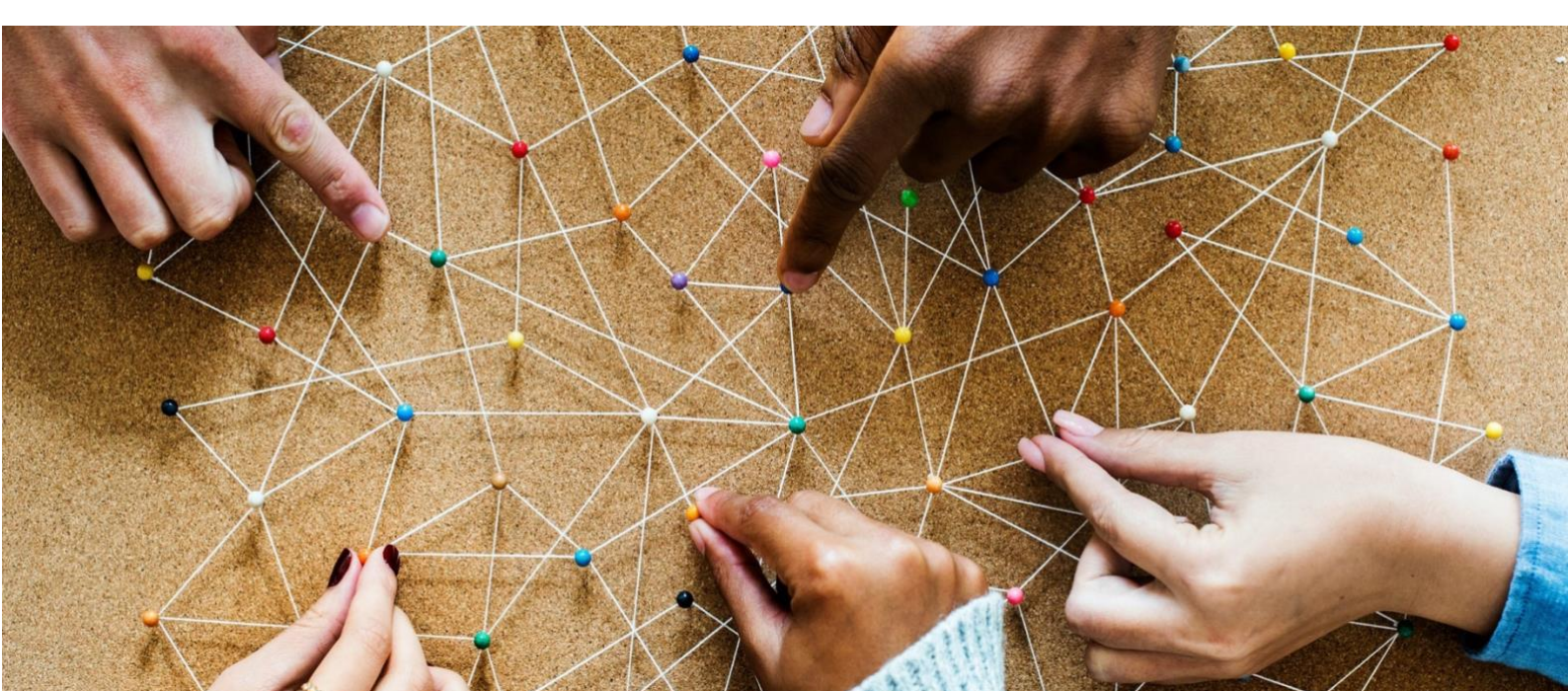




International Network
for Governmental
Science Advice



International
Science Council

Glossary of Terms

*Science Advice & Evidence-Informed Policy Making
and Related Concepts*

A reference resource defining key concepts used in governmental science advice, evidence-informed policymaking, science communication, and related fields.

106 Entries

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About This Glossary

This glossary is intended as a companion resource to the INGSa / ISC training modules on 'Exploring the Science Policy Interface.'

It has been developed in collaboration with people who practice, teach about, write about and research the interface and the knowledge-for-policy ecosystem generally, and from our shared knowledge of the relevant academic literature. As such, it presents a broad view of key concepts in knowledge production, policy processes, and government institutions.

For technical terms relating to evidence support processes, we highly recommend the World Health Organisation's [Glossary of Terms in Evidence-Informed Policy Making](#).

The plain language explanations and hypothetical illustrations given below are intended to be generic, but it is possible that some may not resonate across all cultural, linguistic and institutional contexts.

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Accountability

DEFINITION

A principle that individuals or institutions providing or using evidence can be held to account for the quality, integrity, and processes of their work, including the ability to justify methodological decisions related to the evidence production and synthesis process. Accountability of science advisors should not extend to the outcomes of policy decisions made on the basis of reliable and transparent advice

Example: Professional disciplinary recourse for breaches of research integrity, false reporting or wilfully withholding evidence and information relevant to a policy question is a practice of accountability

ACTA framework

DEFINITION

Emerging as a critique of the CRELE framework, the ACTA framework focuses more on the policymaker perspective than on the evidence production (science) perspective. As such, it advocates Applicability, Comprehensiveness, Timing, and Accessibility of evidence, for it to be actionable and taken up by the policy community. The ACTA framework is intended to better reflect then needs of the policy community.

Example: When actions at the science policy interface prioritise policy makers' needs foremost, this may be an example of the ACTA framework

References: Dunn and Laing (2017) *Policy Makers' Perspectives on Credibility, Relevance and Legitimacy* <https://www.sciencedirect.com/science/article/pii/S146290111730165X>; International Science Council & INGSA (2022) *Principles and structures of science advice.*; European Commission JRC (2025) *Evidence-informed policymaking reflection paper.*; UNDESA (2021) *Guidance Noted on Science Policy Interfaces* <https://publicadministration.un.org/Portals/1/Strategy%20note%20science%20policy%20interface%20March%202021.pdf>;

Advocacy (also, 'Issue Advocate' and verb 'to advocate')

DEFINITION

The act of supporting or promoting a particular perspective or policy aim to influence decision-makers to adopt it. Advocacy goes beyond explaining what is known and not known about an issue and the potential impact of various intervention options. It is explicitly supporting or discouraging particular option(s).

Example: In the academic context, action-oriented research, which results in specific policy recommendations. Community-based and participatory action researchers may be advocates, supporting particular causes. In doing so, they must make their commitments and positions explicit.

References: Pielke Jr. (2007) *The Honest Broker.*; International Science Council & INGSA (2022) *Principles and structures of science advice.*

Advocacy Coalition Network

DEFINITION

A concept introduced by scholars: a tight-knit and coordinated set of actors (stakeholders, rightsholders, experts) from various organisations who share core policy beliefs about the causes of an issues and proposed solutions, and coordinate over time to influence policy decisions. Coalitions with differing policy beliefs often compete with each other to advance their perspectives with policy makers.

Example: Student Strike for climate, tax payers' movements or unionist movements are examples of Advocacy Coalition Networks

References: Jenkins-Smith, H.C., Weible, C.M. (2025). *The Advocacy Coalition Framework: Origins, Theories, and the Textbook Version*. In: Jenkins-Smith, H.C., Weible, C.M. (eds) *The Advocacy Coalition Framework*.

Authoritarianism

DEFINITION

Is a form of government characterised by the concentration of power in an individual or small group of elites. Accountability to the public is diminished, political competition is limited and opposition is actively suppressed. Authoritarian regimes justify their hold on power by claiming they benefit the nation or by suspending democratic rules

Example: *The Economist Intelligence Unit has classified 60 countries as authoritarian regimes*

References: <https://www.eiu.com/n/democracy-index-2024/>

Boundary Organisation

DEFINITION

An organisation that acts as an intermediary between scientific and policy communities, and is accountable to both. It coordinates and manages the flow of questions and evidence about issues, and helps to iterate and frame inquiries. It translates evidence into policy-ready products based on identified policy needs (boundary objects). By virtue of its intermediary role, boundary organisations help to independence and legitimacy of/with communities by both demarcating and transparently opening the boundary between them. Boundary organisations are sometimes called Intermediaries (or intermediary organisations), however not all intermediaries maintain the strict dual accountabilities of boundary organisations

Example: *Great Lakes Joint Commission (Canada, US); IPCC (the International Panel on Climate Change); the Dutch Delta Committee*

References: Guston, D. H. (2001). *Boundary Organizations in Environmental Policy and Science: An Introduction*. *Science, Technology, & Human Values*, 26(4), 399-408; Gieryn, T. F. (1983) *Boundary-work and the demarcation of science from nonscience: strains and interests in professional ideologies of scientists* *Amer. Soc. Rev.* 48; Gieryn, T. F. (1999). *Cultural boundaries of science: Credibility on the line*. University of Chicago Press.

Bounded rationality

DEFINITION

A foundational concept in policy analysis that explains why ideal solutions based on evidence are not automatically implemented. The concept suggests that decision-makers seek 'rational' responses but are limited by cognitive constraints on information processing, ideological commitments, institutional constraints, among other influencing factors. The concept originated in the 1950s when what was considered 'rational' was unlikely to be critically examined. Despite more nuanced approaches today, the concept nonetheless remains a useful heuristic to understand the potentially limited impact of scientific evidence on policy making and why "evidence-informed policy" rather than "evidence-based" is a more realistic goal.

Example: *When policy choices are made in the context of incomplete evidence and competing demands for decision-makers' attention. This describes the near constant state of policy making!*

References: Cairney (2025) *Why perfect policy coherence is unattainable (and maybe ill-advised)* <https://link.springer.com/article/10.1007/s11077-025-09582-9>

Branches of Government

DEFINITION

Typically in constitutional democracies, government is divided into three independent branches. These include: the legislature, which makes laws; the executive, which enforces laws and sets the policy agenda as the government of the day; and the judiciary, which interprets laws. This tripartite system is meant to prevent abuse of power by any one absolute authority.

Example: In some systems the three branches are completely separate, in others (e.g. parliamentary systems) the executive and the legislative are 'fused' as the Prime Minister and Cabinet are drawn from the legislature. Systems in which all three functions are unified are said to be 'absolute' power regimes like authoritarian states or absolute monarchies

References: Interparliamentary Union Standards <https://www.ipu.org/impact/democracy-and-strong-parliaments/ipu-standards>

Brokerage (of knowledge, also Knowledge Broker)

DEFINITION

Active mediation work of connecting evidence producers and evidence users across the science-policy interface. Brokerage involves more than communication: it includes relationship-building, problem framing, translation of complex information into formats that are relevant and actionable, identification of consensus and disagreement, recognition of evidence gaps, and facilitation of evidence uptake under real institutional constraints. Brokerage is therefore a professional practice, not simply a by-product of subject expertise. It can be performed by researchers, dedicated professional brokers, or intermediary organisations - ranging from individual boundary-spanning roles to institutional brokerage functions.

Example: Chief Science Advisors, Advisory Committees, Heads of Agencies or Peak Bodies that maintain relationships with decision-making and policy making communities and with research communities to help shape, convey and iterate questions and answers.

References: International Science Council & INGSA (2022) *Principles and structures of science advice*; Gluckman et al. 2022; Pielke (2007); Gluckman (2018); Bednarek et al. (2018); Aiello, Hernández Mondragón & Sierra (2026).

Co-production of knowledge

DEFINITION

A method used in transdisciplinary research in which researchers and non-academic partners jointly frame questions, generate and integrate evidence, and interpret results to produce knowledge that is usable, legitimate, and context-appropriate. Co-production may, where relevant, include decision-makers and other policy actors from the outset of study design and throughout the knowledge production process.

Example: Non-academic collaborators drawn from stakeholder communities participate in all aspects of the research process, from project design, data collection and interpretation of findings to making recommendations to decision makers

References: Norström, A. V., et al. (2020). *Principles for knowledge co-production in sustainability research*. *Nature sustainability*, 3(3); Bandola-Gill, J., et al. (2023). *What is co-production? Conceptualising and understanding co-production of knowledge and policy across different theoretical perspectives*. *Evidence & Policy*, 19(2), 275-298.

Commissioned evidence provision

DEFINITION

Scientific research or advice that is specifically requested by a government or other organization to address a particular question or problem. The commissioner(s) may specify the type or scope of evidence sought, and may not consider information beyond the specified remit. Compare to 'proactive evidence.'

Example: Literature reviews or other rapid evidence reviews requested by government officials

References: Jeffares, B. (2019). Science advice in New Zealand: Opportunities for development. In *Policy Quarterly*

Conceptual impact

DEFINITION

A form of policy influence in which evidence changes how decision-makers understand a problem, its causes, relevant uncertainties, or possible solutions, even if it does not immediately produce a specific policy decision.

Example: Evidence on tobacco harms shifts policymakers' understanding of smoking from a matter of individual choice to a public health problem, paving the way for later regulation.

References: Edler, J., Karaulova, M., & Barker, K. (2022). Understanding Conceptual Impact of Scientific Knowledge on Policy: The Role of Policymaking Conditions. *Minerva*, 60(2), 209–233; Carrier (2021); Suazo-Galdames, I. C., Saracostti, M., & Chaple-Gil, A. M. (2025). Scientific evidence and public policy: a systematic review of barriers and enablers for evidence-informed decision-making. *Frontiers in Communication*, 10; Morales-Salgado & Hernández-Mondragón (2025).

Conflict of interest (COI)

DEFINITION

A situation in which secondary interests (financial or nonfinancial) create an undue risk, or the reasonable perception of undue risk, that professional judgment or actions about a primary public/organizational interest could be inappropriately influenced. Such risks and risk perceptions are typically managed through disclosure, random audits, etc.

Example: A researcher who is receiving funding or salary from a commercial actor while also advising government on policies or regulations that would create favourable operating conditions for that commercial enterprise would be a conflict of interest.

References: Carrick-Hagenbarth (2023) *Conflict of Interest in Research* (Springer). Japan Science Council code of conduct for researchers;

Constituent (or constitutive) policy

DEFINITION

Types of government action that affect its structure and operations

Example: Institutional reform; establishing new agencies; changing election laws or electoral districts; defining government powers

References: Lowi, T. J. (1964). "American Business, Public Policy, Case-Studies, and Political Theory." *World Politics*, 16(4)

CRELE framework

DEFINITION

The CRELE framework has been suggested to guide the relationship between science and public policy, advocating that scientific evidence and expertise needs Credibility, Relevance and Legitimacy to be actionable and taken up by policy makers. In this framework Credibility means the degree to which scientific advice or evidence is regarded as accurate, reliable, and worthy of trust by policymakers and the public; Relevance means evidence or expert advice that is applicable to the policy issue at hand. It addresses the specific needs, questions, and context of decision-makers and ideally is actionable; Legitimacy is the perception that scientific evidence or expert advice and the processes by which it is used in policymaking are fair, just, and aligned with societal values. CRELE arose from work in sustainability science as a way to explain and address the gap between knowledge and action on complex sociotechnical and socioenvironmental problems.

Example: CRELE was developed in part to quality assure advisory processes at the interface of science and policy making. Functional processes that produce reliable actionable knowledge that is taken up into policy considerations is likely an illustration of CRELE

References: Cash et al. (2003) *Knowledge systems for sustainable development*. / UNDES (2021) *Guidance note on Science Policy Interfaces*
<https://publicadministration.un.org/Portals/1/Strategy%20note%20science%20policy%20interface%20March%202021.pdf>

Deficit Model of Science Communication

DEFINITION

A discredited theory of science communication which held that it is audiences' own knowledge deficits which hinder taking evidence-informed (and therefore 'rational' and appropriate action. A more nuanced understanding, from the social sciences, of audiences' contexts, constraints and diverse motivations, alongside scientists' potential unexamined biases and interests are now more clearly understood as influential factors in science communication

Example: The belief that more evidence will develop public understanding and, in turn lead to perceived 'rational' choices that are understood by all.

References: Simis, M. J., Madden, H., Cacciatore, M. A., & Yeo, S. K. (2016). "The lure of rationality: Why does the deficit model persist in science communication?" *Public Understanding of Science*, 25(5), 565-580

Deliberative democracy

DEFINITION

Democratic method that devolves a policy decision (or recommendation) to a descriptively representative and randomly selected group of citizens who engage in a deliberative dialogue (see definition in this glossary). They spend time hearing from experts and stakeholders, and collaboratively interpret the evidence to form a consensus view of an issue through facilitated dialogue that weighs reasons, values, and interests rather than simply casting a vote. A deliberative democratic process can be a productive tool to address politically complex problems.

Example: Citizens' Assemblies with the power to make policy decisions are examples of deliberative democracy. Ireland's CA on abortion law is an example. Auckland New Zealand's CA on water infrastructure is another.

References: OECD (2020) *Catching the deliberative wave* https://www.oecd.org/en/publications/innovative-citizen-participation-and-new-democratic-institutions_339306da-en.html

Deliberative dialogue

DEFINITION

A structured and evidence-informed process of consensus-building on public priorities that involves citizen stakeholders, rightsholders and decision-makers. Together they learn about and explore options, implementation considerations, and trade-offs to make recommendations on a policy issue.

Example: Policy and planning co-design methods such as public workshops for long-term urban planning, water allocation, transportation infrastructure

References: Howlett (2019) *Designing Public Policies.*; Kingdon (2011) *Agendas, Alternatives, and Public Policies.*

Democracy

DEFINITION

A system of government in which citizens hold the power. Varieties of democracy include: Representative democracy where citizens vote for representatives to the governing body; direct democracy where citizens vote directly on legislative proposals themselves. Participatory democracy which offers opportunities for citizen participation beyond voting, deliberative democracy which is a form of participatory democracy where a representative group of citizens learn and deliberate together to form a consensus view, and liberal democracy which emphasises individual rights and the rule of law. These forms of democracy are not mutually exclusive. Liberal democracies may employ some methods of deliberative democracy for certain issues, for instance.

Example: Uruguay, Botswana, Canada and Japan are democratic countries, along with roughly half of the world's countries

References: European Commission (2026) Centre for Democratic Resilience https://commission.europa.eu/european-centre-democratic-resilience_en / <https://www.v-dem.net/> / Crick, B. (2002). *Democracy: A very short introduction.* OUP Oxford.

Direct provision (policy instrument)

DEFINITION

Government directly produces or delivers goods, services, or infrastructure

Example: Ensuring public education; Vaccine production and distribution through government facilities or private sector contracting with government

References: Salamon, L. (2002). *The Tools of Government*; Peters, B. G. (2015). *Advanced Introduction to Public Policy.*

Directionality of value transfer

DEFINITION

An analytical way of understanding the science-policy interface by identifying who is transferring value to whom, in what form, and for what purpose. It distinguishes, for example, between science for policy and policy for science interactions, and helps clarify roles in complex or multi-stage exchanges.

Example: Scientists provide air pollution evidence to help design regulation; later, policymakers create new funding and monitoring mechanisms that stimulate further environmental research.

References: Van den Hove (2007); Maas, T.Y., Pauwelussen, A. & Turnhout, E. Co-producing the science-policy interface: towards common but differentiated responsibilities. *Humanit Soc Sci Commun* 9, 93 (2022); Washbourne et al. (2024); Schlierkamp, J., Berchtold, C., & Linde-Frech, I. (2025). *Uncovering the science-policy interface: Applying*

bibliometric approaches to the wildfire risk management domain. Environmental Management, 75, 1368–1387; Morales-Salgado & Hernández-Mondragón (2025).

Disaster (crisis) risk communication

DEFINITION

A sub-specialty of risk communication undertaken in a high-pressure, real-time and dynamic context of a public emergency (i.e a threat to their survival, health, or economic or social wellbeing). The phases of the emergency, from acute to recovery will influence the choice of message, messaging and messenger, with an emphasis on credibility, reliability and legitimacy so as to generate trust in information and instructions by officials.

Example: Coordinated public messages through statutory broadcasting methods (e.g. emergency services agency websites, social media, radio etc.) providing information and instructions, depending on the stage of the crisis.

References: Doyle, E., & Becker, J. (2022, October 19). *Understanding the Risk Communication Puzzle for Natural Hazards and Disasters*. Oxford Research Encyclopedia of Natural Hazard Science.; <https://www.who.int/emergencies/risk-communications>; OECD (2018) *Science Advice During Crises*

Distributive policy

DEFINITION

Types of government action aimed at directly providing goods, services, or benefits to specific groups.

Example: Funding for education, public infrastructure projects, or agricultural subsidies.

References: Lowi, T. J. (1964). "American Business, Public Policy, Case-Studies, and Political Theory." *World Politics*, 16(4)

Diversity

DEFINITION

A principle that evidence and advice processes should include multiple disciplines, perspectives, and knowledge systems to improve problem framing and legitimacy.

Example: Co-development of SPI processes to include various disciplines and engaged publics is one way to promote diversity

Economic/fiscal policy instrument

DEFINITION

Financial incentives and disincentives used to influence behaviour of individuals, groups or organisations, such as taxes, subsidies, incentives

Example: Carbon tax; Incentive to retrofit homes for energy efficiency

References: Salamon, L. (2002). *The Tools of Government*. Howlett, M. (2019). *Designing Public Policies*.

Epistemic Authority

DEFINITION

The legitimate power to define, describe, and explain a phenomenon, address or make a claim, etc. Whereas the legitimacy of epistemic authority was once seen to be strictly derived from recognised expert training and practice, a broader set of criteria now include social legitimacy and trust, particularly on questions involving complex societal challenges and values in tension.

Example: During the Covid-19 pandemic when National (Chief) Medical Officers were often seen to speak publicly on behalf of collective authorities, they did so because they were deemed to have epistemic authority for this role.

References: (Teubner, 1990); Hauswald, R., & Schmechtig, P. (2025). New Waves in the Philosophy of Epistemic Authority and Expert Testimony: An Introduction to the Special Issue. *Social Epistemology*, 39(6)

Epistemic Justice

DEFINITION

Fairness in knowledge production, dissemination, and utilisation while promoting more inclusive knowledge creation and credibility of marginalised voices. Epistemic injustice refers to the (often implicit) power relations that shape knowledge and the exclusion of marginalised voices within these. The structural imbalance can occur at different scales, from fewer racialised voices or issues represented in the scientific record, to fewer research papers from the Global South, due to unequal global distribution of academic resources.

Example: Funding initiatives aimed expressly to support historically marginalised groups within the research community, or taking up questions of importance to historically marginalised groups, or publication initiatives that offer multi-lingual translation or open access in certain areas.

References: Kidd, I.J., et al. (Eds.). (2017). *The Routledge Handbook of Epistemic Injustice* (1st ed.). Routledge; Timm, et al. (2025). Inclusivity, Capacity-Building, Trust, and Respect: An Introduction to the Special Issue Equity in Co-Production. *Community Science*, 4(4)

Epistemic pluralism

DEFINITION

A recognition that there are multiple forms of knowledge and ways of knowing, including scientific, indigenous, experiential, and other types of knowledge, each of which can contribute valuable insights into decision making and policy making

Example: Complex societal challenges such as managed retreat draw on multiple sources of knowledge including indigenous and local knowledge.

References: Nutley, Walter & Davies (2007) *Using Evidence*; European Commission JRC (2025) *Evidence-informed Policymaking: A pathway to increasing trust in democratic institutions and boosting competitiveness - Reflection Paper*

Epistemology (on knowing)

DEFINITION

Study of the nature of knowledge. It asks: how do we know what we know and what is considered acceptable evidence for a claim to be considered true? It focuses on the limits, methods and validity of claims.

Example: Positivist (usually quantitative) and interpretivist (usually qualitative) research traditions derive from different epistemologies. The former uses quantifiable observations and measurements to validate claims and explain causality, the latter asks about how we interpret and make meaning of reality through experience and influences, to explain social phenomena. Still other epistemologies - like religion - rely on scripture or received

wisdom to validate claims and develop causal explanations. Understanding the epistemological foundations of an argument/claim can support better communication and dialogue when there is disagreement

References: Moon, K. and D. Blackman (2014) *A guide to understanding social science research for natural scientists* <https://onlinelibrary.wiley.com/doi/abs/10.1111/cobi.12326>

Evidence (scientific)

DEFINITION

Factual data and information that is used to verify claims and/or to inform decisions, which has been systematically gathered through rigorous and internationally recognised methodologies specific to the relevant disciplines

Example: *Scientific material presented in a public enquiry, legislative committee or other venue seeking to illuminate specific questions.*

References: Nutley, Walter & Davies (2007) *Using Evidence.*; European Commission JRC (2025) *Evidence-informed policymaking reflection paper.*

Evidence based policy making (EBPM)

DEFINITION

Inspired by Evidence Based Medicine, EBPM is a rigid approach to decision-making, where policies and actions are based directly and solely on robust scientific evidence. While EBPM seeks to minimise bias, it has been criticised for being technocratic and prone to implementation challenges due to lack of sensitivity to context, stakeholder interests and values and feasibility. Nor can it claim to be universally objective as the application of evidence may be variably scoped (i.e. broad or narrow remit). Compare with: Evidence informed policy making, EIPM

Example: *A policy decision based on conducting a policy intervention trial or on evidence from a systematic review of interventions.*

References: Cairney P, Oliver K. *Evidence-based policymaking is not like evidence-based medicine, so how far should you go to bridge the divide between evidence and policy?* *Health Res Policy Syst.* 2017 Apr 26;15(1):35; Nutley, Walter & Davies (2007) *Using Evidence.*

Evidence informed policy making (EIPM)

DEFINITION

Decision-making that is guided by the best available scientific evidence, but also takes into account other contextual factors such as local knowledge, stakeholder interests and values, political and practical feasibility, etc. (Compare with Evidence based policy making - EBPM)

Example: *Setting "allowable" harvest limits for threatened species or "allowable" pollution levels in the context of nationally significant industries. These policies must balance evidence with other considerations, often in tension*

References: Nutley, Walter & Davies (2007) *Using Evidence.* Oxford University Press; European Commission JRC (2025) *Evidence-informed policymaking reflection paper*; <https://govcentre.org/from-evidence-based-to-evidence-informed-the-evolution-of-policymaking-in-a-complex-world/>; *EIPM and EBPM compared*: <https://www.linkedin.com/pulse/evidence-based-vs-evidence-informed-policy-making-reneema-hazarika-km0rf/>

Expert Body

DEFINITION

A group of individuals with recognised and relevant expertise who are appointed by governments or other politico-administrative bodies vested with public authority. Their primary role is to provide advice to decision-makers, which is based on their professional experience and evidence derived from research in areas of their expertise.

Example: *National Panels of Experts established by countries during the Covid-19 pandemic*

References: Capano, G. et al. (2026) *The Role and Types of Expert Bodies in Policy Advisory Systems*. In *The Routledge Handbook of Policy Advisory Systems*

Humility

DEFINITION

In the context of expert advice, humility is an attitude characterised by having an accurate view of oneself, and one's role, combined with an appropriate respect for the power and limitations of science and technology.

Example: *Humility is practiced through acknowledging the limits of one's competence, showing transparency in motive, and maintaining the agreed scope of role.*

References: Saner (2025) *The Trifecta of Expert Humility*; see also Morris et al 2005

Independence

DEFINITION

A principle that scientific advice and evidence processes should be protected from undue political, commercial, or ideological influence, enabling impartial analysis and maintaining credibility. At the same time, to be relevant, there should be structured opportunities to clarify policy questions and iterate with policy makers. Boundary organisations help to protect the integrity of the process

Example: *National academies engaging in evidence review and brokerage generally tend to have more independence in responses than in-house government scientists.*

Inferential gap

DEFINITION

The gap between available evidence and knowledge about an issue and the inferences made (conclusions to be drawn) about what can be done to address it through practice or policy. The gap requires a judgement call in cases where evidence is incomplete, inaccessible, or not directly applicable to the decision context.

Example: *In acute crisis situations, decisions need to be made quickly and often with imperfect information. There is an inferential gap.*

References: Parkhurst (2017) *The Politics of Evidence From evidence-based policy to the good governance of evidence*. Routledge; Li et al. (2022) *Science and Public Policy*.

Informational / educational policy instrument

DEFINITION

Informational and educational programs, resources or messaging aimed at influencing behaviour by providing knowledge or shaping norms

Example: Public health information campaigns

References: Vedung, E. (1998). *Policy Instruments: Typologies and Theories. Carrots, Sticks and Sermons: Policy Instruments & Their Evaluation*. Rist, Ray C; Bemelmans-Videc, Marie-Louise; Vedung, Evert, Eds., , 21–58.; Thaler, R. H., & Sunstein, C. R. (2008). *Nudge: Improving decisions about health, wealth, and happiness*. Yale University Press.

Institutional / organisational policy instruments

DEFINITION

Government actions that change the structure, capacity, or processes of government.

Example: Structural reforms in a public sector such as health or education; the creation of a new agency responsible for enforcing a regulation

References: Peters, B. G. (2015). *Advanced Introduction to Public Policy*. Hood, C. (1983). *The Tools of Government*.

Institutionalisation (of EIPM)

DEFINITION

The "process and outcome of (re-)creating, maintaining and reinforcing norms, regulations, and standard practices that, based on collective meaning and values, actions as well as endowment of resources, allow evidence to become – over time – a legitimate and taken-for-granted part of policymaking"

Example: When turning to evidence first becomes normalised in all functions of government, from a policy brief or cabinet paper to an evaluation plan, strategy or budget exercise

References: WHO Supporting the routine use of evidence during the policy-making process: a WHO checklist (2023); Daigneault, PM. (2015). *Can You Recognize a Paradigm When You See One? Defining and Measuring Paradigm Shift*. In: Hogan, J., Howlett, M. (eds) *Policy Paradigms in Theory and Practice. Studies in the Political Economy of Public Policy*; Howlett, Capano.

Intermediary

DEFINITION

A general term for an individual, organisation or programme that operates between two distinct domains (e.g., science and policy) to facilitate communication, relationships and information flow. A Boundary Organisation is a specific type of intermediary, however not all intermediaries maintain the dual accountabilities of a boundary organisation.

Example: Office of the Chief Science Advisor to the Head of Government

References: Matteo De D. (2021) *Matching institutionalized expertise with global needs: Boundary organizations and hybrid management at the science-policy interfaces of soil and land governance*, *Environmental Science & Policy*, Volume 123

Legislative policy instrument

DEFINITION

Laws passed by legislatures that mandate, prohibit or authorise actions by individuals, groups or organisations.

Example: *Environmental protection laws*

Mis/disinformation

DEFINITION

Misinformation is false or misleading information shared without intent to deceive; disinformation is false or manipulated information shared deliberately to mislead. Both can erode trust and distort uptake of evidence-informed policy.

Example: *False claims reduce vaccine uptake; agencies respond with prebunking, transparent evidence summaries, and trusted messengers.*

References: *European Commission JRC (2025) Evidence-informed policymaking reflection paper; Rød et al. (2025) European Journal for Security Research on disinformation resilience.*

Moral/social policy

DEFINITION

Types of government action designed to expressly reflect societal values

Example: *Gun laws, Gambling regulation; Alcohol regulation; Cannabis regulation*

References: *Lowi, T. J. (1964). "American Business, Public Policy, Case-Studies, and Political Theory." World Politics, 16(4)*

Multi-Disciplinary

DEFINITION

An approach to knowledge production that integrates data and methods from different scientific disciplines, while maintaining the integrity and boundaries of each field. A key challenge is to understand and accommodate different epistemological and ontological foundations

Example: *A systematic review of a policy issue that draws information from multiple fields*

References: *Gibbons et al. (1994) The New Production of Knowledge.; Nowotny et al. (2001) Re-Thinking Science.*

National science advisory ecosystem

DEFINITION

A nationally organised set of processes, institutions, expert bodies, intermediary units, public servants, networks, and routines through which scientific evidence is mobilised for public decision-making across government. It recognises that science advice is not only provided by isolated experts or offices, but by a broader ecosystem of linked capacities and structures.

Example: A country combines a chief science advisory office, parliamentary science services, ministry-based advisers, expert panels, university links, and synthesis units that together support evidence use in decision-making.

References: Aiello, E., Hernández Mondragón, A.C. y Sierra, L. (2026): *Interfaz ciencia y política: asesoramiento científico en Iberoamérica y oportunidades para una cooperación regional informada en evidencia*. Madrid, Fundación Carolina ; Cañibano, C. and Real-Dato, J. (2024): *El ecosistema de asesoramiento científico y técnico a las políticas públicas en España*, Publications Office of the European Union; Gluckman, P.D., Bardsley, A. & Kaiser, M. *Brokerage at the science–policy interface: from conceptual framework to practical guidance*. *Humanit Soc Sci Commun* 8, 84 (2021)

Ontology (on being)

DEFINITION

Study of the nature of existence. If epistemology asks how something comes to be known, then ontology asks what is considered knowable, what should be taken as fact. This is an important question in social research especially - are 'social facts' like institutions (i.e. laws, currency, standards) seen as real and taken for granted, or are they socially constructed? There are methodological and policy-relevant implications to viewing them from one or the other perspective.

Example: Indigenous ontologies often include as 'fact' what a scientific ontology would consider 'supernatural' (e.g. that landscape features have personhood as ancestors). Similarly, some social sciences ontologies consider what another ontology might take as 'fact', to be social constructions that are made real only by our repeated practice of them (e.g. gender norms). Understanding ontological foundations of an argument/claim can support better communication and dialogue when there is disagreement.

References: Moon, K. and D. Blackman (2014) *A guide to understanding social science research for natural scientists* <https://conbio.onlinelibrary.wiley.com/doi/abs/10.1111/cobi.12326>

Path dependencies

DEFINITION

The tendency for past decisions, institutions, and investments to constrain current policy options, making change costly or difficult even better and more informed options arise.

Example: Continued reliance on fossil fuels over more sustainable sources of energy is often attributed to the large scale infrastructure and investment choices that lock societies into a path dependence.

References: Steinmo, S., K. Thelen, and F. Longstreth, eds. 1992. *Structuring Politics: Historical Institutionalism in Comparative Perspective*. Cambridge: Cambridge University Press.

Planning & Strategic policy Instruments

DEFINITION

Government actions that define long-term direction or coordinate action across sectors.

Example: Sectoral strategic plans aligned with overarching policy frameworks that set out government intentions

References: Howlett, M. (2019). *Designing Public Policies*. Peters, B. G. (2015). *Advanced Introduction to Public Policy*.

Policy

DEFINITION

Policy is difficult to define. Some say it's quite simply all the actions of government. More fundamentally, policy is the manifestation of social values expressed through: the allocation of resources; the rules and institutions that give effect to and protect those values; and interventions that seek to change behaviours so that political or social goals that support those values are achieved. 'Policy' is distinct from 'politics,' which is the contest of social values.

Example: From policy interventions such as universal basic income to rules such as voting age.

References: Paul Cairney blog <https://paulcairney.wordpress.com/2016/03/04/what-is-policy-3/>; Capano, G. (2020). *Politics and Policy*. In D. Berg-Schlosser, B. Badie & L. Morlino, *The Sage Handbook of Political Science*. Sage.

Policy agenda (also agenda setting)

DEFINITION

The underpinning assumptions and focus that a government applies to policy making, bringing attention to some issues while ignoring others. Underpinning assumptions derive from ideological commitments and priorities, through which contextual (e.g. economic, geopolitical) and stakeholders are variously consulted and given access.

Example: Political parties engage in agenda setting prior to an elections to decide on the policy priorities that will form the basis of their campaign and their government, should they be elected

References: Zahariadis, N., & Taylor, K. (Eds.). (2025). *Handbook of public policy agenda setting*. Edward Elgar Publishing; Birkland, T. A. (2017). *Agenda setting in public policy*. In *Handbook of public policy analysis* (pp. 89-104). Routledge.

Policy coordination (or integration) -vertical and horizontal

DEFINITION

Linking policy objectives with interventions (policy instruments) across different sectors and levels of government, recognising that identified policy problems result from multiple interacting factors may fall under different sectors or administrative levels. Therefore interventions should be comprehensive and coordinated vertically and horizontally. Vertical integration/coordination might involve municipal, subnational, national and even multi-lateral levels in a hierarchical relationship. Horizontal coordination/integration might cross sectors (different departments, ministries or non-governmental sectors), or different jurisdictions at the same level.

Example: Climate risk preparedness spans sectors (infrastructure, economic development, social services), levels of governance (from municipal readiness to multi-lateral agreements), and potentially jurisdictions, in the case of cross-border infrastructure or flood risk. Each level, jurisdiction and sector will have its unique set of interests, goals and responsibilities, which makes coordination complex and helps explain why taking action can be constrained.

References: UNDESA policy brief 115, *Horizontal and Vertical Policy Integration* <https://policy.desa.un.org/publications/undesa-policy-brief-115-horizontal-and-vertical-integration-are-more-necessary-than>

Policy entrepreneur

DEFINITION

A concept introduced by scholar John Kingdon in the 1980s and further developed by Mintrom and colleagues, to describe an individual or group that actively promotes a new policy idea, often by bringing together stakeholders and mobilizing support for the issue. A policy entrepreneur recognises

"policy windows" of opportunity when the definition of the problem, the policy capacity and the political will to take action all converge. Kingdon called these the 'multiple streams' of policy change. Characteristics of a policy entrepreneur include: persistence; ability to frame issues; ability to network and gain access.

Example: Maria Mazzucato, a notable academic who wrote about the public investment that underpins innovation, and later helped articulate sustainable grand challenges for European Commission investment is an example of an individual policy entrepreneur. Collectively, civil rights groups in Kenya who advocated changes to law make generic HIV therapies accessible, were policy entrepreneurs. At the multi-lateral level, Small Island Developing States advocating at COP for loss and damage funds are policy entrepreneurs.

References: Disney, D., & Mintrom, M. (2025) Policy entrepreneurs and policy brokerage for policy advice. *Handbook of Policy Advice*; Mhazo AT, Maponga CC, Abimbola S. How policy entrepreneurs solve local health problems in the global South: an exploratory study. *Health Policy Plan*. 2025 Aug 18;40(7); Kingdon (2011) *Agendas, Alternatives, and Public Policies*, 3rd ed. Little, Brown & Company.

Policy evaluation

DEFINITION

"The structured and evidence-based assessment of the design, implementation or results of a planned, ongoing or completed public intervention. It assesses the relevance, coherence, efficiency, effectiveness, impact and/or sustainability of a policy based on its objectives" (OECD). The purpose of evaluation is to guide decisions about maintaining, adapting or discontinuing the intervention. A comprehensive assessment will develop robust indicators for the policy goals, measuring these against baseline and progressive data. In addition, assessments beyond the stated goals and efficiency indicators can reveal unexpected and unintended impacts. For instance gender-based analysis or an equity and inclusion lens can provide rich evaluation data.

Example: Conducting a program review of a government-funded service to determine its sustainability, impact and efficiency constitutes the evaluation of a policy intervention. Similarly, the review of a policy decision such as drivers' license criteria changes would be an evaluation. Each would require scientifically robust data gathering and analysis.

References: OECD (2025) *Implementation Toolkit: Recommendation on Public Policy Evaluation* (https://www.oecd.org/content/dam/oecd/en/publications/reports/2025/02/implementation-toolkit-for-the-oecd-recommendation-on-public-policy-evaluation_f24516be/77faa4fe-en.pdf) ; Mavrot, C. et al. (2025) What evaluation criteria are used in policy evaluation research: A cross-field literature review, in *Evaluation and Program Planning*, Volume 108

Policy for Science

DEFINITION

The transfer of value from policymakers to the scientific community through mandates, funding, regulation, institutional design, and agenda-setting. In the science-policy interface, it refers to the ways governments enable, constrain, or direct scientific knowledge production.

Example: A government increases the national research budget, opens new doctoral and postdoctoral scholarship schemes, and creates dedicated funding lines for priority research areas, thereby expanding the scientific community's capacity to produce knowledge.

References: Lane, Fealing & Marburger (2011); Capano & Howlett (2020); Munari & Toschi (2021); Wagner et al. (2023); Morales-Salgado & Hernández-Mondragón, 2025.

Policy framework

DEFINITION

The underpinning assumptions and focus that a government applies to policy making, which are formalised into a set of principles to guide government actions. The Policy framework is often most clearly articulated in annual budget allocation, which demonstrates the prioritisation or deprioritisation of issues. Decision-makers tend to make decisions that align with government's policy framework over other considerations.

Example: The "Green New Deal" or "Project 2025" are policy frameworks. National budgets focused variously on austerity, growth, wellbeing, and more recently, resilience and national security also form the basis of policy frameworks.

References: Birkland, T. A. (2017). *Agenda setting in public policy*. In *Handbook of public policy analysis* (pp. 89-104). Routledge.

Policy implementation

DEFINITION

The process of putting policies into action through selected policy instruments (see definition of policy instrument and examples in this glossary). The significance and complexity of the implementation stage of the policy process can be underestimated. Policy implementation must not only take into account 'what works', but also what will work in a particular context, at a particular time, under particular leadership, with particular resources or constraints, etc. The scholarly field of Implementation Science is devoted to these questions.

Example: Offering incentives to retrofit homes for energy efficiency; hiring policy officers; raising or lowering taxes for targeted populations, are examples of policy implementation.

References: Sager, F., C. Mavrot and L. Keiser eds. (2025) *Handbook of Public Policy Implementation*. Elgar Online.

Policy instrument

DEFINITION

Government actions aimed at achieving a policy goal. One or several policy instruments (a "policy mix") will be deployed to address to an identified problem. A policy mix will typically comprise instruments of various policy types (e.g. distributive, redistributive, regulatory)

Example: See examples under separate terms in this glossary

References: Howlett, M. (Ed.). (2023). *The Routledge handbook of policy tools* (No. 303349). Routledge; Capano (2023) *The Knowns and Unknowns of Policy Instrument Analysis: Policy Tools and the Current Research Agenda on Policy Mixes*. Sage Open

Policy Issue Network

DEFINITION

An informal, fluid and often temporary group of individuals and organizations that come together around a specific public policy issue. These networks typically include a mix of government actors (policy and operational), interest/advocacy groups, experts, media, the interested public.

Example: Citizens, businesses and other stakeholders that come together with concerns about the impact of a new motorway proposed in their area

References: Howlett (2019) *Designing Public Policies*.

Policy maker (disambiguation)

DEFINITION

The term 'policy maker' is broad. It may refer to a political representative who is an (often elected) official holding public office and responsible for making and implementing policy decisions. It may also refer to a public servant who is a government employee responsible for serving the public interest by implementing and managing policies in accordance with the government of the day. Public servants provides continuity of service between governing regimes, while political representation may change more frequently. It is essential to understand and clarify the type of 'policy maker' to engage with as each will have different power, constraints, interests and motivations to take action (or not).

Example: Policy makers who are public servants often have titles like Deputy Ministers, Assistant Deputy Ministers, Executive Secretary, Secretary or Department Chief Executive.

References: Howlett (2019) *Designing Public Policies*.; Kingdon (2011) *Agendas, Alternatives, and Public Policies*.

Policy narrative

DEFINITION

Closely linked to 'policy problem framing' (see definition in this glossary), a policy narrative is the way a particular perspective of a policy issue (i.e. its frame) is recounted and conveyed. A policy narrative will have the classic elements of a story: Characters, such as heroes, villains, and victims; relatable settings and morals. While the purpose of the policy frame is to define and delimit the policy problem, the policy narrative conveys these decisions to help draw attention to the issue within the policy agenda and/or to build support for a particular approach. The choice of messenger for the narrative is equally important as the narrative itself.

Example: Climate change and decarbonisation have often been framed and narrated to emphasise individual roles (e.g. calls to use public transport or buy an EV), however framing the structural factors and linking socio-economic imbalance to climate breakdown within a policy narrative can generate broad public support for the cause and for a different kind of intervention.

References: Peterson, H. et al. (2025) *Making sense of complexity: the narrative policy framework and agenda setting*. In: *Political Science and Public Policy*, Elgar online; Kuenzler, J., et al (2025). *A systematic review of the Narrative Policy Framework: a future research agenda*. *Policy & Politics*, 53(1); Jones, M.D., et al. (2014) *Introducing the Narrative Policy Framework*, in M.D. Jones, E.A. Shanahan and M.K. McBeth (eds) *The Science of Stories: Applications of the Narrative Policy Framework in Public Policy Analysis*, Palgrave Macmillan. <https://anzsog.edu.au/insights/why-policy-narrative-matters-effective-government-responses-to-covid-19>

Policy problem framing

DEFINITION

The way in which an issue or problem is understood, defined and presented. Framing defines which elements or perspectives are emphasised/prioritised and which are minimised. Framing determines the problem type, and therefore what solutions are considered or ruled out. Problem framing can be a deliberate strategy to cast the problem a certain way to attract or minimise attention (see also 'policy narrative'), but it is also an important opportunity early in the policy process to bring to bear diverse and multi-disciplinary expertise that could open up intervention pathways that might otherwise be overlooked, and try to align these with the government's policy agenda - especially when it is not immediately obvious.

Example: Viewing socio-economic inequality as a structural problem rather than an individualised moral issue is problem framing. It influences the type of evidence to bring to bear (socio-economic, institutional, gender-based analysis etc), while also defining the range of possible interventions.

References: Howlett (2019) *Designing Public Policies.*; Kingdon (2011) *Agendas, Alternatives, and Public Policies.* <https://www.frameworksinstitute.org/framing-fundamentals/>

Policy problem structuring

DEFINITION

A systematic, reflective and collaborative process of identifying, analysing, and evaluating the different (often competing) ways in which a problem is understood and represented (see Problem framing). Problem structuring processes render explicit the values associated with the issue, and the ways these may be put into tension by the choice of response. The goal of problem structuring is to create common ground for feasible and evidence informed policy action.

Example: *Unstructured problems (or wicked problems) are those for which there is consensus on neither the interpretation of the evidence, nor on the societal values (thus policy goals) surrounding the issue. A moderately structured problem has either a scientific consensus on the interpretation of the evidence or a societal consensus on the policy goals, but not both. A well-structured problem has consensus on both the science and societal goals*

References: Hisschemöller, M., & Hoppe, R. (1996). *Coping with intractable controversies: The case for problem structuring in policy design and analysis.* *Knowledge and Policy*, 8(4), 40–60; Hoppe, R. (2017). *Heuristics for practitioners of policy design: Rules-of-thumb for structuring unstructured problems.* *Public Policy and Administration*, 33(4), 384–408;

Policy Process (also called policy stages, policy cycle)

DEFINITION

An idealised framework for understanding how governments identify policy goals and translate them into action. Steps in the process include: agenda-setting and problem identification; policy options formulation; policy selection; policy implementation; policy evaluation. Each step has multiple sub-processes (such as problem framing, information gathering, consultation, etc). The policy process is rarely as linear or as predictable as the framework implies, but depicting it in a stepwise fashion is a helpful heuristic.

Example: *A researcher may wish to draw policymaker attention to a promising intervention, but if the issue is not yet even identified (the first step in the policy cycle), it is premature. Understanding the policy cycle is important to align expectations and relevant scientific input.*

References: Althaus, C., & Threlfall, D. (2021). *The policy cycle and policy theory: From theory-building to policy making.* In *Handbook of public administration* (pp. 283-292). Routledge.

Policy type

DEFINITION

The category of policy intervention, which typically include distributive policies, redistributive policies, regulatory policies, constituent policies, and moral (or social) policies. See individual explanations of each type in this glossary.

Example: *Increasingly, there is less focus on single intervention type and instead a 'policy mix' of different intervention types and different interventions within a type. For instance, addressing low educational results might include distributive (school lunches); redistributive (subsidised textbooks); and regulatory (teacher licensing) policies.*

References: Lowi, T. J. (1964). "American Business, Public Policy, Case-Studies, and Political Theory." *World Politics*, 16(4); Kuhlmann, J., & Blum, S. (2021). *Narrative plots for regulatory, distributive, and redistributive policies.* *European Policy Analysis*, 7, 276-302.

Policy window

DEFINITION

A time-limited opportunity for policy change when problem recognition, a viable policy solution, and favorable political conditions align, enabling policy entrepreneurs to couple these streams and move an issue onto the decision agenda.

Example: A transport tragedy triggers attention (problem) while a drafted safety bill exists (policy) and a new government prioritises reform (politics).

References: Kingdon, J. W. (2011). *Agendas, Alternatives, and Public Policies* (2nd ed.); Cairney & Zahariadis (2025) *Multiple Streams and policy windows*.

Politicisation (of science)

DEFINITION

The ways in which political interests or ideologies shape the interpretation, use, and presentation of scientific evidence in policy decisions.

Example: When a supposed 'scientific debate' is really a proxy debate on public values

References: Parkhurst (2017) *The Politics of Evidence From evidence-based policy to the good governance of evidence*. Routledge;

Politics

DEFINITION

If policy is the manifestation of social values through decisions such as the allocation of resources and rule-making, then politics can be described as the contest of social values to determine which perspectives will prevail and who has the power to decide.

Example: Choices about how an issue is understood and addressed

Populism

DEFINITION

A discourse (said to be too 'thin' and inconsistent to constitute a full ideology) that portrays society as divided between 'honest hard working people' and 'corrupt elite.' It argues that politics should express the general will of the people. Populism is not tied to either the right or left wing exclusively, but can arise on either side of the political spectrum. Characteristics of populism often include charismatic leadership and exclusionary rhetoric.

Example: On the right, Donald Trump (USA) and Viktor Orban (Hungary) are populist leaders; on the left, Hugo Chavez (Venezuela) was a populist leader

References: Mudde, C., & Kaltwasser, C. R. (2017). *Populism: A very short introduction*. oxford university Press.

Post Normal Science

DEFINITION

The production of scientific knowledge for policy- and decision-making in contexts where facts are uncertain, public values are in dispute, stakes are high, and decisions are urgent. It highlights the role

of extended peer communities (including decision-makers and affected publics) in evaluating evidence and shaping problem framing. Post Normal Science (PNS) emerged as an academic theory to describe to the scientific community how the tenets of the scientific endeavour should be adapted to develop and maintain the legitimacy of scientific evidence for contested issues of high public interest. One of the key adaptations was "extended peer review," which opens the peer review process to an extended community of stakeholders and policy practitioners to quality assure against implicit biases in the research and for applicability, for instance.

Example: A research project on regenerative agriculture that engages local farmers and Indigenous conservation guardians in the project design, data collection and interpretation of findings and recommendations

References: Funtowicz, S., & Ravetz, J. (2018). Post-normal science. In *Companion to environmental studies* (pp. 443-447). Routledge; Funtowicz, S. O., & Ravetz, J. R. (1993). Science for the post-normal age. *Futures*, 25(7), 739-755.

Principles of evidence for policy

DEFINITION

The European Commission's evidence support service - the Joint Research Centers - has proposed a suite of principles to guide the development and use of evidence in policymaking. These are: Independence, Transparency, Responsibility, Accountability and Diversity. The CRELE and ACTA frameworks (see entries in this glossary) also present related principles

References: <https://publications.jrc.ec.europa.eu/repository/handle/JRC136095>

Proactive evidence provision

DEFINITION

An approach to offering scientific information that anticipates and addresses future challenges, rather than strictly reacting or responding to requests from officials. Proactive science advice is unsolicited and may not have a ready audience for awareness about emerging issues. Compare to 'commissioned evidence.'

Example: Reports by National Academies on issues identified independently by the Academy, to bring to the attention of government officials.

References: Jeffares, B. (2019). Science advice in New Zealand: Opportunities for development. In *Policy Quarterly*

Public (Civil) Service

DEFINITION

The individual officials, institutions and agencies responsible for translating the decisions of government and parliament into rules and services for the public. The public service is often divided into at least three functions: developing policies by providing advice and recommendations to elected officials; enforcing laws by developing and implementing regulations, usually through statutory agencies; and managing the implementation and delivery of public services. There is a role for scientific evidence to inform each of these functions

Example: Public servants who (typically, but not always) outlast changes in government, while appointed officials may change from one government to the next, being closer to the administration in power.

References: Howlett (2019) *Designing Public Policies*.

Punctuated equilibrium

DEFINITION

Inspired by the biological theory that describes long periods of stability punctuated by periods of rapid change, scholars Baumgartner and Jones applied the concept to policy contexts. They used it to explain the general tendency for making only small incremental changes handled through normal policy processes, while more sweeping changes occur when stability is punctuated by an external shock requiring a significant response (e.g. a scandal or significantly changed conditions)

Example: *The 1918 Influenza pandemic led many countries to take public health seriously and to establish or strengthen the laws and policies that formed the foundations of modern health ministries*

References: Baumgartner and Bryan D. Jones, *Agendas and Instability in American Politics* (Chicago: University of Chicago Press, 1993.); Jenkins-Smith, H.C., Weible, C.M. (2025). *The Advocacy Coalition Framework: Origins, Theories, and the Textbook Version*. In: Jenkins-Smith, H.C., Weible, C.M. (eds) *The Advocacy Coalition Framework*.

Rational choice theory

DEFINITION

A framework from classical economics that explains societal behaviour as the outcome of choices made by individuals to maximize their own preferences under constraints. Applied to policy making, rational choice theory assumes that individuals will always prioritise their self-interest, and therefore the preferred policy instruments to influence behaviour include incentives and informational campaigns aimed at individual behaviour over structural change.

Example: *Decarbonisation policies that incentivise purchasing electric vehicles but do not help provide better public transit*

References: Downs, A. (1957) *An Economic Theory of Democracy*

Redistributive policy

DEFINITION

Types of government action aimed at reallocating resources, rights or benefits from one group to another between groups to minimise social or economic inequalities

Example: *Progressive taxation schemes; social welfare programs*

References: Lowi, T. J. (1964). "American Business, Public Policy, Case-Studies, and Political Theory." *World Politics*, 16(4)

Regulatory policy

DEFINITION

Types of government action aimed at controlling behaviour by imposing restrictions or constraints on individuals, groups, or organizations to protect public or national interests.

Example: *Environmental protection laws; Speed limits.*

References: Lowi, T. J. (1964). "American Business, Public Policy, Case-Studies, and Political Theory." *World Politics*, 16(4)

Regulatory policy instrument

DEFINITION

Rules, standards and compliance mechanisms enforced by government agencies to control behaviour of individuals, groups or organisations in the public interest.

Example: Emissions standards

References: Hood, C., Rothstein, H., & Baldwin, R. (2001). *The Government of Risk*. Baldwin, R., Cave, M., & Lodge, M. (2012). *Understanding Regulation*.

Responsibility

DEFINITION

A principle that actors in the science policy interface should act with due care for consequences, including appropriate stewardship of evidence, ethical conduct, and attention to impacts on affected communities.

Example: Taking care to be clear and honest about what is known and not known about an issue is a responsible practice.

References: Japan science council code of conduct https://www.scj.go.jp/en/report/Code_of_Conduct_for_Scientists-Revised_version.pdf; OECD (2018) Science advice during crises https://www.oecd.org/en/publications/scientific-advice-during-crises_9789264304413-en.html

Rights-based policy instruments

DEFINITION

Laws that create or expand rights for individuals or groups

Example: Legalising same sex marriage; Lowering the voting age.

References: Salamon (2002) *The Tools of Government.*; Hood (1983) *The Tools of Government.*; Howlett (2019) *Designing Public Policies*.

Risk communication

DEFINITION

The specialised process of conveying information about the existence of hazards, the likelihood of public (or specific groups') exposure to them, and the relative severity of impacts. Risk communication draws from psychology, sociology, and engineering, among other fields and has evolved from simply transmitting risk data to also include stakeholder participation and dialogue, especially for longer-term, 'slower-burning' risks requiring collective action

Example: Any form of communication - pamphlets, videos, social media messaging, etc from experts and government officials outlining the risks faced by the public (e.g. building in a floodplain)

References: Goerlandt F, Li J, Reniers G. *The Landscape of Risk Communication Research: A Scientometric Analysis*. *Int J Environ Res Public Health*. 2020 May 7;17(9):3255; Covello & Sandman (2001) *risk communication*.

Science (in the broad sense)

DEFINITION

An organised rigorous, systematic, and continually self-correcting social process for building reliable knowledge about the natural and social world. The scientific process seeks to test causal explanations or make evidence-informed predictions through transparent and replicable methods.

References: <https://www.nih.gov/about-nih/science-health-public-trust/tools/explaining-how-research-works>; Kuhn, T (1962) *The Structure of Scientific Revolutions*

Science Advice

DEFINITION

The structured and systematic provision of scientific evidence, expertise, and analysis to inform governmental policy and public decision-making. Within the science-policy interface, science advice is a prototypical form of science for policy, as it transfers knowledge from the scientific community to the policy community in order to clarify uncertainties, contextualise available evidence, and identify viable policy options. Science advice is not inherently prescriptive: its role is to inform judgement, not to determine decisions. Science advice is often institutionalised through formal mechanisms, but it is typically embedded within a broader science advisory ecosystem that includes a range of actors, organisations, and formal and informal routines that support evidence-informed decision making. Within national contexts, this broader advisory ecosystem might include executive and legislative offices, expert bodies, intermediary units, civil service capacity, and structured links with the research community.

Example: *The Government Office of Science (UK), the Office of the Principal Scientific Adviser (India), the European Science Advisory Mechanism and the Joint Research Centres (EU) are examples of science advice mechanisms.*

References: OECD (2015), *Scientific Advice for Policy Making: The Role and Responsibility of Expert Bodies and Individual Scientists*, OECD Science, Technology and Industry Policy Papers, No. 21, OECD Publishing, Paris; Gluckman (2014); Gluckman (2018); Kenny et al. (2015); Knottnerus & Tugwell (2017); Hopkins et al. (2021); Vallance (2023); Aiello, Hernández Mondragón & Sierra (2026); Pearson (2024); Akerlof et al. (forthcoming) *Communicating Science for Policy*

Science communication

DEFINITION

Definitions are varied and can be as broad as "how society talks about science". However, for the purposes of evidence-informed policy-making, science communication is the exchange of evidence-based information between experts, policymakers, and publics, which is aimed at making relevant scientific findings clear and accessible, while also relaying what is known and not known about an issue and what can be done to mitigate risks of undesirable outcomes. Science communication theory has moved away from a 'deficit' approach to public understanding of science, which assumes that a lack of knowledge is primarily what stops action taking (see Deficit model of Science Communication). In some definitions, "science communication for policy" is explicitly defined as an evolving, reciprocal relationship connecting systems of knowledge and governance. It is understood as an iterative, two-way exchange that recognises multiple roles for scientists in the policy process.

Example: *Engaging forms of communication of evidence and findings which reaches beyond the expert community.*

References: Bucchi, M. and Trench, B. (2021). 'Rethinking science communication as the social conversation around science'. JCOM 20(03), Y01.; Bucchi, M. and Trench, B. (2014). 'Science communication research: themes and challenges'. In: *Routledge Handbook of public communication of science and technology*.

Science diplomacy

DEFINITION

A form of interaction at the science-policy interface that operates in a supranational context, where scientific and diplomatic communities exchange value in ways that advance shared international goals. It includes the use of science to support diplomatic objectives, the use of diplomacy to enable international scientific collaboration, and the use of scientific and technical knowledge to inform diplomatic processes. However, it is more than science advice for foreign policy or science policy with an international dimension: it requires a genuine entanglement of scientific and diplomatic interests across national boundaries, often under conditions of unequal capacity and multilevel negotiation.

Example: Joint monitoring of transboundary rivers, pandemic cooperation, or international research collaborations tied to broader foreign policy objectives can all be instances of science diplomacy.

References: Gluckman (2022) *PLoS Biology on science diplomacy and the global commons*. Royal Society (2025) *Science diplomacy in an era of disruption* <https://royalsociety.org/-/media/about-us/international/science-diplomacy/science-diplomacy-in-an-era-of-disruption.pdf> Flink & Schreiterer (2010); Ruffini (2020, 2021); Turekian & Gluckman (2023, 2025); Carrero-Martínez et al. (2024).

Science for Policy

DEFINITION

The transfer of scientific knowledge, evidence, and expert evaluation to policymakers in order to improve policy quality, clarify uncertainties, and inform possible courses of action. In the science-policy interface, it describes the direction of value transfer from the scientific community to the policy community.

Example: Researchers synthesise evidence on heatwaves and health impacts for a ministry of health so that policymakers can better understand the problem and identify feasible intervention options.

References: Carrier, M. (2021). What Does Good Science-Based Advice to Politics Look Like? *Journal for General Philosophy of Science*, 53(1), 5–21; Sienkiewicz & Mair (2020); Gluckman, Bardsley & Kaiser (2021); Sokolovska, N., Fecher, B., & Wagner, G. G. (2019). *Communication on the Science-Policy Interface: An Overview of Conceptual Models*. *Publications*, 7(4), 64; Washbourne, C. L., Murali, R., & Saidi, N. (2024). Navigating the science policy interface: A co-created mind-map to support early career research contributions to policy-relevant evidence. *Environ Evid*, 13, 15

Science policy

DEFINITION

Public interventions, decisions, and institutional arrangements through which governments shape, support, regulate, or redirect scientific research and innovation. In the science-policy interface, science policy is a prototypical form of policy for science, because it transfers value from the policy community to the scientific community through instruments such as funding, regulation, scholarships, infrastructure, and agenda-setting.

Example: A government launches a targeted funding programme, new doctoral scholarships, and a regulatory reform to strengthen research capacity in antimicrobial resistance.

References: Dedijer (1969); Lauer (2012); Lyall, Bruce, Marsden & Meagher (2013); Capano & Howlett (2020); Munari & Toschi (2021); Shvydko (2022); Morales-Salgado & Hernández-Mondragón (2025).

Science policy interfaces

DEFINITION

The science-policy interface refers to the social processes and relationships through which scientists and policy actors exchange, co-produce, and interpret knowledge in order to enrich public decision-making. SPIs are not single events but ongoing, iterative interactions, often supported by intermediary or boundary organisations. They are best understood not only as spaces of encounter, but as loci where knowledge, resources, and other value-carrying signals circulate between communities with different roles, incentives, and forms of authority. These interactions are shaped by power relations as well as by legitimacy, relevance, transparency, and accountability.

Example: A chief science advisory office, a parliamentary evidence unit, and a long-term boundary organisation linking researchers with public agencies are all examples of science-policy interfaces.

References: Van den Hove, S. (2007). A rationale for science–policy interfaces. *Futures*, 39(7), 807–826; Wagner, N. et al. (2024) More than policy neutral: Justifying the power of science-policy interfaces through legitimacy. In *Earth System Governance*, Volume 21, <https://www.sciencedirect.com/science/article/pii/S2589811624000193>, Morales-Salgado & Hernández-Mondragón (2025).

Scientific norms

DEFINITION

In 1942 American sociologist developed a list of norms that came to define scientific practice. These are known by the acronym CUDOS: - Communalism (sharing findings); - Universalism (pre-established assessment criteria); - Disinterestedness (no outcome preference); - Organized scepticism - Scientific claims must be subject to critical scrutiny by the scientific community. Critics have said that the norms are idealised and ahistorical, and they don't match the reality of scientific practice, nor do they highlight current legitimising features such as Transparency and Humility

Example: The institutions and structures of scholarly peer review and intended to be based on such norms

References: Merton RK. 1942. *The Ethos of Science*, *J. Legal and Political Sociology*. 1: 115-126. Reprinted In: Merton RK, Sztomka P., editor., editors. *Social structure and science*, Chicago: University of Chicago Press, 1996.

Social Contract (for science)

DEFINITION

A metaphor to describe the relationship between the scientific enterprise and society that supports it. In its original post-WW2 formulation, the 'contract' was understood as public funding, and the autonomy to self-regulate and set their own research agenda was granted to the science community on the understanding that their outputs would somehow result in positive impacts for society. An updated understanding now calls for a more urgent and purposeful approach to societal impact and the accountability of the science community 'in exchange' for public funding.

Example: The more active role that public (government) funders are taking in shaping the thematic scope and terms of publicly available funding opportunities is an example of the changing social contract, which has evolved to become more purposeful about addressing societal challenges by filling specific knowledge and technology gaps

References: Douglas, H and Branch (2024) *The social contract for science and the value-free ideal* <https://link.springer.com/article/10.1007/s11229-023-04477-9>

Social licence

DEFINITION

The ongoing acceptance or approval of an activity, organization, or policy by affected stakeholders, rightsholders and the wider public—beyond formal legal permission—often grounded in perceptions of legitimacy, trust, fairness, and responsiveness (see also legitimacy in this glossary). With its roots in extractive industry (mining) the concept has been criticized for implying a single interaction rather than an ongoing and iterative relationship where social license may also be withdrawn.

Example: A renewable energy project gains approval to proceed to development stage after engagement and benefit-sharing negotiations with communities. There is a pathway for the community's ongoing feedback and engagement established for the project's lifespan

References: Gehman, Lefsrud & Fast (2017) *Canadian Public Administration*; ; ISC/INGSA (2022) *on trust in science advice*; Martin (2025) *Do Australian Universities Have Social License?*

Stakeholder (including stakeholder mapping / engagement)

DEFINITION

Any person, group or organisation that is affected by or has the power to influence a government decision or project. Identifying and mapping stakeholders according to their interest, influence, and the likelihood they will be impacted is a key step in policy formulation. Engaging with stakeholders can help frame issues and clarify objectives, reveal trade-offs and implicit biases and work towards interventions that get public support. However critical scholarship points to the potential for stakeholder engagement to become managerial or tokenistic, and to miss the more marginalised voices that experience barriers to participation in consultation. Careful identification and ongoing meaningful relationship building with stakeholders is important for policy success. Other critics have dropped the term altogether, pointing to its possible colonial etymology as well as its potential to overlook indigenous people as rightsholders.

Example: Citizens and businesses in areas under consideration for a new hydroelectric dam project are stakeholders because they will be affected by the infrastructure, as are the developers and funders who can influence the government's decision on the location. Depending on the constitutional arrangements of the jurisdiction, Indigenous groups in the area would not be stakeholders, but rather rightsholders (and knowledge holders).

References: Reed, M. et al (2024) *Reimagining the language of engagement in a post-stakeholder world* <https://link.springer.com/article/10.1007/s11625-024-01496-4> ; Plys et. al (2025) *Discontinuing the Term "Stakeholder" From the NIA IMPACT Collaboratory Engaging Partners Team: An Example of the Process of Language Change in an Organization*, *AJGP Vol 33 Issue 2* <https://www.sciencedirect.com/science/article/abs/pii/S1064748124004421>

Strategic storytelling

DEFINITION

The use of narrative techniques to convey scientific information in a way that connects with audiences emotionally and cognitively, to achieve communication goals. Features include: custom tailoring to the values and interests of the audience and use of relatable themes, characters, story arc, metaphors

Example: Fireline Canada - indigenous led online platform to inform and inspire citizens for wildfire protection and resilience using storytelling and storysharing formats that engage audiences <https://www.fireguardians.ca/post/the-role-of-strategic-storytelling-in-shaping-effective-policy-outcomes>

References: WHO risk communication guidance; Covello & Sandman (2001) *risk communication*. Davidson, B. (2017) *Storytelling and evidence-based policy: lessons from the grey literature* <https://www.readcube.com/articles/10.1057/palcomms.2017.93>

Sufficiency of Evidence

DEFINITION

The determination of whether there is enough credible and relevant scientific evidence to support a policy decision or to address a specific issue. In policymaking, this determination is rarely a technical process, but more often a political judgement which weighs the scientific evidence in light of other considerations that influence taking action (or not)

Example: Glyphosate is partially banned in France, Germany and Austria, but is used extensively in countries like Canada, US, China, Brazil. Some countries' governments considered there to be sufficient evidence to merit regulation, while the same evidence was weighed up differently by others.

References: Nutley, Walter & Davies (2007) *Using Evidence*, Oxford University Press; Parkhurst (2017) *The Politics of Evidence From evidence-based policy to the good governance of evidence*. Routledge

Symbolic policy instruments

DEFINITION

Government actions that is intended to signal priorities or values without major material effects

Example: Proclamations; Public consultation or enquiry without commitment to action; unenforceable laws

References: Boussaguet, L., & Faucher, F. (2024). *Symbolic Policy*. Cambridge University Press; Edelman, M. (1964). *The Symbolic Uses of Politics*.

Synthesis (of knowledge or evidence)

DEFINITION

The systematic integration of scientific evidence from a diversity of disciplines and perspectives to provide a comprehensive understanding of an issue or identified policy problem. Synthesis practices can be seen on a methodological spectrum from broad-based literature review to targeted systematic reviews. High quality knowledge synthesis follows strict internationally recognised methodologies

Example: Rapid evidence review; systematic review; 'What Works' report

References: Cornell Guides to evidence synthesis and systematic review
https://guides.library.cornell.edu/?group_id=18926

Systems thinking

DEFINITION

Systems thinking examines the whole system and the interplay of factors within it. Core tenets of systems thinking include: multi-causality and feedback effects; emergent properties (when multiple components form a new whole); iterative focus on micro and macro scales; underpinning structure and individual actions that are mutually-constituted and mutually reinforcing. To some disciplines and policy sectors, systems thinking comes naturally, while to others with more reductionist traditions, it is a new way of approaching problems.

Example: In policy making, working across policy sectors (e.g. health, education, corrections) to deal with intractable problems that require a broad suite of interacting interventions. In research, working across disciplines and with communities to develop broad understanding of contexts and interrelated factors influencing outcomes

References: van Beek, A., et al (2025). *Making Systems Thinking Accessible for Qualitative Researchers: A Primer on Systems Thinking and Introducing Inductive Systemic Analysis*. *International Journal of Qualitative Methods*, 24
<https://www.complexsystemsframeworks.ca/> ; <https://www.nature.com/collections/ffccacbadj>

Theory of change

DEFINITION

A theory of change is a program or policy planning framework that is used to analyse how an intervention is expected to lead to a desired outcome. It draws on a broad causal analysis based on available evidence about direct, indirect and contextual factors, and renders assumptions explicit and open to analysis. A Theory of change framework includes statements about inputs, activities, outputs, outcomes and impacts, but also about contextual conditions, assumptions and risks. In this way it is broader and more iterative than a linear Results Chain framework, which help to track the sequence of steps towards the desired outcome.

Example: A program aimed at reducing the number students dropping out of school before finishing their qualification would use a theory of change framework to map out and address the web of interconnected individual and structural factors leading high leaving rates.

References: United Nations Development Group - Theory of Change Companion Document
<https://unsdg.un.org/sites/default/files/UNDG-UNDAF-Companion-Pieces-7-Theory-of-Change.pdf>

Trade-off (evidence/values)

DEFINITION

A trade-off is the tension that arises when two desirable conditions may be contradictory or cannot each be optimised simultaneously. In other words, it's a 'tough choice' about which one to prioritise. In this case, a tension arises because evidence rarely determines policy choices on its own; values and institutional contexts shape which evidence is considered relevant, how it is interpreted, and what trade-offs are acceptable.

Example: Evidence supports congestion pricing, but equity values lead to exemptions or revenue recycling to affected groups.

References: Cairney, P. (2021). The politics of policy design. *EURO Journal on Decision Processes*, 9; JRC (2025) evidence-informed policymaking and legitimacy.

Trade-off (independence/access)

DEFINITION

A trade-off is the tension that arises when two desirable conditions may be contradictory or cannot each be optimised simultaneously. In other words, it's a 'tough choice' about which one to prioritise. In this case, there is said to be inverse relationship (and therefore inherent tension) between being sufficiently close to decision-making to be relevant and timely, while remaining sufficiently independent to maintain credibility and avoid perceptions of advocacy or capture.

Example: Government employed scientists who have good access to decision-makers, but less independence than academics to pursue their own research agendas, including potentially research that may raise issues not aligned to the government's agenda

References: Cash et al. (2003) Knowledge systems for sustainable development. *PNAS*; Pielke Jr. (2007) *The Honest Broker*; Bressers, D. et al. (2026) Understanding the connection between government and policy advisory bodies at arm's length: Contested Autonomy, In *Routledge Handbook of Policy Advisory Systems*

Trade-off (precision/timeliness)

DEFINITION

A trade-off is the tension that arises when two desirable conditions may be contradictory or cannot each be optimised simultaneously. In other words, it's a 'tough choice' about which one to prioritise. In this case, there is said to be an inverse relationship (and therefore inherent tension) between the utility of scientific evidence to the policy community and the precision of that evidence due to the amount of time and scientific effort required for scientific precision, but the lack of time and resources in the context of policy decision-making.

Example: Policy decisions made on the basis of "best available evidence". Typically, these decisions require speed, but also technical input.

References: Cash et al. (2003) Knowledge systems for sustainable development. PNAS; Cairney P, Oliver K. Evidence-based policymaking is not like evidence-based medicine, so how far should you go to bridge the divide between evidence and policy? Health Res Policy Syst. 2017 Apr 26;15(1):35;

Trade-off (transparency/utility)

DEFINITION

A trade-off is the tension that arises when two desirable conditions may be contradictory or cannot each be optimised simultaneously. In other words, it's a 'tough choice' about which one to prioritise. In this case, there is said to be an inverse relationship (and therefore inherent tension) between utility of evidence or expertise to decision-makers, which also often confers privileged access, and transparency in communicating evidence with the public.

Example: Advisors and experts with close links Cabinet often have privileged access and influence among decision-makers, however they may be limited in what they can share publicly, following the conventions for discretion until policy announcements are made.

References: International Science Council & INGS (2022) Principles and structures of science advice.; European Commission JRC (2025) Evidence-informed policymaking reflection paper.; Cash et al. (2003) Knowledge systems for sustainable development. PNAS.

Transdisciplinary

DEFINITION

An approach to knowledge production that goes beyond individual scientific disciplines to create new, integrated knowledge that addresses complex societal problems through collaboration with non-scientific stakeholders and knowledge-holders (e.g. local knowledge and lived experience).

Example: A research project on regenerative agriculture that engages local farmers and indigenous conservation guardians in knowledge co-production

References: Schegg, J. et. al. (2025) Research shaped through context: Lessons from transdisciplinary projects, Environmental Science & Policy, Volume 174; Timm, et al. (2025). Inclusivity, Capacity-Building, Trust, and Respect: An Introduction to the Special Issue Equity in Co-Production. Community Science, 4(4)

Transparency

DEFINITION

The quality of being open and clear about the processes, data, and reasoning behind policy decisions, particularly when scientific evidence is involved.

Example: Publishing sources of funding, stating conflicts of interest and publishing methodologies with evidence briefs and reports supports transparency

Uncertainty (as a context for policy decision making)

DEFINITION

Decision-making in contexts where evidence is incomplete, contested, or probabilistic; requires explicit characterization and communication of uncertainty, consideration of plausible scenarios, and use of robust/adaptive approaches with monitoring and updating as evidence evolves.

Example: Decisions that are made on the basis of "best available evidence." Typically, these decisions require speed, but also technical input.

References: ISC/INGSA (2022) *Principles and structures of science advice*; Funtowicz, S. O., & Ravetz, J. R. (1993). *Science for the post-normal age*. *Futures*, 25(7), 739-755.

Voluntary / Self-Regulatory policy Instruments

DEFINITION

Reliance on voluntary compliance or self-governance by individuals, groups or organisations to act in accordance with a suggested behaviour.

Example: Voluntary recalls of products found to be faulty; voluntary national commitments to multi-lateral agreements, sometimes called 'soft-laws'

References: Gunningham, N. & Rees, J. (1997). "Industry Self-Regulation." Baldwin, R. et al. (2012). *Understanding Regulation*.

Wicked problems

DEFINITION

Complex, multi-causal, intractable, and open-ended policy challenges. Typical of unstructured problems, their technical complexity and uncertainty, together with a lack of consensus in stakeholder attitudes and values are all high. Proposed solutions typically entail complex trade-offs and interacting impacts or unintended effects.

Example: Biodiversity loss; land use change; youth mental health

References: Head, B. W., & Alford, J. (2015). *Wicked Problems: The Implications for Public Management*. *Journal of Public Administration Research and Theory*.

Index

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