

Policy Brief No. 237 – May 2026

Lessons from the 2025 G7 Cycle: Quantum, AI and Science Diplomacy

Michael P. A. Murphy

Key Points

- Despite fears that international instability would disrupt the 2025 Group of Seven (G7) cycle, its meetings achieved meaningful agreements on technical matters related to emerging technologies.
- These key emerging technology outputs of the 2025 G7 cycle demonstrate the potential for technical aspects of science policy to facilitate continued cooperation amid growing international tensions.
- A focus on science diplomacy may provide a pathway for middle powers to navigate multilateral institutions in line with the emerging strategy of variable geometry and to shore up resilience of useful international fora.

Introduction

Despite fears that the 2025 G7 cycle could be effectively lost in a broader context of global uncertainty and the disintegration of the institutions of international cooperation, its summits were nevertheless able to achieve meaningful progress on emerging technologies. Instead of the leaders' summit concluding with a wide-ranging statement about geopolitical order, the cycle's outputs were more focused in scope. Drawing on an analysis of work on quantum technologies and artificial intelligence (AI) completed through Canada's 2025 G7 presidency, this policy brief argues that middle powers¹ can use strategies of science diplomacy to navigate the current instability of international fora. Emphasizing technical cooperation on emerging technologies, rather than more normatively charged debates on international order, may support the resilience of international institutions.

¹ The concept of a middle power is contested in the fields of international relations and Canadian foreign policy (see, for example, Cooper, Higgott and Nossal 1994; Nossal 2025), and this brief follows Adam Chapnick (1999) in adopting this term, despite its imprecision, due to its utility and the general understanding that it refers to states between great powers and low-income countries.

About the Author

Michael P. A. Murphy is the director of the Centre for International and Defence Policy at Queen's University and president of the Canadian region of the International Studies Association. He holds a Ph.D. from the University of Ottawa, where his dissertation won the 2022 Joseph De Koninck Thesis Prize for making an outstanding contribution to interdisciplinary knowledge.

He is a former Digital Policy Hub fellow at CIGI and was a Banting post-doctoral fellow at Queen's. Michael's current research interests include quantum science and technology policy, security studies and international relations theory.

He is the author of *Quantum Social Theory for Critical International Relations Theorists* (Palgrave, 2021) and *Weak Utopianism in Education* (Routledge, 2024), more than 40 peer-reviewed articles and numerous book reviews and chapters, receiving more than 2,000 citations. Michael is an international award-winning educator with a range of teaching experience in international relations, Canadian politics, political theory and public administration.

This resilience through refocusing should be of particular strategic interest to middle powers given its alignment with strategic flexibility and patchwork coalition building. Called “variable geometry” by Canadian Prime Minister Mark Carney (Prime Minister of Canada 2026), this approach calls for middle powermanship to move away from unflinching loyalty to the institutions of the rules-based liberal international order and toward a more pragmatic track of engagement with different unilateral and multilateral groupings for particular initiatives. Although the particular case of Canada's 2025 G7 presidency focuses primarily on one middle power in the context of one multilateral organization, the lessons of science diplomacy, institutional resilience and pragmatism are broadly informative — both for middle powers seeking to assert themselves on the world stage as well as more broadly for states participating in international dialogues on science and technology (S&T) governance.

The G7 and Canada's 2025 Presidency

The G7 is a unique forum within the realm of global governance, with an enduring presence on the international stage but little bureaucratic development. John Kirton described the G7 system as “the late twentieth century global equivalent of the Concert of Europe” (1995, 65). Arising in the mid-1970s during a wave of summitry as a core feature of international relations (Mourlon-Druol and Romero 2014), the G7 began as a forum for macroeconomic coordination by highly industrialized democratic nations before its scope steadily expanded to incorporate a wider range of subjects (Hajnal and Kirton 2000; Baker 2006). Although it has been a group of seven nations for the bulk of its history, its first meeting was as a group of six before Canada joined, and for a few years it was a group of eight, when Russia participated, between 1997 and 2014 (Oldani, Wouters and Andrione-Moylan 2018). What has not changed since its inception is the informal nature of the group's meetings; while all participating countries have support from their own state apparatus — led by a “sherpa” who will meet other sherpas to negotiate agenda items and other details — there is no G7 bureaucracy to advance agenda

items (Smith 2011). Instead, the forum provides an opportunity for personal relationship building between leaders and the development of projects of common interest pursued jointly between member states (Hajnal 2007, 2; Smith 2011). Today, each G7 cycle consists of a high-profile leaders' summit, multiple ministerial-level meetings and broader stakeholder engagement through affiliated events. The flexibility of the system permits the focus to shift based on issues of the day as well as the specific priorities of the host country.

Canada's 2025 G7 presidency emerged in a turbulent context. In the previous year, Joe Biden's slumping poll numbers raised anxieties regarding the need to "Trump-proof" the G7 along with other international institutions (Wintour 2024; Hajnal 2026, 2). The very day when Canadian Prime Minister Justin Trudeau had a hand-off phone call with Italian Prime Minister Giorgia Meloni, Trudeau also held a preparatory meeting with premiers to discuss new border security measures intended to appease US President-elect Donald Trump (Prime Minister of Canada 2024a, 2024b). Less than a week later, Chrystia Freeland would resign as Trudeau's minister of finance, sparking a caucus revolt, Trudeau's resignation, and the selection of Mark Carney as Liberal Party leader and prime minister within mere weeks (Dangerfield 2024; Tunney 2025). A snap election saw the Carney liberals win a minority government on April 28, 2024, with the ministry sworn in on May 13 (Fife and Chase 2025; Legree 2025). The timing of this swearing in left roughly one month to prepare for the leaders' summit, with other preparations — and even some ministerial meetings — taking place under the caretaker convention.

"Science Diplomacy" and the 2025 G7 Cycle

The leaders' summit and subsequent meetings were notable for what they included as well as for what they did not. Gone was the central leaders' communicate with a strong normative statement about the shared values of G7 nations, a strategic decision indicated by Canadian organizers ahead of time (Prime Minister of Canada 2025) but no doubt reinforced logistically by the American president's early departure. Instead of releasing

a central statement that used values-driven language to frame different issue areas, the leaders' summit produced a series of joint statements that focused on specific issues. These statements are called "technical" throughout this brief because they emphasized details of the different issue areas rather than drawing attention primarily to claims of shared values. As one commentator put it, "the summit ended with narrower statements on artificial intelligence, quantum technologies, migrant smuggling, transnational repression, critical minerals and responding to wildfires. Limiting the desired results to those topics likely prevented a more acrimonious summit" (Wherry 2025). Of particular note are the S&T-focused statements released following the leader's summit and subsequent ministerial meetings: the "Kananaskis Common Vision for the Future of Quantum Technologies"; the "G7 Leaders' Statement on AI for Prosperity" and its annex; the *SME AI Adoption Blueprint*; the "G7 Energy and AI Work Plan"; and commitments for further collaboration on quantum threats to financial infrastructure.² This technical focus is best understood as a shift toward science diplomacy (see Box 1) through the Canadian presidency. Identifying this frame shift can help provide understanding of the strategy employed through the 2025 cycle; however, it is important to note that a normative evaluation of the strategy exceeds the scope of this brief.

The "Kananaskis Common Vision for the Future of Quantum Technologies" (G7 2025d) is particularly notable among the outcomes of the 2025 G7 cycle not only for its contents — including its explicit recognition of the necessity of further international collaboration within the domain; support for market access and ecosystem integration; and the establishment of a joint working group, among other elements — but also for its framing as a "common vision." Among the G7 document titles, his framing is the closest to a reaffirmation of shared values, and this expression is made possible by the technical focus of the document itself. These efforts were reaffirmed by the final joint statement of the cycle (G7 2025a), which emerged from the Industry, Digital and Technology Ministers' Meeting. Scientific collaboration is again

2 For a summary of the discussions on quantum ahead of the leaders' summit (in the Think 7, Business 7 and spring Finance Ministers' Meeting) and how this compares to the Kananaskis common vision, see Murphy and Forrest (2025). For a review of statements from across the summit, see Hajnal (2026, 6–7).

What Is Science Diplomacy?

The term “science diplomacy” emerged in the late 2000s as a description of potential symbiosis between scientific cooperation and diplomatic strategy. It was originally understood as an American nationalist project in which scientists could improve the country’s public image in places “where the United States is misunderstood” (Lord and Turekian 2007, 315) in return for these new relations enabling further scientific collaboration and discovery. The definition soon broadened, with the term now encompassing a range of activities including using science, diplomatic relations and scientific cooperation to inform foreign policy, support scientific collaboration and promote national soft power, respectively (Turekian et al. 2018; Nye 2004). As global tensions rose through the 2000s and into the 2010s, science diplomacy offered an alternative path to conventional diplomatic methods that were coming under strain (Flink and Schreiterer 2010, 666). In addition to great powers leveraging science diplomacy, middle powers and small states have recognized that excellence in science could be leveraged to improve national standing on the world stage (Turekian and Gluckman 2024, 52). More recently, science diplomacy has taken a “transactional” turn, incorporating elements of “calculated exchange — often asymmetrical, narrowly scoped, and susceptible to disruption,” in addition to the more aspirational elements at its foundation (Turekian and Gluckman 2025, 761). The concept has a tension at its heart between a liberal internationalist vision of science as a common ground to build international community and a realist vision of strategically leveraging science to pursue national interests. In the context of this brief, science diplomacy refers to the foregrounding of scientific issues in international discussions in a way that may align with national interests.

placed as a cornerstone of success in a critical domain, and the G7 table provides a strong signal of diplomatic support for these engagements. These agreements demonstrate how a technical framing of discussions can achieve progress on international cooperation in conditions where values-driven advocacy would risk derailing discussions.

If quantum was notable for the depth of agreement demonstrated, it is the AI statements that stand out for their breadth. The “G7 Leaders’ Statement on AI for Prosperity” affirms the need for continued cooperation on lessons learned for public-sector use of AI tools, a common roadmap for technology adoption, and also a specific emphasis on supports for small- and medium-size enterprises (G7 2025c). The AI focus continued through ministerial meetings. The Energy and Environment Ministers’ Meeting released the “G7 Energy and AI Work Plan” to collaborate on the technical challenges of powering AI data centres while also mitigating social impact risks (G7 2025b), while at the Industry, Digital and Technology Ministers’ Meeting, the Government of Canada (2025) released an *SME AI Adoption Blueprint* that was well-received by G7 ministers, who noted its value for increasing collaboration and mutual learning (G7 2025a). The sheer volume of agreements, statements and plans relating to AI that were able to be reached despite the headwinds against international cooperation demonstrates the ability of technical discussions to continue even in uncooperative times.

The decision to focus on technical matters and promote scientific cooperation helped avoid a major shock to the G7 system through the 2025 cycle. From the perspective of global governance in a time of disruption, science diplomacy may provide a strategy to shore up the resilience of international institutions. Given the mixed record of institutional “survival strategies” (Dijkstra et al. 2024; Schuette and Dijkstra 2023a, 2023b), this example of science diplomacy in the G7 cycle should be seen as promising for those supporters of the international community. The lessons learned from the Kananaskis case therefore have a range of audiences: middle powers, international institutions (and their supporters), and experts concerned with the regulation of technical domains.

Recommendations

- When middle powers have an opportunity for agenda setting in international summits, shifting expectations from traditional values-driven statements to technical cooperation may maximize opportunities for middle-power leadership while mitigating risks of summit derailment. This is particularly critical in the context of organizations such as the G7 or Group of Twenty (G20), where middle powers can exert outsized influence in guiding business.³
- Similarly, international institutions seeking to shore up resilience in times of disruption can learn from the G7 cycle and emphasize their ability to facilitate technical cooperation. Science diplomacy offers various strategies that may be employed to this end, including hosting meetings of scientists, establishing working groups on scientific collaboration or highlighting technical domains within their scope of work.
- At the same time, countries must recognize that science diplomacy strategies are limited in their ability to directly promote values-based interests. Norm entrepreneurship has always been possible for “less mighty countries” that can effectively build coalitions (Murphy 2025), and the present era may involve more complex strategies for promoting new norms through minilateral coalitions and civil society engagement.

Conclusion

In a time of global disruption, both international institutions and middle powers must adapt their strategic posture in order to pursue national interests and shore up resilience. The 2025 G7 cycle offers an example of how science diplomacy can mitigate risks of contention that values-driven geopolitics may elicit and promote pragmatic progress on issues of technical cooperation. In a world of variable geometry and middle-power leadership (Prime Minister of Canada 2026), science

diplomacy is a powerful tool for international summitry. Given the significant impact that quantum, AI and other technical domains are expected to have over the coming decades — and early indications that quantum and AI will be front of mind at the G7 and G20 summits in 2026 and beyond (Hajnal 2026, 10–11) — this technical focus is also timely on its own terms. Experts within emerging technology domains discuss opportunities for further governance improvements (see, for example, Kop and Forrest 2026), and a technical focus to international summitry may provide a window of opportunity to take these governance challenges seriously.

³ To this end, Paul Samson (2024) has argued that a fragmented and multipolar world may actually offer greater opportunities for middle-power leadership. See also Csenkey (2026).

Works Cited

- Baker, Andrew. 2006. *The Group of Seven: Finance Ministries, Central Banks and Global Financial Governance*. London, UK: Routledge.
- Chapnick, Adam. 1999. "The Middle Power." *Canadian Foreign Policy Journal* 7 (2): 73–82. <https://doi.org/10.1080/11926422.1999.9673212>.
- Cooper, Andrew F., Richard A. Higgott and Kim R. Nossal. 1994. *Relocating Middle Powers: Australia and Canada in a Changing World Order*. Vancouver, BC: University of British Columbia Press.
- Csenkey, Kristen. 2026. "Global Tech Rivalry Changes Cooperation Opportunities for Middle Powers." Digital Policy Hub Working Paper. www.cigionline.org/publications/global-tech-rivalry-changes-cooperation-opportunities-for-middle-powers/.
- Dangerfield, Katie. 2024. "Chrystia Freeland resigns from cabinet hours before fiscal update." *Global News*, December 16. <https://globalnews.ca/news/10919993/chrystia-freeland-resigning-from-cabinet/>.
- Dijkstra, Hylke, Laura von Allwörden, Leonard A. Schuette and Giuseppe Zaccaria. 2024. "Donald Trump and the survival strategies of international organisations: when can institutional actors counter existential challenges?" *Cambridge Review of International Affairs* 37 (2): 182–205. <https://doi.org/10.1080/09557571.2022.2136566>.
- Fife, Robert and Steven Chase. 2025. "Liberals return to power with fourth consecutive mandate." *The Globe and Mail*, April 28. www.theglobeandmail.com/politics/article-liberals-projected-to-return-to-power-with-fourth-consecutive-mandate/.
- Flink, Tim and Ulrich Schreiterer. 2010. "Science diplomacy at the intersection of S&T policies and foreign affairs: toward a typology of national approaches." *Science and Public Policy* 37 (9): 665–77. <https://doi.org/10.3152/030234210X12778118264530>.
- G7. 2025a. "G7 2025 Industry, Digital and Technology Ministerial Declaration." December 9. www.g7.utoronto.ca/ict/2025-declaration.html.
- — —. 2025b. "G7 Energy and AI Work Plan." October 31. <https://g7.canada.ca/en/news-and-media/news/g7-energy-and-ai-work-plan/>.
- — —. 2025c. "G7 Leaders' Statement on AI for Prosperity." June 17. <https://g7.canada.ca/assets/ea689367/Attachments/NewItems/pdf/g7-summit-statements/ai-en.pdf>.
- — —. 2025d. "Kananaskis Common Vision for the Future of Quantum Technologies." June 17. <https://g7.canada.ca/assets/ea689367/Attachments/NewItems/pdf/g7-summit-statements/quantum-en.pdf>.
- Government of Canada. 2025. *The SME AI Adoption Blueprint*. Ottawa, ON: Government of Canada. <https://ised-isde.canada.ca/site/ised/sites/default/files/documents/g7-mtl-ai-adopt-blueprint-en.pdf>.
- Hajnal, Peter I. 2007. *The G8 System and the G20: Evolution, Role and Documentation*. Global Finance Series. London, UK: Routledge.
- — —. 2026. "The G7 in the Trump 2.0 era." *Canadian Foreign Policy Journal* 31 (3): 404–18. <https://doi.org/10.1080/11926422.2026.2613804>.
- Hajnal, Peter I. and John J. Kirton. 2000. "The Evolving Role and Agenda of the G7/G8: A North American Perspective." *NIRA Review* 7 (2): 5–10. https://g7.utoronto.ca/scholar/hajnal_nira.pdf.
- Kirton, John. 1995. "The diplomacy of concert: Canada, the G-7 and the Halifax summit." *Canadian Foreign Policy Journal* 3 (1): 63–80. <https://doi.org/10.1080/11926422.1995.9673058>.
- Kop, Mauritz and Tracey Forrest. 2026. "Global Quantum Governance: From Principles to Practice." CIGI Policy Brief No. 222. Waterloo, ON: CIGI. www.cigionline.org/publications/global-quantum-governance-from-principles-to-practice/.
- Legree, Davis. 2025. "Carney introduces revamped cabinet, featuring 15 first-time ministers." *iPolitics*, May 13. www.ipolitics.ca/2025/05/13/carney-introduces-revamped-cabinet-featuring-15-first-time-ministers/.
- Lord, Kristin M. and Vaughan C. Turekian. 2007. "Time for a New Era of Science Diplomacy." *Science* 315 (5813): 769–70. <https://doi.org/10.1126/science.1139880>.
- Mourlon-Droul, Emmanuel and Federico Romero. 2014. "Introduction: Analysing the Rise of Regular Summity." In *International Summity and Global Governance: The rise of the G7 and the European Council, 1974–1991*, edited by Emmanuel Mourlon-Droul and Federico Romero, 1–8. London, UK: Routledge.
- Murphy, Michael P. A. 2025. "Canada as a Norm Entrepreneur in Quantum Science and Technology." Digital Policy Hub Working Paper. www.cigionline.org/publications/canada-as-a-norm-entrepreneur-in-quantum-science-and-technology/.
- Murphy, Michael P. A. and Tracey Forrest. 2025. "Principles for Quantum Governance: Kananaskis and Beyond." Policy Brief No. 207. Waterloo, ON: CIGI. www.cigionline.org/publications/principles-for-quantum-governance-kananaskis-and-beyond/.
- Nossal, Kim Richard. 2025. "Norwegian Blues? Rethinking the Idea of Middle Powers in an Era of Fuzzy Bifurcation." *Global Policy* 17: S14–S22. <https://doi.org/10.1111/1758-5899.70082>.
- Nye, Joseph S., Jr. 2004. *Soft Power: The Means to Success in World Politics*. New York, NY: PublicAffairs.
- Oldani, Chiara, Jan Wouters and Alex Andrione-Moylan. 2018. "The G7, anti-globalism and the governance of globalization: Setting the scene." In *The G7, Anti-Globalism and the Governance of Globalization*, edited by Chiara Oldani and Jan Wouters, 1–21. London, UK: Routledge. <https://doi.org/10.4324/9780429506642>.
- Prime Minister of Canada. 2024a. "Prime Minister Justin Trudeau speaks with premiers on the Canada-U.S. border." December 11. www.pm.gc.ca/en/news/readouts/2024/12/11/prime-minister-justin-trudeau-speaks-premiers-canada-us-border.

- — —. 2024b. "UPDATE – Prime Minister's itinerary for Wednesday, December 11, 2024." December 11. www.pm.gc.ca/en/news/itineraries/2024/12/11/update-prime-ministers-itinerary-wednesday-december-11-2024.
- — —. 2025. "Prime Minister Carney announces Canada's G7 priorities ahead of the Leaders' Summit." Press release, June 7. www.pm.gc.ca/en/news/news-releases/2025/06/07/prime-minister-carney-announces-canadas-g7-priorities.
- — —. 2026. "'Principled and pragmatic: Canada's path' Prime Minister Carney addresses the World Economic Forum Annual Meeting." Address to the World Economic Forum, January 20. www.pm.gc.ca/en/news/speeches/2026/01/20/principled-and-pragmatic-canadas-path-prime-minister-carney-addresses.
- Samson, Paul. 2024. "Middle Powers: What Influence in a Multipolar World?" *Consejo Argentino para las Relaciones Internacionales (CARI) Global Affairs* 1: 167–79. https://cari.org.ar/uploads/articles/CARI_470_ENG.pdf.
- Schuette, Leonard and Hylke Dijkstra. 2023a. "The show must go on: The EU's quest to sustain multilateral institutions since 2016." *Journal of Common Market Studies* 61 (5): 1318–36. <https://doi.org/10.1111/jcms.13466>.
- — —. 2023b. "When an International Organization Fails to Legitimate: The Decline of the OSCE." *Global Studies Quarterly* 3 (4): ksad057. <https://doi.org/10.1093/isagsq/ksad057>.
- Smith, Gordon S. 2011. *G7 to G8 to G20: Evolution in Global Governance*. CIGI G20 Paper No. 6. May. Waterloo, ON: CIGI. www.cigionline.org/sites/default/files/g20no6.pdf.
- Tunney, Catharine. 2025. "In landslide win, Mark Carney chosen as new Liberal Party leader and next PM." *CBC News*, March 9. www.cbc.ca/news/politics/liberal-party-leadership-winner-1.7476359.
- Turekian, Vaughan and Peter Gluckman. 2024. "Science Diplomacy and the Rise of Technopoles." *Issues in Science and Technology* 41 (1): 51–55. <https://doi.org/10.58875/PSYH6414>.
- Turekian, Vaughan C. and Peter Gluckman. 2025. "Rewiring science diplomacy." *Science* 389 (6762): 761. <https://doi.org/10.1126/science.aeb4815>.
- Turekian, Vaughn C., Peter D. Gluckman, Teruo Kishi and Robin W. Grimes. "Science Diplomacy: A Pragmatic Perspective from the Inside." *Science & Diplomacy*, January 16. www.sciencediplomacy.org/article/2018/science-diplomacy-pragmatic-perspective-inside.
- Wherry, Aaron. 2025. "In Kananaskis, the G7 held together, but showed signs of strain." *CBC News*, June 18. www.cbc.ca/news/politics/g7-summit-kananaskis-carney-trump-analysis-1.7564156.
- Wintour, Patrick. 2024. "G7 leaders head to Italy for summit as Ukraine and Russia top the agenda." *The Guardian*, June 12. www.theguardian.com/world/article/2024/jun/12/g7-countries-head-to-italy-for-summit-as-ukraine-and-russia-top-the-agenda.

About CIGI

The Centre for International Governance Innovation (CIGI) is an independent, non-partisan think tank whose peer-reviewed research and trusted analysis influence policy makers to innovate. Our global network of multidisciplinary researchers and strategic partnerships provide policy solutions for the digital era with one goal: to improve people's lives everywhere. Headquartered in Waterloo, Canada, CIGI has received support from the Government of Canada, the Government of Ontario and founder Jim Balsillie.

À propos du CIGI

Le Centre pour l'innovation dans la gouvernance internationale (CIGI) est un groupe de réflexion indépendant et non partisan dont les recherches évaluées par des pairs et les analyses fiables incitent les décideurs à innover. Grâce à son réseau mondial de chercheurs pluridisciplinaires et de partenariats stratégiques, le CIGI offre des solutions politiques adaptées à l'ère numérique dans le seul but d'améliorer la vie des gens du monde entier. Le CIGI, dont le siège se trouve à Waterloo, au Canada, bénéficie du soutien du gouvernement du Canada, du gouvernement de l'Ontario et de son fondateur, Jim Balsillie.

Credits

President, CIGI **Paul Samson**
Director, Program Management **Dianna English**
Senior Program Manager **Jenny Thiel**
Publications Editor **Christine Robertson**
Graphic Designer **Abhilasha Dewan**

Copyright © 2026 by the Centre for International Governance Innovation

The opinions expressed in this publication are those of the author and do not necessarily reflect the views of the Centre for International Governance Innovation or its Board of Directors.

For publications enquiries, please contact publications@cigionline.org.



The text of this work is licensed under CC BY 4.0. To view a copy of this licence, visit <http://creativecommons.org/licenses/by/4.0/>.

For reuse or distribution, please include this copyright notice. This work may contain content (including but not limited to graphics, charts and photographs) used or reproduced under licence or with permission from third parties. Permission to reproduce this content must be obtained from third parties directly.

Centre for International Governance Innovation and CIGI are registered trademarks.

67 Erb Street West
Waterloo, ON, Canada N2L 6C2
cigionline.org

