POLICY BRIEF

Anticipatory Climate Governance: Climate Law under radical uncertainty

A policy impulse for COP31

KEY MESSAGES

Climate governance increasingly depends on decisions about futures that come along with radical uncertainty. Climate targets, emissions projections, risk assessments and long-term transition plans already shape present legal and political choices. Indeed, scenarios, models, and other forms of knowledge of the future inform these decisions, and yet the existence of future-oriented knowledge does not guarantee timely action.

This policy impulse argues that anticipatory climate governance requires legal and institutional arrangements that connect knowledge about possible futures to legitimate decisions in the present. Under circumstances of both, potentially radical transformation and radical uncertainty, law must fulfill three complementary functions:

recognising uncertain and potentially irreversible harm; providing a legitimate long-term direction and corridor for transformation; and enabling learning, accountability and timely corrective action.

For COP31 and beyond, the priority should be not simply to improve forecasts or establish additional strategies, but to strengthen the institutional links between scientific knowledge, public responsibilities, implementation and review.

1. Climate governance is a challenge of time

Climate change confronts legal and political institutions with a temporal challenge. Decisions made today shape emissions, infrastructure, ecosystems and social vulnerabilities for decades. At the same time, the consequences of these decisions are uncertain, unevenly distributed and sometimes difficult or even impossible to reverse.

Climate governance has responded by developing long-term targets, national climate plans, emissions projections, monitoring systems and periodic reviews. These instruments are essential. But they also raise a more fundamental question: how should institutions act on uncertain futures, and what makes that action legally and politically legitimate?

Foresight can indicate the likelihood of developments without determining what should be done. A scenario can reveal alternative pathways without selecting between them. A long-term target can provide direction without ensuring that present decisions are consistent with it. And a warning can identify a problem without specifying who must act, by when, or with what consequences if action fails to follow.

The central challenge is therefore not merely a lack of knowledge. It is the relationship between future-oriented knowledge and present-day authority, responsibility and action.

This challenge extends beyond mitigation. Climate adaptation, water security, energy infrastructure and climate-related security risks all require decisions that account for long time horizons, interacting uncertainties and potentially irreversible consequences. Addressing these issues in isolation can obscure the dependencies between climate, ecosystems, infrastructure and social resilience.

Law is central to this challenge and the underlying conflicts. It establishes objectives, assigns responsibilities, structures decision-making and provides mechanisms for monitoring and review. It also determines which forms of future knowledge receive institutional recognition and when they become relevant to public action.

2. From prediction to anticipation: A legal perspective

Anticipatory governance is at the core of the described temporal challenge. It is often associated with foresight or strategic foresight, scenario planning, early-warning systems and strategic risk assessment. These approaches can improve the capacity of institutions to prepare for emerging challenges. However, anticipation should not be reduced to predicting what will happen or managing risks that may already be identified.

From a legal perspective, anticipation concerns how institutions organise their relationship with possible futures. It asks how future-oriented knowledge is produced and assessed, who is authorised to interpret it, which objectives guide present decisions, and how institutions respond when expectations and actual developments diverge.

This perspective also requires distinguishing scientific assessment from political choice. Science can assess emissions pathways, identify risks and communicate uncertainty. It cannot, by itself, determine the appropriate distribution of burdens, the acceptable level of risk or the legitimate balance between competing public interests. These remain matters of political responsibility, subject to legal constraints and democratic scrutiny.

Law can structure this relationship without eliminating uncertainty. It can establish long-term objectives, require the use and disclosure of relevant information, allocate responsibility for implementation, and define procedures for responding to new evidence. In this way, law does not simply react to the future. It helps shape which futures remain possible.

3. Three functions of anticipatory law

A useful framework distinguishes three interconnected dimensions: caution, foresight and hindsight. They are not separate stages of a policy cycle. They describe complementary functions that legal and political institutions need to perform.

Caution: Recognising uncertainty and preventing irreversible harm

Caution requires institutions to take seriously the possibility of severe or irreversible harm, even where scientific knowledge remains incomplete. It calls for timely attention to emerging risks, transparent assessment of uncertainty and decision-making procedures that do not treat the absence of certainty as a reason for inaction.

For climate governance, this means connecting scientific assessments and projections to clearly assigned responsibilities. Early warnings and risk assessments are of limited practical value if no institution is required to evaluate them or explain what action follows.

Foresight: Providing a legitimate long-term direction

Foresight concerns the capacity to orient present decisions towards publicly justified long-term objectives. Climate neutrality targets, interim milestones and transition plans can provide such direction. Their value, however, depends on whether they influence decisions made today, including decisions about infrastructure, investment, land use and energy systems.

Long-term objectives must also remain democratically legitimate. They should guide political choices without turning one particular forecast or scenario into an unquestionable blueprint for the future. Institutions need to make explicit the assumptions underlying their plans and the distributional consequences of the pathways they pursue.

Hindsight: Learning, reviewing and correcting course

Hindsight refers here not simply to retrospective evaluation, but to the institutional capacity to learn from experience and revise implementation when evidence changes or progress falls short. It includes monitoring, independent assessment, transparent review and corrective action.

This dimension is indispensable because anticipation cannot guarantee that initial assumptions will prove correct. But adaptability must not become a justification for indefinite delay. Review mechanisms should clarify when reassessment is required, who is responsible for responding, and how changes can be reconciled with existing legal commitments.

Taken together, the three dimensions offer a practical test for anticipatory governance. Caution without foresight risks producing fragmented responses to individual threats. Foresight without hindsight risks locking institutions into inadequate pathways. And both remain ineffective if warnings and long-term objectives are not connected to identifiable responsibilities and timely action.

4. From future knowledge to present action

The legal implications become visible when considering four institutional questions.

First, who produces and evaluates future-oriented knowledge? Independent scientific advice can strengthen the credibility of climate assessments. Its role should be clearly defined, with appropriate access to information and transparent communication of assumptions and uncertainty. Scientific institutions should inform political decisions without obscuring who is responsible for making them.

Second, when does knowledge trigger action? Monitoring and projections should not remain reporting exercises. Legal and administrative frameworks need clear procedures for assessing gaps between objectives and actual progress, identifying responsible authorities and determining appropriate responses.

Third, how can long-term orientation coexist with democratic accountability? Durable objectives are important where current decisions create long-lasting consequences. Yet governments must retain responsibility for choosing and explaining the means of implementation, within the applicable legal framework. Parliament, executive authorities, scientific advisory bodies and courts have different roles that should complement rather than displace one another.

Fourth, how can institutions learn without weakening commitments? Climate governance needs procedures that allow responses to change as knowledge improves, while preventing repeated reassessment from becoming a means of postponing action. Transparent review criteria, clear institutional responsibilities and reasoned explanations are essential.

These questions are relevant at different levels of governance, although the legal instruments available differ. International climate governance provides frameworks for collective goals, national contributions, transparency and review. European and national legal systems can additionally establish more specific planning obligations, institutional mandates and consequences for non-compliance. These levels should reinforce one another without assuming that international commitments automatically produce directly enforceable domestic duties.

5. Priorities for COP31 and beyond

COP31 offers an opportunity to strengthen the connection between climate ambition and implementation. The following priorities translate the legal perspective into practical institutional steps.

1. Connect climate information to defined follow-up procedures.

Climate projections, progress assessments and early-warning systems should be linked to transparent procedures for evaluating gaps and determining responses. Institutions should explain not only what the evidence shows, but also what follows from it, who is responsible and when action is expected.

2. Make long-term objectives matter in present decisions.

Climate targets and transition plans should inform routine decisions on infrastructure, energy, land use and investment. Decision-makers should assess whether major commitments create long-term dependencies that may undermine climate objectives or increase future vulnerabilities.

3. Strengthen independent advice and clarify political responsibility.

Scientific advisory bodies need clear mandates, access to relevant information and the capacity to communicate uncertainty. Governments and legislatures, in turn, should explain how this advice informs their decisions and why they depart from it where they do so.

4. Design review mechanisms that enable learning without normalising delay.

Monitoring and reassessment should be accompanied by clear responsibilities, transparent criteria and timely follow-up. Changes in implementation should be justified openly, while long-term objectives and existing legal obligations remain meaningful constraints.

5. Integrate temporal and cross-sectoral perspectives.

Climate-related risks rarely respect administrative or policy boundaries. Water security, energy systems, ecosystems and security concerns illustrate how decisions in one field shape vulnerabilities and opportunities in another. Anticipatory governance should therefore consider both long-term consequences and interactions across sectors and levels of government, while preserving clear responsibilities for implementation.

These priorities point to the importance of strengthening the institutional arrangements through which existing commitments, knowledge and responsibilities are translated into action. The appropriate measures will differ across jurisdictions, depending on their legal systems, institutional capacities and political circumstances.

Conclusion

Anticipatory climate governance is not primarily about knowing the future. It is about organising collective action when the future remains uncertain.

Law can contribute by connecting caution, foresight and hindsight: recognising potential harm, providing a legitimate long-term direction and enabling institutions to learn and correct their course. For COP31 and beyond, the key challenge is to ensure that future-oriented knowledge does not remain detached from public responsibility.

The task is not to determine the future in advance, but to establish the legal and institutional conditions for acting early, legitimately and accountably under uncertainty.

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