzleramt</i>), the Federal Foreign Service, the Federal Ministry for Environment, Nature Conservation and Nuclear Safety, and the Ministry for Economic Cooperation and Development. The Planning Office for the Federal Armed Forces (<i>Planungsamt der Bundeswehr</i>) – a civil section of the Federal Armed Forces – has well-established foresight capacities to deal with broader societal and technological issues.¹⁴</p> <p>The decentralised system includes funded foresight programmes or processes at sub-national levels as well, including the states of Bavaria, Baden-Württemberg, Rhineland-Pfalz.¹⁵ The Federal Ministry of Education and Research (<i>Bundesministerium für Bildung und Forschung</i>) organises foresight exercises in cooperation with partners at the sub-national level (<i>Länder</i>) and relevant bodies within the Federal government and the German Bundestag.¹⁶</p> |
| Netherlands | <p>The Netherlands has a rich history of foresight linked to the pioneering work of Royal Dutch Shell within the field. Within government, the Netherlands is an example of a country where foresight capacities are located in specialized agencies tasked with providing “strategic policy analysis” in selected fields. A leading example is the Netherlands Environmental Assessment Agency (PBL)¹⁷, although there are others such as the Central Planning Bureau, which conducts foresight based on the demand from political parties, government ministers, or members of parliament.¹⁸ These agencies collaborate with, and are funded through the budgets of, government ministries but have independent status. Civil servants typically engage these agencies in advance of elections to help prepare advice for incoming governments. In the case of PBL, over a third of the organisation’s 240 employees are regularly involved in foresight-related projects to some extent. The Netherlands places an emphasis on having a high degree of diversity in terms of disciplinary</p> |

¹¹ Interview with foresight expert from Estonia on 24 April 2020.

¹² Shallowe, A. et al. (2020), *A Stitch in Time? Realising the Value of Futures and Foresight*, 37.

¹³ Shallowe, A. et al. (2020).

¹⁴ Interview with foresight expert from Germany on 17 April 2020.

¹⁵ Dreyer, I. and Stang, G. (2013). As noted by respondent from Germany, depending on the political will of respective government, federal states may collaborate with foresight consultants on certain topics on ad hoc basis; however, it is usually not a continuous, institutionalised form of collaboration. Interview with foresight expert from Germany on 17 April 2020.

¹⁶ Saritas, O. & Ababio Anim, D. (2017).

¹⁷ PBL’s mission is to provide “strategic policy analysis in the fields of the environment, nature and spatial planning” and to inform “political and administrative decision-making” by conducting “solicited and unsolicited research that is independent and scientifically sound.” PBL Netherlands Environmental Assessment Agency, About PBL, <https://www.pbl.nl/en/about-pbl>.

¹⁸ Similar agencies include: CPB Bureau for Economic Policy Analysis, the Socio-Cultural Planning Agency, the Scientific Council for Government Policy, Deltares, KNMI and the Rathenau Institute of the Royal Academy of Arts and Sciences (Interview with Dutch foresight expert on 7 April 2020); School of International Futures, (2021).

| | |
|---------------------|--|
| | background on foresight teams and aspires to include younger generations and people with an immigration background in foresight work to cover a broad spectrum of relevant worldviews. ¹⁹ |
| Singapore | Singapore has a long history of high-level support for strategic foresight, linked to the country's security and geopolitical context. ²⁰ Singapore's extremely successful foresight system is characterised by high-degrees of centralisation, which ensures that foresight work in Singapore has impact through proximity to the most important decision makers . The Centre for Strategic Futures within the Prime Minister's Office has a central role among the government's foresight units. ²¹ The CSF also does capacity-building work for public servants through its "FutureCraft" workshops. Sectoral foresight units exist throughout government. ²² One notable example is the Strategic Foresight Unit at the Ministry of Finance, which has "a mandate to ensure that government futures work is built into the ministry's budgeting process." ²³ Public sector foresight experts are part of the Strategic Foresight Network Sandbox, which has been hosting regular meetings since 2011. ²⁴ |
| European Parliament | The European Parliament has several units dealing with foresight-related matters, which are relevant in the context of the European Strategy and Policy Analysis System (ESPAS) network. One of these units is the European Parliamentary Research Service's Strategic Foresight and Capabilities Unit deals with global trends and broader issues. The Strategic Foresight and Capabilities Unit functions under the auspices of the European Parliament Research Service, along with the Strategy and Innovation Unit and Linking the Levels Unit. ²⁵ One of its tasks is to produce background materials for members of the European Parliament on relevant global economic and social trends and their implications for the European Union. Further activities to promote "anticipatory culture within the European Parliament include, for instance, briefings and seminars." ²⁶ Another European Parliament foresight body is the Panel for the Future of Science and Technology (STOA), which deals mainly with technological and scientific matters. The purpose of STOA is to inform the parliamentarians and to feed into debates in the parliament. ²⁷ The STOA Panel is composed of 27 members of the European Parliament nominated by 11 of its permanent committees. ²⁸ Members of the European |

¹⁹ Interview with Dutch foresight expert on 7 April 2020.

²⁰ Dreyer, I. and Stang, G. (2013); see also Shallowe, A. et al. (2020); and Édés, B. *Resetting Our Future: Learning from Tomorrow* 39 (2021).

²¹ Shallowe, A. et al. (2020).

²² Kuosa, T. (2011), *Practising Strategic Foresight in Government*.

²³ School of International Futures (2021), 18.

²⁴ Centre for Strategic Futures, *Foresight 31* (10th Anniversary Issue).

²⁵ European Parliament Research Service: About, <https://epthinktank.eu/about/> (last updated November 4, 2021).

²⁶ European Parliament Research Service, EPRS Strategic Foresight and Capabilities Unit, <https://epthinktank.eu/author/eprsglobaltrends/> (last updated November 4, 2021).

²⁷ Interview with foresight expert at STOA on 28 April 2020.

²⁸ Panel for the Future of Science and Technology (STOA), History and mission, <https://www.europarl.europa.eu/stoa/en/about/history-and-mission> (last updated August 26, 2021).

Parliament and the committees can formulate demands and requests for foresight work.²⁹ The composition of the panel and the dynamics between parliamentarians and experts ensure the relevance of foresight work. **The objective of STOA is to act as “honest broker” and provide a forward-looking perspective and advice on different options, while taking into account the potential impacts specific choices could have on society.**

Crosscutting lessons

6. A number of lessons for the successful institutionalisation of foresight emerged across these case studies. Among them are:

- **The need for the national foresight ecosystem to have a context-specific set-up.** The success of world leading countries such as Finland and Singapore cannot simply be replicated in all settings because these foresight ecosystems have adapted to domestic institutional and societal structures. For instance, some country contexts may be better suited to the decentralised model of foresight present in Germany than the more centralised version of Singapore.
- **The need for buy-in among high-level decision makers.** Successful foresight ecosystems consistently have support and even champions among senior civil servants or elected officials.³⁰ There were varied and context specific means of achieving this essential buy-in among the countries studied. In Singapore, foresight teams enjoy proximity to the most important decision makers. Likewise, Policy Horizons Canada reports directly to the most senior civil servants. Estonia and Finland are a different model that includes significant engagement of parliamentarians to build buy-in from across the political spectrum. This may ensure greater long-term support for foresight, even if having to incorporate a larger diversity of worldviews may prolong individual foresight processes.
- **The need to preserve the challenge function of foresight.** There is often a need for foresight groups to include uncomfortable scenarios because they can make explicit assumptions about the future.³¹ From an institutional perspective, this essential challenge function can be maintained through the establishment of a degree of independence from the political establishment or the government of the day, as is the case in the Netherlands or Germany. It can also be preserved through sufficient trust and understanding from leadership of the purpose of foresight, as in the case of Singapore. While decision makers should have the option to formulate demand for foresight in certain areas, foresight groups should be reasonably independent in conducting foresight work in order to provide insight capable of usefully challenging the prevailing assumptions held by those in power.
- **The need for inclusive processes incorporating diverse perspectives and disciplines.** A key point of agreement among respondents is that the composition of a foresight team needs to be

²⁹ Panel for the Future of Science and Technology (STOA), History and mission, <https://www.europarl.europa.eu/stoa/en/about/history-and-mission> (last updated August 26, 2021); see also interview with foresight expert at STOA on 28 April 2020.

³⁰ Greenblott, J. M. et al. (2017)

³¹ Interview with Dutch foresight expert on 7 April 2020.

interdisciplinary and involve people from a variety of backgrounds, including different ethnicities, religions, genders, sexual orientations and age groups. Some important reasons for this are that the participation of a variety of stakeholders in foresight exercises is vital as a mechanism to minimise bias and allow foresight studies to explore the interplay between different areas of expertise.³²

- **Widespread participation can also increase the legitimacy of foresight processes.** As such, citizen participation is one of the defining traits of democratic anticipatory governance.³³ Foresight teams must be careful to ensure all participants are given a fair chance to shape the outcomes and scope of the project or else broader participation could become shallow or tokenistic.³⁴
- **The need for adequate resourcing.** Institutional support is one of the necessary ingredients and preconditions for the realisation of anticipatory governance. While the institutional set-up – including the resources required – is often context-specific, the countries with successful foresight ecosystems have often dedicated substantial amounts of funding and personnel to strategic foresight. The inclusion of large, diverse groups of stakeholders in foresight processes requires sufficient funding, as does rigorous futures research. Having dedicated employees whose primary responsibilities are foresight process design and foresight research is an essential ingredient to successful anticipatory governance and foresight products that get beyond surface level analysis. Small foresight teams can be supported through flexible work arrangements, which enable other government employees to offer their time and expertise to foresight processes.
- **The need for public servants to receive training and support in developing foresight capacity.** Countries that have highly institutionalised foresight systems have done work to grow foresight within the public service. As the respondent from Estonia noted, the ideal solution would be to have “agents of foresight” in each of the ministries.”³⁵ Several of the countries with successful foresight ecosystems have large professional networks of foresight practitioners and lead capacity-building workshops to grow the practice of foresight within their countries (e.g. Australia, Canada, Finland and Singapore). The joint venture between government and a university in Australia provides a standing capacity to convene research and dialogue on projects and provide executive and professional development courses. For countries looking to develop these capacities, there are international foresight networks to learn best practices from around the world, such as the OECD-led Government Foresight Community.³⁶
- **The need to demonstrate and evaluate the impact of foresight.** Strategic foresight is perhaps at its best when it functions as an “invaluable catalyst” for better decision-making.³⁷ It can be challenging to assess the influence foresight has on policies, because this influence is generally indirect. Developing means of highlighting the impact foresight is having within government, as is

32 Interview with foresight expert at STOA on 28 April 2020; see also Van Woensel, L. (2020), *A Bias Radar for Responsible Policy-Making*, Palgrave Macmillan, London.

33 Olson, R. and Dunagan, J. (2019), *Introduction to Special Issue: Government Foresight*, in *World Futures Review* 11 (3) 183, 184.

34 Dufva, M. & Ahlqvist, T. (2015), *Developing a Service Model for Systems-Oriented Foresight* 2-3.

35 Interview with foresight expert from Estonia on 24 April 2020.

36 OECD, Strategic Foresight, <http://www.oecd.org/strategic-foresight/our-work/> (last updated 15 February 2022).

37 Interview with foresight expert from the United Kingdom on 22 April 2020.

done in Finland and Estonia, is an important step in successful foresight institutionalisation. Both countries monitor the impact of foresight based on, among other things, political discussions and parliamentary debates.³⁸ Sitra has also developed ways of assessing the quality of a foresight process, the quality of participation, the substantive outcomes and the educational outcomes such as increased futures literacy for each specific foresight project.³⁹

- **The need to produce timely, relevant and practical products that are useful to decision makers.** Respondents from Finland and Germany both stressed the need to align foresight work planning with political cycles and the programmes of relevant parties, striking a balance between continuity and election cycles. The cycle of publication in Finland is timed to support the design of electoral platforms by all political parties. Similarly, the United States National Intelligence Council's Global Trends Report is published every 4 years to support a new administration when its term in the White House begins.⁴⁰ Furthermore, foresight experts in Singapore and the Netherlands have highlighted the value of providing concise and practical recommendations as well as attractive visualisations derived from foresight work.⁴¹ The expert at the European Parliament emphasised the importance of acting as an "honest broker", i.e. to provide a politically neutral advice reflecting a variety of scientific opinion and stakeholders interests.⁴²

Conclusion

7. The scaling up and institutionalisation of strategic foresight in governments depends on a series of balancing acts. There is a trade-off between preserving sufficient independence to produce results that challenge the thinking of decision makers while maintaining proximity to the highest-level decision makers. Another tension to reconcile is between the commitment to participatory work that brings in many stakeholders with different perspectives while avoiding becoming overly politicised or mischaracterised in the media. Successful institutionalisation relies upon policymakers and foresight professionals striking the right balance for their context for each of these dilemmas and many more.

8. While specific foresight ecosystems are shaped by historical, cultural, social, or political context of their countries and institutions, there are common elements in the cases of successful institutionalisation of strategic foresight that can serve as a guide for governments looking to develop their own capacity. Best practices in anticipatory governance are emerging and can be put into practice today in order for governments to be better prepared for a range of possible futures.

³⁸ Interview with Finnish foresight expert from 11 August 2020; Interview with foresight expert from Estonia on 24 April 2020.

³⁹ Interview with Finnish foresight expert from 11 August 2020

⁴⁰ National Intelligence Council, (2021), "Global Trends 2040: A More Contested World".

⁴¹ Kwek, J. and Gail Parkash, S. (2020), "Strategic foresight: How policymakers can make sense of a turbulent world," *Apolitical*. [Strategic foresight: Making sense of a turbulent world | Apolitical](#); Interview with foresight expert from Netherlands on 7 April 2020; interview with foresight expert from Singapore on 26 March 2021.

⁴² Interview with foresight expert at STOA on 28 April 2020; see also Van Woensel, L. (2020).

Bibliography

Dreyer I & Stang, G. (2013), *Foresight in Government – Practices and Trends Around the World*, Yearbook of European Security, 7-31, https://www.iss.europa.eu/sites/default/files/2.1_Foresight_in_governments.pdf.

Dufva, M & Ahlqvist, T. (2015), *Developing a Service Model for Systems-Oriented Foresight*, ISPIIM Innovation Summit, Budapest.

Edes, B (2021), *Resetting our Future: Learning from Tomorrow*, Changemakers Books

Government Office of Science/School of International Futures (2021), *Features of Effective Systemic Foresight in Governments around the World*, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/985279/effective-systemic-foresight-governments-report.pdf.

Greenblott, J. M. et al. (2018), *Strategic Foresight in the Federal Government: A Survey of Methods, Resources, and Institutional Arrangements*, 11 (3), World Futures Review 245-266.

Kuosa, T. (2011), *Practising Strategic Foresight in Government*, RSIS Monograph.

Kwek, J & Gail Parkash, S. (2020), *Strategic Foresight: How Policymakers Can Make Sense of a Turbulent World*, APOLITICAL, <https://apolitical.co/solution-articles/en/strategic-foresight-making-sense-of-a-turbulent-world>.

Lehr, T. et al. (2017), *Scenario-Based Strategizing: Advancing the Applicability in Strategists' Teams*, 124 Technological Forecasting and Social Change 214-224.

National Intelligence Council (2021), *Global Trends 2040: A More Contested World*, https://www.dni.gov/files/ODNI/documents/assessments/GlobalTrends_2040.pdf.

OECD (2019), *Strategic Foresight for Better Policies: Building Effective Governance in the Face of Uncertain Futures*, <https://www.oecd.org/strategic-foresight/ourwork/Strategic%20Foresight%20for%20Better%20Policies.pdf>.

Olson, R. & Dunagan, J. (2019) *Introduction to Special Issue: Government Foresight*, World Futures Review 11 (3), 183-186.

Rosenström, U & Balcom Raleigh, N. (2015), *Inclusive Foresight for Finland*, <http://www.aaiforesight.com/content/inclusive-foresight-finland>.

Saritas, O. (2013), *Systemic Foresight Methodology*, in Science, Technology and Innovation Policy for the Future, 83-116 (D. Meissner et al. eds., Springer-Verlag).

Saritas, O. & Ababio Anim, D. (2017), *The Last and Next 10 Years of Foresight*, Working Paper in Series: Science, Technology and Innovation, National Research University Higher School of Economics, Moscow. <https://wp.hse.ru/data/2017/12/18/1159876177/77STI2017.pdf>.

Shallowe, A. et al. (2020), *A Stitch in Time? Realising the Value of Futures and Foresight*, <https://www.thersa.org/globalassets/foundation/new-site-blocks-and-images/reports/2020/10/rsa-stitch-in-time.pdf>.

Van Woensel, L. (2020), *A Bias Radar in Responsible Policy-Making*, Palgrave Macmillan.

Further reading:

Bonwitt, B. (1989), *Reform of Public Administration: From Tasks to Goals*, 55 INTERNATIONAL REVIEW OF ADMINISTRATIVE SCIENCES 211-228.

Bezold, C. (2019), *The History and Future of Anticipatory Democracy and Foresight*, 11 (3) WORLD FUTURES REVIEW 273-282.

- Euroscientist, (2015) *Scientific Foresight, New in the EU Parliament Science Advice Toolkit*, <https://www.euroscientist.com/scientific-foresight-new-in-the-eu-parliament-science-advice-toolkit/> (last updated Nov. 5, 2021).
- Flowers, B. S. (2003), *The Art and Strategy of Scenario Writing*, 31 (2) STRATEGY & LEADERSHIP, 29-33.
- Funtowich, S. O. & Ravetz, J. R. (1993), *Science for the Post-Normal Age*, FUTURES 739-755.
- Jones, P (2017), *The Futures of Canadian Governance: Foresight Competencies for Public Administration in the Digital Era*, 60 (4) CANADIAN PUBLIC ADMINISTRATION 657-681.
- Kyungmoo Heo and Yongseok Seo (2018), *National Foresight in Korea: History of Future Studies and Foresight in Korea*, World Futures Review, 11 (3), 232-244.
- Mukherjee, M. et al. (2020), *Strategic Reframing as a Multi-Level Process Enabled with Scenario Research*, 53 (5) LONG RANGE PLANNING.
- Narayanan, V.K. & Fahey, L. (2006), *Institutional Evolution as an Emerging Focus in Scenario Planning*, 38 Futures (8), 972-992.
- OECD, *21 for 21: A Proposal for Consolidation and Further Transformation of the OECD* (May 2015); <https://www.oecd.org/about/secretary-general/21-for-21-A-Proposal-for-Consolidation-and-Further-Transformation-of-the-OECD.pdf> (last updated Nov. 5, 2021)
- OECD (2021), *Anticipatory Innovation Governance* (OPSI-Observatory of Public Sector Innovation), <https://oecd-opsi.org/projects/anticipatory/>.
- Olson, R. & Dunagan, J (2019), *Introduction to Special Issue: Government Foresight*, 11 (3) WORLD FUTURES REVIEW 183-186.
- Polchar, J (2020), *Unboxing the Future: Finding the Futures Hidden in Plain Sight*, Institute for Security Studies, <https://www.iss.europa.eu/content/unboxing-future> (last updated Nov. 5, 2021).
- Rosenbaum, E. et al., *Development of Sustainability Scenarios: Scope and Methodologies* (European Commission 2012).
- Schwartz, P. (1996) *The Art of the Long View: Planning for the Future in an Uncertain World*, Doubleday, New York.
- Van Woensel, L. and Joseph, V. (2018), *Forward-Looking Policy-Making at the European Parliament through Scientific Foresight*, [https://www.europarl.europa.eu/RegData/etudes/BRIE/2017/603205/EPRS_BRI\(2017\)603205_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2017/603205/EPRS_BRI(2017)603205_EN.pdf).
- Van Woensel, L. (2018), *Towards Unbiased Foresight Processes for Policy Thinking – A Framework for Responsible Scientific Advice*, <https://ec.europa.eu/jrc/sites/jrcsh/files/fta2018-paper-b4-woensel.pdf>.
- Vesnic-Alujevic, L. & Scapolo, F. (2019), *The Future of Government 2030+: Policy Implications and Recommendations*.
- Wack, P (1985), *Scenarios: Shooting the Rapids*, HARVARD BUSINESS REVIEW, <https://hbr.org/1985/11/scenarios-shooting-the-rapids> (last updated Nov. 5, 2021).