Climate change :

World leaders

Are looking the other way

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NOTE:

This work does not constitute an official academic dissertation.
It is independent research carried out with the aim of informing and raising awareness about climate change with its possible causes and very likely consequences.
I have deliberately toned down my more militant work to barely address it and remain in an academic-type approach.
Reminder of my work:
https://lamireau.blogspot.com/2024/06/le-nucleaire-cest-pepere-thierry.html
Any resemblance to an academic format is intended only to promote clarity and rigor in the presentation.

1 Introduction

Climate change has become a lasting feature of international summits, industrial strategies and government statements. However, this visibility does not guarantee that the policies adopted follow a trajectory compatible with the announced objectives. The multi-model comparison conducted by Roelfsema and his co-authors distinguishes the gap between the policies already in place and the Paris Agreement trajectories from the gap that would remain even after the full implementation of the national contributions. According to this analysis, the full implementation of the Nationally Determined Contributions would reduce this gap by one third (Roelfsema et al., 2020, p. 1). It is therefore not a question of a uniform lack of action or a simple lack of communication, but of the coexistence of real measures, insufficient commitments and mechanisms that limit their results.

The title of this study, "Climate change : the Greats of this World are looking elsewhere", expresses this paradox in a deliberately polemical register. The expression "look elsewhere" here does not refer to the psychological indifference of individual leaders, but to a political selection of attention. Some costs become urgent, some responsibilities are shifted and visible achievements end up taking the place of an assessment of the overall trajectory. A power can thus recognise the climate diagnosis, finance renewable energies and participate in the Paris Agreement while protecting fossil fuel infrastructure, postponing a budgetary reform or favouring indicators that mask these contradictions. His gaze does not necessarily turn away from the climate: he focuses on the dimensions that make the postponement defensible.

The "main economic powers" constitute neither a protocol list nor a moral category here. This expression refers to actors whose markets, emissions, financial capacities, standards or diplomatic weight structure the possibilities of action beyond their borders. The United States and China influence global industrial and energy trajectories, while the European Union's regulatory and trade power allows it to extend certain requirements to its partners. As for the G20, it brings together economies whose budgetary choices and support for fossil fuels have a systemic scope. These very different institutional configurations cannot be reduced to a common intention that would alone explain their results.

The first difficulty lies in the conversion of knowledge into arbitration. The history of the climate regime shows that the consolidation of the scientific consensus does not automatically produce a political agreement commensurate with the diagnosis. Dahan and Guillemot find that a more robust scientific agreement does not necessarily translate into comprehensive policy decisions that are commensurate with the problem (Dahan & Guillemot, 2015, p. S6). Decisions are made on the distribution of costs, the pace of transformation, the value of existing assets and the legitimacy of the instruments. An additional physical expertise is not enough to settle these questions. Reducing the delay to a lack of information may even postpone political arbitration on the grounds that we should wait for more complete knowledge.

Political mechanisms include the organisation of vetoes, the fragmentation of competences and the competition between priorities. National legislation may be slowed down by litigation, deprived of budgetary resources or entrusted to an administration without the necessary staff and authority. In their analysis of the Clean Power Plan in the United States, Linquiti and Cogswell find an association between the presence of coal or gas reserves and the participation of states in the action against the Environmental Protection Agency (Linquiti & Cogswell, 2016, p. 673). This observation does not reduce all opposition to the conscious defence of a rent. Rather, it indicates how the exposure of assets, local revenues, and jobs can be converted into institutional power.

Delay often results from this encounter between concentrated losses and veto points.

The economic mechanisms go beyond the aggregate cost of the transition. They affect the distribution of capital, the lifespan of infrastructure, subsidies and legal protections. In the network studied by Kinol and its co-authors, Chevron is linked to plastics and agrochemical organizations (Kinol et al., 2025, p. 23). This case illustrates the possibility, for fossil interests, to recompose themselves when the use of a hydrocarbon declines in a sector.

A policy acting on demand can therefore accelerate the deployment of renewables without closing the outlets for extraction. Similarly, a consumption subsidy can protect households while delaying a reform if its beneficiaries and its social purpose are not clearly distinguished. The analysis must therefore follow flows, assets and investment decisions, without inferring a transformation from the mere existence of an objective or an emblematic project.

In addition to this material power, there are discursive mechanisms that are no longer based solely on the negation of warming. In the international television sample studied by Painter and his co-authors around the 2021 IPCC report, skepticism about responses takes the form of an emphasis on economic cost and personal sacrifice (Painter et al., 2023, p. 1). This framing can start from very real difficulties. It becomes dilatory when the immediate cost of an instrument is dissociated from the damage avoided, the possible compensations and the unequal distribution of responsibilities. Desai and his co-authors observe that the companies studied present fossil fuels as partners in renewable energy (Desai et al., 2026, p. 1). The shift in attention thus occurs within the very consensus on the need for action.

Climate retardation must be distinguished from obstruction. This presupposes an organized intervention intended to block, dilute or delegitimize a policy or knowledge. Delay has broader effects: postponement of a deadline, weakening of an instrument, transfer of responsibility or maintenance of an insufficient solution.

This can be driven by a coordinated strategy, but it can also result from administrative routines, a reliance on the path, or short-term decisions that reinforce each other without a common direction. This distinction dismisses both the idea that any slowness is the result of a conspiracy and that of neutral institutions, even though they reproduce a long-term trajectory favourable to already powerful actors.

We must also separate two deficits. The ambition gap measures the inadequacy of a target with regard to a reference climate trajectory; The implementation gap is between a commitment, the instruments that are supposed to implement it, the resources

mobilized and the observable effects. A government can implement a contribution that is too small or, conversely, adopt an ambitious objective without organizing its application. This distinction guides the choice of levers. A review that increases transparency does not automatically raise the target, nor does a more ambitious target create a budget or administrative jurisdiction. The credibility of action is therefore based on both a cycle of revision of ambition and on a chain of execution that clearly assigns resources and responsibilities.

This tension runs through international governance. The Paris Agreement generalized national contributions and instituted mechanisms for transparency, collective stocktaking and implementation. Its procedural obligations can promote a gradual increase in ambition, without transforming each target into an international obligation to achieve results. The implementation mechanism was designed to be facilitative, non-adversarial and non-punitive (Bertram & Van Coppenolle, 2024, p. 12). Such an architecture encourages participation and learning, but also leaves room for vague contributions, distant timelines, and repeated explanations of the gap. Credibility then depends on the national relays, the resources available and the complementary regimes likely to give a political consequence to the information produced.

The issue of fossil fuel subsidies provides an illustration of this. All G20 members made a commitment to reform in 2009. Yet, van Asselt notes that, of the Voluntary National Reviews studied, only Indonesia explicitly reported on progress towards Sustainable Development Goal target 12.c in 2021 (van Asselt, 2023, p. 194). This observation does not prove the absence of any reform among the other members; rather, it reveals a lack of comparability and accountability. Depending on the definitions used, the subsidy may include or exclude expenditures, tax benefits, price differentials or externalities. The technical category thus draws a political boundary between what must be justified and what escapes the collective gaze.

Power relations are even more evident in climate finance. Financial commitments support mitigation, adaptation and, through specific mechanisms, response to loss and damage. They also form a trusted infrastructure between contributors and beneficiaries. Pauw and his co-authors show that the expansion of the contributor base will remain contested as long as historical donors have not first fulfilled their promises (Pauw et al., 2024, p. 76). Uri and his co-authors note that the establishment of a dedicated loss and damage fund has not yet been sufficient to change the bargaining asymmetries they study (Uri et al., 2024, p. 41). The formal existence of an institution therefore does not guarantee that it already has the resources, access and representation necessary for the desired effect.

Justice cannot be dissociated from efficiency. The costs of inaction and the costs of instruments are unevenly distributed, as is the ability to have them recognized. In income-based accounting, Starr and his co-authors attribute a high share of U.S. emissions to the wealthiest households and highlight the weight of investments in the top percentile footprint (Starr et al., 2023, p. 1). This convention does not measure any individual intention and does not apply to all countries. However, it indicates that a policy focused on the average consumer can obscure investment power.

At the other end of the chain, intermediaries can capture part of the adaptation finance to the detriment of the officially targeted groups (Browne & Razafiarimanana, 2022, p. 8). Distribution thus conditions responsibility and legitimacy, but also the possibility of applying a measure in the long term.

The levers studied in this thesis respond to these mechanisms without presuming the existence of a single command center. Transparency makes deviations observable, provided that there is an obligation to respond. The law opens up avenues of control, the scope of which remains dependent on the execution of decisions. Finance builds capacity when it is predictable, accessible, and traceable to its beneficiaries. Participation improves knowledge of the consequences if it precedes the decision and gives real power to affected groups. Reform of supply and investment rules can finally reduce the material veto capacity. Taken in isolation, none of these levers is enough. Their coherence lies in the continuity they establish between the promise, the instrument, the means, the control and the correction.

The research question, or "Forschungsfrage" in German academic terminology, is therefore the following: through what political, economic and discursive mechanisms do the major economic powers divert attention or delay climate action, and what governance levers can reduce the gap between their commitments and implementation ? The hypothesis defended is that the delay is reproduced less by a uniform averting of the gaze than by a series of translations. Exposed assets are transformed into vetoes, distributive conflicts into technical controversies, objectives into indicators of activity, while competences are transferred without the corresponding means. The most promising levers make these translations verifiable, assign responsibility to each level, and take care of the losses that may fuel the blockage.

The research takes the form of a structured critical synthesis of work from political science, law, economics, media sociology, climate governance and adaptation. It is neither a quantitative meta-analysis nor an exhaustive measure of the climate performance of states. The studies used vary in their purpose, method, period and scale. Some relate to legal texts or corporate speeches ; others are based on surveys, network analyses, models, institutional comparisons or territorial case studies. This heterogeneity imposes a limit on inference: a localized result makes it possible to identify a possible mechanism and the conditions under which it appears, without allowing its automatic attribution to all powers.

The main unit of comparison is therefore not the country considered as a whole, but the sequence that links a commitment to an effect. For each case, the analysis identifies the stated objective, the intended instrument, the responsible institution, the resources allocated and the observable result. It then identifies the moment when attention, capacity or responsibility shifts. It thus becomes possible to compare a subsidy reform, a trade clause, an industrial policy or an adjustment fund without lending them an identical legal framework. Administrative activity, measured for example by the number of plans or members of a club, remains distinct from the material change it was supposed to produce.

Interpretation is organized on four levels. The physical level refers to assets, financial flows, infrastructure and exposed groups. The institutional level deals with mandates, rules, definitions and remedies. The discursive level examines the framing, the circulation of information and the prioritization of costs. Finally, the level of implementation follows budgets, competences, indicators and corrections. These levels do not function as independent causes. An asset acquires political significance when an institution offers it a veto point ; a discourse becomes operative when it encounters a credible loss or a media architecture that amplifies it. It is therefore their interactions that attract primary attention.

The scope of the assertions remains proportionate to the research devices. A statistical association is not equated with individual causality. An energy scenario describes what could result from a set of assumptions, not what a government has actually achieved. Similarly, a legal analysis establishes the possible scope of a procedure without measuring its effect on broadcasts, while a speech study documents public messages without reconstructing all the investments of the organization concerned. This caution is particularly necessary for China, which is studied from an energy security scenario, and for India, which is addressed through territorial work on urban governance. The available materials do not allow for any substantiated national classification.

The comparative core covers the United States, China, the European Union and the G20. The United States offers work on industrial policy, fossil fuels, information networks, scientific trust, and emissions inequality. The European Union is analysed as a regulatory and commercial power, without confusing its institutions with the controversies specific to a Member State. The G20 allows for the study of voluntary commitments, subsidies and surveillance. China is being viewed with caution by the energy security framework. Cases from India, Indonesia, Madagascar, Zimbabwe and Kenya shed light on the conditions of enforcement and justice ; they are not a substitute for a national monograph.

The sources used do not all have the same evidentiary value. Scientific publications support empirical findings or theoretical proposals within the limits of their methods. Thierry LAMIREAU's militant text is used as a primary source. The author calls for the evaluation of nuclear power to cover the entire sector (LAMIREAU, 2026, p. 5). Its interest lies in this framing operation, and not in the autonomous validation of health or technical claims.

Critical normative contributions are, similarly, attributed to their authors when they propose carbon investment, offsetting, or removal reform. This distinction prevents a judgment from being confused with a measured result.

The analysis grid retains several indicators of the delay. A commitment is difficult to verify when it does not specify a base year, a timetable, or an institution responsible. An instrument is fragile when its resources, beneficiaries or conditions of application remain undetermined. A shift in focus appears when a favourable indicator, such as the volume of own investment, replaces the examination of a more complete trajectory including fossil fuel production. A dilution of responsibility occurs when each level can allocate the balance to another. Obstruction is only retained when the work documents an organized intervention or a strategic use of resources. In other cases, the terms inertia, locking, or emergent effect are preferred.

Five criteria are used to evaluate the levers : the precision of the obligation, the adequacy between the means and the authority in charge of execution, the observability of the results and their distributional effects, the access of the actors assigned to information, decision-making and appeal, and the existence of a correction when the trajectory diverges. A policy can satisfy some of these criteria and fail on others. This assessment avoids mechanically opposing voluntary and binding instruments. A coalition with clear goals and public oversight can be more accountable than a formal rule without enforcement authority.

This method has several limitations. Posts span different time periods and rarely capture the entire chain that connects an ad to a result. There are more studies devoted to the United States and transnational institutions than to allow a comparable diagnosis of Russia or contemporary China.

There is still a lack of hindsight to observe the effects of certain recent instruments in the long term. Finally, political attention and backwardness are relational concepts whose manifestations vary according to the sector and the scale. These limits lead to the formulation of conditional mechanisms and proposals for governance, rather than attributing to each power a global degree of climate sincerity.

The second chapter elaborates on the conceptual framework. It distinguishes between denial, obstruction and belated speeches, and then separates the ambition gap from the implementation gap. Political attention is understood as a selection of problems, temporalities and responsibilities, while carbon lock-in links assets to the institutions that protect their value. A multi-level grid then follows the commitment from the international arena to the administrations, local authorities and companies responsible for taking action. The criteria thus established structure the following chapters without assuming a common intention behind similar effects.

The third chapter deals with international governance. After the procedural obligations of the Paris Agreement, he is studying the monitoring of fossil fuel subsidies and the G20 climate clubs. It then discusses finance, loss and damage, and North-South asymmetries, and assesses the contributions and limitations of trade, litigation, and voluntary markets. The aim is to understand how an architecture based on participation and review produces information without guaranteeing, on its own, that the gap will be corrected. The chapter thus specifies the necessary links between transparency, capacity and institutional consequence.

The fourth chapter analyzes the mechanisms of delay. It first tracks industry networks, exposed assets, and investment rules, before looking at corporate discourse, media, and digital platforms. It also deals with the production of uncertainty, university funding, and the administrative conventions that make certain dimensions visible.

The last section is devoted to the competition between crises, incrementalism and the dilution of responsibility. Organized obstruction, institutional inertia and emerging effects can thus reinforce each other without being confused.

The fifth chapter compares several power configurations. In the United States, a substantial industrial policy coexists with fossil vetoes and strong informational polarization. The Chinese case remains limited to what can be established in an energy security scenario. The European Union is studied through its normative and commercial power. Finally, the G20 and targeted cases of emerging powers highlight the difficulties of reporting, the divergences in definition and the gaps in administrative capacity. The comparison is based on the links in the execution chain, not on a general ranking of intentions or performance.

The sixth chapter considers the levers from the perspective of justice. It relates finance to effective vulnerability, emissions inequalities and investment responsibilities, as well as situated knowledge and the quality of decision-making. It then examines subsidy reform, supply-side policies, legal accountability, and the conditions for coalition legitimacy. Justice appears as a condition for robustness: ignoring the distribution of costs concentrates losses that can be seized by oppositions, while ignoring vulnerabilities diffuses the cost of failure.

The conclusion answers the research question, orders the mechanisms and levers, and then exposes the limits and perspectives. The chain that leads from promise to result remains the guiding thread. At each stage, what becomes visible, the decision-making authority, the resources available, the distribution of the cost and the correction of a deviation are examined.

This continuity goes beyond the alternative between denouncing inaction and simply listing commitments. It makes it possible to assess the conditions under which political attention remains linked to the material transformations that the main powers declare they want to accomplish.

2 Conceptual framework and analysis grid for climate retardation

Climate backwardness is not just about the rejection of science or the obvious absence of policy. An economic power can recognize climate change, make a national contribution, and fund certain programs, while maintaining institutions or investment choices that distance its results from its commitments. The explanation therefore relates to several discrepancies: between knowledge and decision, between the declared objective and the instruments adopted, and then between these instruments and their effects. It is therefore not possible to place on the same level an organized campaign against a regulation, an objective that is too weak and an administration lacking the necessary means to carry it out. Discursive mechanisms also have their place in the analysis, because the selection of problems deemed urgent and solutions deemed realistic partly determines what becomes politically feasible.

This framework articulates four levels. The first concerns interest and assets whose value depends on a carbon trajectory. The second concerns the rules, organisations and instruments that spread the costs of the transition. The third apprehends the framing that directs attention, defines credibility or shifts responsibility. The latter observes the implementation capacities and the effects actually produced. Their separation remains analytical. In practice, a company can defend an asset by means of a discourse on uncertainty, a ministry can shield aid from public scrutiny by a narrow definition, or a state can invoke a development constraint that the international financial architecture does not allow to be removed. It is precisely because scientific agreement does not mechanically translate into collective decision-making that a political approach to the gap is justified (Dahan & Guillemot, 2015, p. S6).

Climate denial here refers to the contestation of a constituent element of the diagnosis: the existence of global warming, its anthropogenic origin, the severity of its consequences or the robustness of the available knowledge. It is first of all an epistemic position, whether spontaneous or organized. Rather, climate obstruction refers to coordinated practices aimed at blocking, weakening, or delegitimizing climate

knowledge or policy. An assertion of denial can be part of an obstruction device, without the two notions being confused. A citizen's doubt does not prove the existence of an organized strategy; Conversely, an actor can obstruct regulation while publicly accepting the conclusions of climatology. This second configuration gains in importance as the political cost of frontal denial increases.

Speeches of delay take place where the problem is admitted, but where the required action is postponed, transferred to others or replaced by a response that is too limited. They are characterized less by a common doctrinal content than by their effect on the calendar. Such rhetoric may exaggerate the immediate cost of a measure, subordinate any action to the prior participation of other countries, substitute the promise of future technology for a present reduction, or declare premature reform in the name of uncertainty. The analysis of television programmes broadcast at the time of the publication of the IPCC report in 2021 illustrates this shift towards a scepticism centred on responses, in particular through the emphasis on individual sacrifices and economic costs (Painter et al., 2023, p. 1). However, any discussion of costs is not a delay. The qualification depends on the terms of the comparison, the alternatives considered, and the function performed by the argument.

This caution prevents the concept from being made a moral label applicable to any objection. A reservation may reveal a real distributive conflict, an administrative limit, or a risk of injustice. It becomes a delay mechanism when it permanently excludes options compatible with the declared objectives without proposing an equivalent path, or when it makes the action subject to a condition that its promoters know is unattainable.

Obstruction requires an additional degree of proof, such as coordination, funding, strategic repetition of framing, privileged access to decision-making, or identifiable intervention against an instrument. Backwardness can appear without a single organizing center, through the accumulation of vetoes, budgetary routines and fragmented responsibilities.

The passage from denial to obstruction and then delay does not follow a universal chronology. In some contexts, the explicit rejection of science remains present; in others, it coexists with neutrality commitments and selective support for technologies compatible with the maintenance of fossil fuel assets. The intellectual history traced by Ekberg and Pressfeldt shows that opposition to climate policy can associate extractive interests with ideological conviction. A Hayekian reading of uncertainty thus offers a reason to refuse planning, even when material interest does not explain everything (Ekberg & Pressfeldt, 2022, p. 643). It is therefore necessary to distinguish between the actor who benefits from the status quo and the one who sincerely considers public intervention to be illegitimate. Their effects may converge, but they do not call for the same levers of response.

An exclusive focus on climate skeptics also risks shifting conflicts over resource distribution, sovereignty or the energy model to science. Guillemot shows how the search for a political agreement based on scientific unanimity can lead to the presentation of political oppositions as simple scholarly controversies (Guillemot, 2014, p. 342). The debate is then reduced to a confrontation between "believers" and "skeptics", relegating production choices, industrial interests and diplomatic priorities to the background. The same author attributes the inadequacy of international action more to tensions between states and economic interests than to the influence of skepticism alone (Guillemot, 2014, p. 349). Such a reading does not minimize disinformation campaigns, but refuses to give them full explanatory power.

The classification of a statement or practice is based on five questions. What element is disputed or postponed? Who is speaking, with what resources and in front of what audience ? Which instrument is blocked or weakened? Does the argument change the timetable, the level of ambition or the distribution of the load? Finally, what traces establish coordination rather than simple convergence ? This set of criteria leads to three distinct diagnoses. Denial is defined by the object of knowledge rejected, the obstruction by the organization of an intervention against knowledge or politics, and delay by the relationship between a justification, a decision and the time of action. The same sequence can fall into all three categories, but each requires its own empirical elements.

Political attention refers to the selection and prioritization of an issue in spaces where institutional time, media coverage, and decision-making capacity are limited. It is not measured by the stated interest of the public or the frequency of the word "climate" in a speech. A topic receives politically operative attention when it raises questions, deliberations, budgets or arbitrations capables of modifying an instrument. The Urgenda litigation offers a circumscribed illustration of this: its media coverage has increased the attention paid to climate policies and climate change beyond the trial itself (Wonneberger & Vliegenthart, 2021, p. 710). The study captures an agenda dynamic, not the execution of a policy. The visibility of an issue and subsequent decisions must therefore be observed separately.

The diversion of attention can take many forms without the climate disappearing from the public space. A government can multiply long-term announcements while keeping the budgetary trade-offs present out of the debate. A secondary technical controversy can monopolize trade and remove the distribution of costs from scrutiny. An administrative definition can also reduce the visible scope of a problem. Skovgaard's comparison between the OECD and the IMF shows that their divergent conceptions of fossil fuel subsidies produce different censuses and framing, with the IMF attributing an environmental dimension to them more explicitly (Skovgaard, 2017, p. 351).

The definition is therefore not a neutral step prior to the decision: the category chosen partly determines what will be counted, discussed and submitted for reform.

Attention is divided between diagnosis, causes, instruments and their execution. A disaster can make warming salient without directing the debate towards policies to reduce emissions. The announcement of an imagined neutrality can put a goal on the agenda while leaving infrastructure choices in the shadows. Similarly, the review of an instrument may stop at its adoption and neglect exemptions, appropriations or personnel responsible for implementing it. Diversion appears in this structure : certains components of the problem acquire lasting visibility, while the most decisive decisions remain peripheral. The volume of communication devoted to climate is therefore not sufficient to establish the political priority that is really given to it.

Credibility depends on the possibility for third parties to link a promise to identifiable means and verifiable results. It refers neither to the intimate sincerity of a leader nor to the general reputation of a state. A commitment becomes more credible when it sets a timetable, allocates responsibilities, relies on funded instruments and submits its implementation to review. Conversely, the mention of a recognized policy may send a favourable signal without creating a sufficiently precise obligation. Elliott and his co-authors note this dilemma in the national contributions that evoke fossil fuel subsidy reform: these references often reinforce an image of ambition without committing the government to an easily controllable future intervention (Elliott et al., 2022, p. 744). Credibility is therefore a property of commitment and its evidentiary mechanism, not a psychological judgment.

This property is assessed both ex ante and retrospectively. Prior to implementation, consistency between the objective, law, budget and capabilities provides information on the plausibility of the promise. After the deadline, the publication of decisions and outcomes allows for an assessment of achievements and an explanation for the variance.

These two assessments may diverge : a well-endowed policy may fail due to an external shock, while a favourable outcome may be due to the economic situation without the announced instrument having contributed to it. The mere final respect of a figure is therefore not enough to measure credibility. This also depends on the traceability of the means, the quality of the explanation and the correction made when a discrepancy appears.

Two differences must then be distinguished. The ambition gap measures the distance between the level of commitment and a trajectory compatible with the climate reference target. The implementation gap separates this commitment from the policies actually adopted or executed. A national contribution can be applied in full while remaining too low; conversely, a lens compatible with a demanding trajectory may lack the necessary instruments.

Roelfsema and his co-authors estimate that the policies analysed left a median deficit of 22.4 to 28.2 gigatonnes of CO2 equivalent in 2030 compared to the optimal trajectories studied. The full implementation of national contributions would have absorbed only about a third of them (Roelfsema et al., 2020, p. 1). This measure depends on the models and the timing of the policies, but the conceptual distinction remains.

The implementation gap in turn breaks down into several moments. There is a gap in adoption between the promise and the law; a gap in capacity appears between the law and the necessary appropriations, staff or procedures; Finally, there is still a gap in results between administrative activity and the climate effect. These three differences do not add up to a single measure, since a high expenditure can finance a poorly targeted activity, whereas an inexpensive rule can profoundly change behaviour. This decomposition prevents the action from being deduced from the volume of the ads alone. It also requires that the data be specified as to whether the data relates to financial commitments, disbursements, completed projects, or an observed reduction in emissions and vulnerability.

Adaptation finance devoted to health illustrates the interest of this precision. For the period 2009-2019, Alcayna and its co-authors attribute 4.9% of the bilateral and multilateral adaptation commitments identified to health activities, even though donors commonly present climate as a health issue (Alcayna et al., 2023, p. 11). This result documents a discrepancy between the declared priority and the announced allocation. However, it does not allow us to equate the commitment with disbursement or to conclude on the final health effect of the projects. The example also reveals a mechanism of attention : a priority can be omnipresent in the general framework while remaining marginal in the budgetary categories that structure the action.

These distinctions influence the assessment of delay. An insufficient objective is first and foremost a matter of ambition, even if it is perfectly executed; A regulation adopted but deprived of resources is a matter of implementation. When a funded policy does not have the desired effect, its design and context must be analyzed rather than immediately concluding that it is an obstruction.

The qualification can be firmer if an actor deliberately maintains a vague promise, alters indicators or shifts resources after making a commitment. It should remain cautious when the deviation can be explained by technical uncertainties or limited capacity. It is a question of empirically linking the observed deviations to their mechanisms, and not of taking the deviation itself as proof of an intention.

"Carbon lock-in" refers to the reproduction of a high-emitting trajectory through the interaction of so-called "sustainable" infrastructure, economic assets, rules and expectations that make change more expensive. Path dependence describes this dynamic: previous decisions create yields, jurisdictions, and coalitions that favor their own extension. These concepts are not simple scholarly synonyms for inertia. An investment only becomes locked-in if its duration, the institutions that protect it or the costs of retraining effectively restrict subsequent choices. Nor does the persistence of a policy prove, in itself, that its abandonment has become more costly.

Fossil assets provide a distributive basis for this mechanism. A policy of reducing supply or demand changes the expected value of reserves, infrastructure and the companies that hold them. The anticipated losses affect shareholders and producers, but also revenue-dependent communities, workers and savings funds. In an exploratory analysis of U.S. states, Linquiti and Cogswell find that the presence of coal or gas reserves is associated with a higher likelihood of participating in the Clean Power Plan challenge (Linquiti & Cogswell, 2016, p. 673). The association does not demonstrate that these reservations determine each judicial decision; It illustrates the way in which a territorialized economic exposure can be converted into a political and legal opposition.

Subject dependence is not limited to mitigation. An adaptation policy can also increase the value of exposed assets and create beneficiaries who are committed to its continuation. The coastal model by McNamara and his co-authors estimates that, at some sites studied, the removal of a federal beach recharging grant would cause an immediate and significant drop in property values (McNamara et al., 2015, p. 10).

Geographically limited, this result depends on modelling. Nevertheless, it uncovers a plausible loop : public protection supports prices, which in turn reinforce the incentive to preserve this protection and increase the political cost of its withdrawal. The notion of lock-in presupposes the identification of such feedback, and not the simple observation that an old policy is continuing.

An analysis limited to consumed or territorial emissions risks leaving out of scope the production that maintains this lock-in. Heras argues that supply-side climate accountability must integrate fossil fuel infrastructure and extraction, while taking into account North-South conflicts over the right to development and the insufficient support provided by rich countries (Heras, 2024, p. 68). This double requirement prevents two reductions: assessing climate coherence without considering the expansion of production, or making countries with different fiscal capacities, debt and historical responsibility bear the cost of the fossil phase-out uniformly.

The lockdown thus has a political geography, because owners, beneficiaries, consumers and exposed populations are not always located in the same state.

Material interests do not, however, exhaust the explanation. Officials may defend fossil fuel markets because of their financial ties, but also because they consider planning, regulatory constraint or centralized knowledge to be illegitimate. The Swedish case traced by Ekberg and Pressfeldt precisely links neoliberal ideological commitment to the mobilization of arguments of uncertainty against climate action (Ekberg & Pressfeldt, 2022, p. 643). Ideology here provides a rule of interpretation: it selects the evidence considered admissible, favours market adaptation and raises the threshold of justification imposed on public intervention. It can thus stabilise a coalition whose members do not share the same economic exposure.

Institutions are consolidating the connection between assets and ideas. A grant, accounting rule or administrative mandate distributes benefits while defining what appears normal and what requires justification. Skovgaard shows that the IMF and the OECD have significantly different definitions of fossil fuel subsidies (Skovgaard, 2017, p. 351).

These classifications change the visible scope of the problem without directly changing national law. At the international level, Dahan and Guillemot describe the gap between the image of centralized climate management and a world order traversed by sovereignty, economic competition, and the pursuit of resource exploitation (Dahan & Guillemot, 2015, p. S11). The lock-in is therefore less the result of an isolated veto than of the compatibility between assets to be protected, permissive institutional categories and political principles that make their reform questionable.

To avoid a circular causality where any continuity would prove the locking, which would then explain this same continuity, three observations are necessary. A prior choice must create an identifiable advantage or cost of exit ; this effect must modify the behaviour of actors with a capacity for influence ; Finally, an alternative solution must become more difficult despite the changing climatic or technological context.

The analysis can then determine whether the maintenance is the result of an organized defense, administrative fragmentation or an unresolved distributive compromise. The levers vary accordingly: reform of incentives, targeted compensation for losers, modification of mandates, transparency rules or legal constraints.

Rather than looking for a single cause, the analysis grid crosses four dimensions. The actors are those who have interests, skills or the power to frame. Instruments refer to the means by which they promise, finance, regulate, measure or contest action. Arenas are spaces where options are selected and accounts can be requested. Finally, scales situate the decision, its effects and the possibilities of displacement. The lack of articulation between global framing and territorial capacities described by Brédif and his co-authors justifies treating the scale as a variable in the analysis (Brédif et al., 2015, p. S65). This cross-referencing makes visible cases where the commitment is made at one level, while the resources, opposition, or damage are at another.

Dimension	Analytical questions	Observable Indices
Actors	Who benefits from the current trajectory, who supports its transformation and who can define the problem?	Legal skills, asset ownership, financing, access to expertise, coalition capacity and the right to bring proceedings.
Instruments	By what means does commitment become, or does it not become, an action?	Objectives, budgets, standards, taxation, subsidies, review procedures, carbon credits, contracts and court decisions.
Arenas	Where are priority, credibility, and compliance being contested?	Parliaments, administrations, climate negotiations, G20, economic organisations, courts, markets and media spaces.
Scales	At what level is promise, execution, impact and accountability?	Relations between the international level, the State, the territory, the sector, the company and the short or long term sequences.

The size of the actors prevents us from equating an economic power with a homogeneous will. An executive can announce a target while a finance ministry preserves a tax expenditure, a state-owned company invests in extraction, and a jurisdiction imposes a review. In this respect, the courts occupy a special position : they can translate climate standards into enforceable obligations and subject states or companies to standards that are neglected in ordinary arenas (Kotzé et al., 2023, p. 12). However, their intervention is neither automatic nor uniform. It depends on admissibility, the applicable law, the enforcement of judgments and the ability of the applicants to bring the matter before the courts.

The instrumental dimension links the words to the chains of execution. For each commitment, the analysis looks for a legal basis, a responsible authority, resources and an evaluation mechanism. It also examines their interactions : a subsidy can neutralize a tax, an investment contract can weaken a national standard, or a voluntary credit can claim a reduction that has already been accounted for elsewhere. The absence of a link does not necessarily mean that an actor is seeking to delay action. It nevertheless makes it possible to locate the deviation and identify those who had the capacity to correct it. Credibility then becomes observable in the architecture of the instrument, rather than deduced from the prestige of the announcement.

The arenas structure the strategies of movement. A distributive conflict that is difficult to resolve in parliament can be reformulated as an expert controversy, transferred to an international organization or referred to individual choice on a market. One arena can also compensate for the weaknesses of another: justice makes a norm enforceable, an international journal produces information, and a territorial debate reveals invisible constraints in a global negotiation.

Guillemot precisely describes the case where the expectation of a scientific consensus does not produce the hoped-for political agreement, but transforms the political disagreement into an apparent scientific divergence (Guillemot, 2014, p. 342). The analysis must then distinguish the controversy over knowledge from the material choice that it risks shielding from arbitration.

The scale completes the grid by distinguishing the place of the promise from that of the action. A national contribution aggregates sectoral policies whose implementation is often the responsibility of administrations, local authorities or companies with discordant mandates. The effects can still shift through imports, value chains, financial markets, or extraction carried out abroad. The multi-level perspective does not dilute responsibility; It assigns it based on skills, resources, and checkpoints. It also makes it possible to identify a frequent mechanism of delay: each level recognizes the problem while designating another level as the only one capable of acting.

Applied to an empirical sequence, the grid starts with a precise commitment and identifies the instrument that is supposed to achieve it, before following the decisions that determine its means and effects. It compares the announced timetable with the budgetary timetable, examines the definitions adopted and distinguishes the results from administrative activity alone. The qualification of obstruction requires traces of coordination or deliberate intervention. The risk of delay may be based on a documented postponement, the weakening of an instrument or a long-term shift in responsibility.

The ambition gap remains distinct, since a promise fulfilled may remain incompatible with the climate trajectory chosen (Roelfsema et al., 2020, p. 1).

This approach prevents a favourable indicator from absorbing all the other dimensions of the judgment. A decrease in carbon intensity can accompany an increase in absolute emissions; an announced expenditure may precede the disbursement by several years; An adopted standard may not be subject to any supervisory authority.

The direction of the objective, the strength of the instrument, the means involved and the result must therefore be examined separately. The distinction made by Roelfsema and his co-authors between the effect of existing policies and that of fully implemented contributions shows that progress in implementation is not sufficient to prove the adequacy of ambition (Roelfsema et al., 2020, p. 1). Rather than summarizing these dimensions in a single note, the grid locates the link where the chain breaks.

Time must also be understood as a property of the instrument, and not as a simple external delay. A distant objective can guide investment if it is linked to intermediate decisions; on the contrary, it can shelter inaction when irreversible choices continue in the meantime. Linquiti and Cogswell's study of fossil assets illustrates the importance of this sequence: the expected value of resources and equipment can fuel opposition even before regulation takes effect (Linquiti & Cogswell, 2016, p. 673). It is therefore necessary to identify the dates when an infrastructure, a budget or an authorization closes future options. We can then distinguish a reversible delay from a postponement that makes the correction more expensive in the long term.

Administrative categories are subject to the same scrutiny as explicitly political decisions. Defining grant, climate finance, or offsetting determines what becomes measurable and contestable. Skovgaard's comparison between the International Monetary Fund and OECD conventions shows that different bureaucratic architectures can produce distinct perimeters for the same issue (Skovgaard, 2017, p. 351).

Any methodological divergence does not constitute an obstruction. The gap acquires political significance when a change in scope reduces comparability, removes support from the review in the long term, or makes it possible to announce an improvement that material flows do not confirm.

Political, economic, and discursive mechanisms are reinforced when they relate exposed assets, permissive institutions, and frameworks that present postponement as reasonable.

Attention can be diverted without the climate being ignored, by the choice of indicators, the transfer of a conflict to expertise or the valorization of distant commitments. However, not every discrepancy is enough to establish a delay. Its qualification depends on the level at which ambition weakens, the missing implementation link and the capacity for action of the actors concerned.

The levers of governance must make promises assessable, expose the costs and beneficiaries of choices, link the levels responsible for implementation, and open avenues of control when the ordinary political arena fails. While the plurality of actors can disperse responsibility, it also offers points of intervention through review, conditional financing, incentive reform or law. Their scope depends on how the Paris Agreement, the G20, climate finance, and transnational economic regimes open up or restrict these opportunities.

3 International governance and the implementation gap

International climate governance does not overlook states in the manner of a government with a budget, an administration and a general power to sanction. It organizes engagements, produces information, allocates resources, and connects arenas governed by different rules. This architecture can raise ambition by comparing national policies and supporting capacity for action. It also creates space for avoidance: objectives defined at the national level, negotiable categories, non-coercive examination, voluntary clubs and a proliferation of mechanisms, none of which assumes sole responsibility for the result. The gap between the promise and the implementation is therefore not external to the regime. It depends in part on its ability to turn an announcement into a verifiable object and to link international cooperation to domestic decisions.

Four institutional groups are examined. The Paris Agreement forms the general regime of contribution and review. The G20 brings together economies that can change subsidy and investment flows, but acts through political commitments. Climate finance involves resources, trust and differentiated responsibilities. Finally, trade agreements, litigation, voluntary contracts and specialised organisations complement the central regime while raising their own risks of fragmentation.

This choice responds to the discrepancy noted by Dahan and Guillemot between the image of unified global management and an international order structured by sovereignty, competition and national fossil trajectories (Dahan & Guillemot, 2015, p. S11).

The Paris Agreement is based on contributions determined by the parties, rather than on emission quotas that the treaty would allocate to each of them. Article 4 of the Act primarily establishes conduct obligations relating to nationally determined contributions, without assigning each state a predetermined quantified outcome (Bertram & Van Coppenolle, 2024, p. 7).

This difference must be maintained in the assessment. Failure to follow a procedure and failure to meet a national target are not subject to the same obligation. To make the Agreement an international guarantee of national results would be to overestimate its constraint; to reduce it to a declaration of no effect would disregard the procedural framework that it provides.

The choice of national contributions facilitates participation, but shifts some of the constraint towards transparency and temporal dynamics. Each government can tailor its commitment to its institutions and economic circumstances, which promotes broad buy-in. On the other hand, the aggregate ambition depends on national decisions that the scheme does not directly determine.

The increase is based on the succession of contributions, their comparison and the expectation of an increase. This logic does not eliminate either the ambition gap, when a contribution remains incompatible with collective objectives, or the implementation gap, when internal policies are not sufficient to achieve it. It only makes these discrepancies visible if the data and schedules are comparable.

Three mechanisms organize this visibility: the enhanced transparency framework, the global stocktake and the committee responsible for facilitating implementation and compliance. Their articulation should produce national information, aggregate collective progress and address certain compliance issues (Bertram & Van Coppenolle, 2024, p. 12). However, transparency does not equate to an automatic sanction. It provides insights for partner governments, national administrations, parliamentarians and social actors who are able to use the information. If indicators remain incomplete, reference years diverge, or internal responsibilities unclear, the review may document an activity without judging the outcome.

The Agreement Committee confirms the main facilitating role of the system. It was not intended as a dispute settlement court or as a body with the power to impose penalties; its operation must respect sovereignty and avoid any punitive procedure (Bertram & Van Coppenolle, 2024, p. 12).

This architecture corresponds to the idea that certain shortcomings result from a lack of capacity that can be corrected by assistance. On the other hand, it offers few answers to the avoidance strategies of a state that has the means to act. Credibility then depends on the reputational cost of the deviation, internal scrutiny, and the possibility that other regimes will give a more concrete scope to the conduct obligations.

The credibility of a contribution presupposes that its national translation can be followed. The target date should refer to budget decisions, sectoral standards and responsible authorities. Otherwise, the mention of a recognized policy in the text of a contribution can produce a favorable signal without constraining the executive. Elliott, Bernstein and Hoffmann observe this with regard to fossil fuel subsidy reform: in their sample, this reference is often used to legitimize the general objective without specifying a sufficiently firm future intervention (Elliott et al., 2022, p. 744). The difficulty therefore lies less in the national nature of the contribution than in the degree of precision necessary to distinguish the intention, the instrument and the result.

The international review can strengthen this link if it focuses on the effects of policies, beyond the formal conformity of the reports. Aldy proposes to examine the environmental, economic and energy outcomes of the commitments, and then assess the effectiveness and cost of the internal instruments (Aldy, 2017, p. 18).

This institutional proposal stems from the monitoring of fossil fuel subsidies ; it does not fully describe the current functioning of Paris. It nevertheless specifies the requirements of an implementation-oriented accountability: indicators that link the announced reform to observable changes, accompanied by a sufficient context not to confuse the failure of a policy with an unfavorable situation.

To gain political effect, this information must reach the institutions that authorize spending and control the executive. An international report published after the main budgetary arbitrations risks informing without changing the choice.

Conversely, data examined before the adoption of a plan may reveal the incompatibility between the contribution, the projected investments and the administrative resources. The temporality of the journal is therefore as important as its precision. A credible loop combines the prior assessment of resources, the monitoring of implementation and the public explanation of deviations. It provides an opportunity for correction without turning every difficulty into a breach, while preventing the continuous renewal of the promise before the previous result is reviewed.

This requirement involves a distributive dilemma. A consistent comparison facilitates the examination, but risks overlooking differences in capacity, historical responsibility and economic structure. Conversely, too open a differentiation makes every engagement incomparable. A single indicator does not resolve this tension. There is a need for a common core of information, supplemented by data on the resources available, the need for support and the social effects of the measures.

Credibility then becomes relational: the use of resources must be verifiable, while countries capable of financing the transition must honour their own commitments. Pauw and his co-authors specifically emphasize that Annex II countries must deliver on their existing climate finance pledges (Pauw et al., 2024, p. 76).

Paris therefore functions as a system of commitment and review whose effect depends on relays. Contributions provide direction, transparency can reveal gaps, and the global stocktake increase pressure for higher ambition. None of these elements replaces national legislation, budget or administration. By holding the parties accountable, the architecture restricts the space for formal denial, but it leaves behind forms of delay compatible with participation : a weak contribution, a vague instrument, a distant timetable, or the repeated invocation of a lack of capacity without a correction strategy. Complementary levers must increase accuracy, support execution, and attach policy consequences to persistent gaps.

The G20 is in a special position : it brings together states whose markets, public budgets and companies influence energy trajectories far beyond their borders. However, it is not a supranational organisation capable of imposing tax reform. Its decisions are largely based on coordination, reputation and peer-to-peer learning. This flexibility makes it possible to put on the agenda issues that are difficult to deal with in the climate negotiations, but also allows for commitments with a scope and timetable that are open enough to preserve existing national policies.

The reform of fossil fuel subsidies concentrates this ambivalence. In 2009, G20 members committed to rationalizing and phasing out some aid, but accountability remains weak in the monitoring of Sustainable Development Goal 12.c. Of the national documents reviewed by van Asselt, only one major economy, Indonesia in 2021, explicitly reported on progress on this target (van Asselt, 2023, p. 194). The observation concerns these documents and not all national reforms. However, it shows that a common commitment with an indicator is not enough to produce a comparable public report.

The definition of the subsidy explains part of the problem. Depending on whether it includes a budgetary expenditure, a tax advantage, a price difference or the non-internalised cost of damage, the amounts identified and the sectors visible vary greatly. A State can thus declare itself compliant by retaining a perimeter that excludes support accounted for elsewhere. This divergence is not always the result of manipulation; it may be due to different administrative cultures, tax data or analytical objectives.

However, it becomes a delay mechanism when the lack of a common definition makes it possible to establish a baseline, set a timetable and assess the impact of a reform in the long term. The apparently technical question of ranking then organizes political attention and reputational cost.

More useful monitoring would combine a public inventory, an explicit methodology, and a review of results. The reports would distinguish between the amounts announced, the provisions actually repealed and the effects on prices, consumption, production

and exposed households. Aldy proposes that the review identify environmental, economic, and energy outcomes and then assess the effectiveness and cost-effectiveness of national policies (Aldy, 2017, p. 18). This method requires sufficient statistical capacity. Peer review can reveal gaps and promote the dissemination of appropriate reforms. In the absence of common criteria and a government response to the comments, however, there is a risk that it will be reduced to an inconsequential exchange of information.

Sequencing also determines the sustainability of the cull. Cutting aid without identifying the beneficiaries can lead to a sharp rise in the cost of energy and provide groups that lose an advantage with a powerful narrative against climate policy. Conversely, maintaining general aid in the name of social protection can transfer most of the benefit to large consumers and postpone its revision indefinitely. The inventory should therefore separate the social objective from the fossil instrument chosen to achieve it. Targeted compensation prepared before the deletion reduces the risk of backtracking and gives credibility to the schedule. Among G20 countries, only Indonesia explicitly reported on progress on target 12.c in 2021 (van Asselt, 2023, p. 194). This lack of information limits the comparison of reform sequences and their effects.

The coercion does not have to take the form of a direct international ban. Van Asselt and Kulovesi identify three types of incentives that the climate regime can combine: better information on aid, reputational exposure of broken promises, and access to financial support for reforms enshrined in mitigation strategies (van Asselt & Kulovesi, 2017, p. 368).

The sequence is politically plausible because the removal of a subsidy changes prices and can weigh on vulnerable households or sectors. Making the transfers visible does not therefore settle the distributive conflict. The reform must be linked to targeted compensatory measures, without turning social protection into an indefinite justification for maintaining a poorly designed fossil fuel advantage.

Climate clubs bring together a subset of actors around a common goal or instrument. Their small size can facilitate experimentation, sectoral coordination and capacity exchange, and then prepare standards that can be replicated in broader frameworks.

However, their effectiveness depends on the concrete value of membership and the ability to verify members' contributions. If joining the club provides a diplomatic benefit without measurable effort, the initiative adds an announcement to the institutional landscape instead of changing behaviors.

The comparison conducted by Unger and Thielges between the G20, the Climate and Clean Air Coalition and the "Under2 Coalition" highlights this risk. Members may claim their participation in a public good without keeping their promises, while the vagueness of the objectives makes it particularly difficult to control and sanction (Unger & Thielges, 2021, p. 17). Volunteering therefore does not necessarily imply inefficiency, but makes a threshold of adherence, indicators and a response procedure more important. A club that publishes only its membership or announced initiatives is a measure of its activity, not its additional contribution to mitigation.

Clubs can also focus attention on areas where a power-to-power agreement is politically accessible. This focus can accelerate an innovation or the adoption of a technical standard, but leave aside finance, just transition or supply reduction, which divide members. The lever therefore complements Paris without replacing it. Paris retains an almost universal participation and a collective reference; A club can deepen a specific action. To avoid fragmentation, its objectives must remain compatible with nationally determined contributions, its results must be reported in common arrangements and its entry criteria must become accessible to countries that receive support to comply with them.

Unger and Thielges link a club's credibility to the ability to control sufficiently specific promises (Unger & Thielges, 2021, p. 17). Without a baseline, each member can choose the story that attests to their compliance. A review based on data and a timeline, accompanied by a public response, can increase the cost of the delay, especially when it is taken up by national parliaments, media and economic actors. The power of the major economies gives them a specific responsibility here, since their subsidy choices and standards structure global markets. It also carries the risk of dominance if the club's rules impose external costs without funding or representation from the affected states.

Climate finance serves several distinct functions. It supports mitigation investments, finances adaptation and responds, through specific mechanisms, to loss and damage that adaptation has not been avoided. These functions differ in terms of their beneficiaries, their horizon and their criteria of effectiveness. Their aggregation into a global amount can hide a shift between priorities. The review of implementation should therefore focus on predictability and access to resources, the financial instruments used and the results produced, without confusing promises, accounting commitments, disbursements and completed projects.

Financial commitments also form a trusted infrastructure. Pauw and his co-sponsors are exploring the possibility of broadening the contributor base beyond the historical categories of the Convention. According to them, this expansion will remain partly questionable and will lose further legitimacy if Annex II countries do not first honour their existing promises (Pauw et al., 2024, p. 76).

This non-compliance reduces available resources, but also provides potential contributors with a reason to refuse new expectations. It also reinforces the idea that differentiation would be reviewed before the fulfilment of previous political obligations.

Responsibility and capacity no longer fully overlap with the categories negotiated at the beginning of the climate regime. Some economies outside the group of incumbent donors now have high capacities, while many vulnerable countries retain very limited fiscal space.

Changing the contributor base can therefore increase resources, but a formula based solely on current income would erase historical emissions and broken promises. Conversely, freezing categories can concentrate funding on a small number of states and maintain a diplomatic impasse. The criteria for contribution must be explicit, the principles of equity must be preserved, and any additional voluntary contribution must be distinguished from a transfer of responsibility.

The behaviour of donors also influences the form of commitments made by beneficiaries. In the bilateral aid data they examine, Han and Cheng observe a temporary increase in the year in which a nationally planned contribution is submitted. Action-based plans are more associated with the likelihood of receiving support than emissions targets alone (Han & Cheng, 2023, p. 808). This relationship does not prove either that the aid then finances the entire plan or that it rewards its implementation. Rather, it suggests that operational commitments, presented in a recognized format, can guide allocation in the short term.

This mechanism can improve implementation when funding accompanies prepared programmes and institutions capable of administering them. It can also favour countries that already have the necessary teams to put together dossiers that meet the expectations of donors. The capacity deficit then becomes cumulative : the most constrained States have less easy access to the resources that would allow them to strengthen their administration.

Multilateral intermediaries, project preparation assistance and direct access can reduce this gap. However, their assessment must take into account deadlines, transaction costs and territorial distribution, beyond the approved volume alone.

The institutional architecture of a fund reflects a trade-off between national ownership and the guarantees requested by the funders. Bhandary shows that recipient countries seek to retain control, even when this preference does not lead to the least costly solution (Bhandary, 2024, p. 1). Efficiency cannot therefore be equated with maximum external supervision.

A credible arrangement can safeguard national priorities while publishing its allocation criteria, decisions, timelines, and results. The challenge is to build a sustainable capacity and a verifiable history, rather than mechanically opposing national control and fiduciary discipline.

Loss and damage make the asymmetry even more visible. They refer to damage that emission reductions and adaptation have not been able to prevent, often in countries that have contributed little to warming. The creation and operationalization of a fund within the framework of the Convention is an institutional step forward. Uri and his co-authors point out, however, that this outcome has not yet sufficiently changed the balance of power and that the delay in the annual pledge of $100 billion has increased the frustration of developing country negotiators (Uri et al., 2024, p. 41). Their review describes a recent state of the debate, without allowing us to prejudge the future resources of the fund.

A fund can thus legally exist without yet responding to the scale, urgency or distribution of needs. The implementation gap is between the institution created, its capitalization, access to resources and the support actually received after damage. Assessing success must incorporate predictability and timing, since late aid can force governments into debt or households into selling assets. It must also distinguish between grants, loans and insurance mechanisms, which do not have the same distributional effects. In the absence of such transparency, an increase in an aggregate amount may coexist with a transfer of risk to countries that are already vulnerable.

Trust also depends on the place given to the affected countries in the fund's decisions. An institution can apply stringent fiduciary rules while remaining contested if the contributors primarily define eligibility criteria, priorities, or timelines. Conversely, a more balanced representation does not exempt the publication of the use and effects of resources.

Decision-making power and accountability must therefore be reconciled. The review by Uri and his co-authors shows that the establishment of the fund has not yet been sufficient to shift the trading asymmetries to the benefit of developing countries (Uri et al., 2024, p. 41). Its legitimacy is based on effective resources, a voice in governance and a procedure adapted to the urgency of the damage.

Finance closes the gap if it is stable enough to enter public planning, accessible to the institutions that need it, and subject to accountability for its effects.

It increases it when announcements are counted several times, when procedures exclude the least well-endowed administrations or when contributors use the funding instead of their own emission reductions. The levers then form a chain: compliance with existing promises, public contribution criteria, support for preparedness, proportionate access procedures and evaluation of results. Bhandary observes that developing countries seek to retain as much control over the funds as possible, even when the arrangements do not minimize costs (Bhandary, 2024, p. 1). External credibility must therefore remain compatible with this national ownership, so as not to weaken internal political capacity.

Trade rules can give climate commitments additional scope, as they sometimes have more structured review and settlement procedures. Bertram and Van Coppenolle are studying preferential trade agreements concluded by the European Union. Their legal analysis indicates that the inclusion of Paris in certain chapters on trade and so-called "sustainable" development could address procedural gaps, a lack of ambition or an implementation gap (Bertram & Van Coppenolle, 2024, p. 16). This potential is due to the strength of the clauses and the mechanisms available; the article does not yet measure its effective application.

The articulation between regimes responds to a specific weakness of Paris. A conduct obligation can become more effective when a trade agreement requires its implementation and provides for an institutional response. This path does not automatically transform the national contribution into an international obligation of result. Above all, it can consolidate the submission of contributions, transparency and the expected internal effort.

This distinction avoids asserting that trade would guarantee the achievement of a target, without neglecting the effect that a more adversarial procedure may have on the credibility of a procedural commitment.

The limits are first and foremost political. Governments often control the activation of disputes and may not take action against a strategic partner. Market asymmetry also allows a major power to impose its preferences in the name of the climate.

A credible clause must therefore specify its purpose, provide for a contradictory expert opinion and open a way of participation to the actors concerned.

Support is also needed when compliance requires investments that the partner cannot finance alone. Without these safeguards, cross-compliance risks shifting costs to producers least able to absorb them and sparking opposition that weakens climate cooperation.

Litigation is another relay when international commitments meet domestic law or the obligations of companies. Courts can translate a climate standard, impose a review, or subject transnational actors to standards that they avoided in political arenas (Kotzé et al., 2023, p. 12). However, their contribution depends on the court, the basis invoked and the execution of the judgment. A decision can increase attention and clarify a responsibility without immediately producing the necessary investments. Litigation therefore complements policy, without replacing instrument design or administrative capacity.

Voluntary carbon markets, on the other hand, aim to direct private financing towards reductions or certified removals. In the context of Paris, their credibility depends on the relationship between a company's claim and the accounting of the host country's national contribution.

If both take the same reduction, the volume of shares announced exceeds the actual climate result. Kreibich and Hermwille conclude that this difficulty is political and that the market cannot solve it alone; it requires public rules, including corresponding adjustments applicable to voluntary transactions (Kreibich & Hermwille, 2021, p. 953).

Accounting integrity is not enough. A company can buy formally accurate credits and still defer feasible reductions in its own value chain. The market must therefore be part of a hierarchy that favours direct reduction compatible with an explicit trajectory, treats residual emissions separately and requires the quality of the credit as well as the transparency of the claim.

It is also up to the public authorities to define what a neutrality statement authorises to communicate. Otherwise, compensation becomes a discursive mechanism of delay, since the present display is based on an action carried out elsewhere or on a future absorption.

This hierarchy requires information that the buyer and the certifier cannot guarantee alone. It is necessary to know how the reduction will be treated in the host country, how long it will be stored in the event of absorption and the relationship between the credit and the internal objective of the company. A voluntary standard can improve these elements, but remains vulnerable to competition between labels and the interests of those who derive income from the transaction. For this reason, Kreibich and Hermwille situate the problem at the level of public policy and the accounting of Article 6 (Kreibich & Hermwille, 2021, p. 953). The relevant lever combines a transparent registry, claims rules, and public oversight, instead of assuming that the price of credit sums up its climate value.

The proliferation of organizations involved in adaptation expands governance capacities while fragmenting mandates. According to the dataset by Kural, Dellmuth, and Gustafsson, international organizations in nine non-climate domains have expanded their mandates over the decades and become more committed to adaptation (Kural et al., 2021, p. 14). This diffusion can integrate climate into development, health or infrastructure policies. It can also create duplication, leave some areas out of the picture, and make it difficult to locate responsibility when each organization is only dealing with part of the problem.

The articulation between the global level and the territories then becomes a condition for implementation. Brédif and his co-authors attribute part of the inaction to the lack of relationships between knowledge and policy frameworks developed at the international and territorial levels (Brédif et al., 2015, p. S65).

A global standard can set a direction without knowing land uses, local conflicts, administrative competences or forms of vulnerability. Conversely, local action cannot compensate for prices, infrastructure and financial flows determined at other levels.

The desired articulation therefore consists neither in simply lowering the norm nor in celebrating the local. It organises feedback loops: the territories have information and decision-making margins, their results feed into national and international mechanisms, and the resources follow the implementation skills. Brédif and his co-authors propose to bring together the capacities for expertise and action at the local and global levels (Brédif et al., 2015, p. S74). This lever presupposes explicit responsibilities and data that are compatible between scales. Otherwise, multi-level governance allows everyone to attribute the gap to the neighboring level.

Such an articulation calls for a graduated response to deviations. The first step is to make the information comparable and ask the government concerned to explain the difference between its contribution, its instruments and its results.

Technical or financial support is then provided when the obstacle is due to an identifiable capacity. Finally, a public review, parliamentary scrutiny or the activation of a supplementary scheme can increase the political cost of a persistent gap. The Paris implementation mechanism is designed to operate in a transparent, non-adversarial and non-punitive manner (Bertram & Van Coppenolle, 2024, p. 12). The proposed gradation respects this framework without reducing accountability to an endless dialogue. It distinguishes between documented incapacity, which calls for resources, and refusal to correct a policy despite the means available, which calls for an institutional consequence.

The sequence of the control is as important as its intensity. The transparency framework, the global stocktake and the implementation mechanism fulfil distinct functions in the architecture of Paris (Bertram & Van Coppenolle, 2024, p. 12). To confuse them would be to ask transparency to punish, or to the collective balance sheet to attribute individual responsibility alone.

A more robust chain uses the data to establish the gap, the review to compare the explanation, and then the national or complementary institutions to modify the instrument and its financing. The international cycle then makes it possible to verify the effect of this correction. The regime thus avoids accumulating information from which no actor would be required to make a decision.

Funding must be part of this chain as a verifiable condition for implementation. A promised but unpredictable resource does not support multi-year programming; A resource disbursed in the absence of administrative capacity may remain unused or be misdirected. Bhandary's study shows that the mastery sought by recipient countries does not necessarily coincide with the least expensive architecture (Bhandary, 2024, p. 1). Institutional quality is therefore not limited to management fees. It also depends on the ability to choose, execute, report and retain skills after a project has ended. International support narrows the gap when it consolidates this national chain instead of bypassing it.

Finally, the articulation of regimes must be evaluated in the light of the asymmetries it can create. A trade clause, market standard or financial condition gives more control over enforcement, but can also shift authority to those who control access to the market or capital. Bertram and Van Coppenolle's legal analysis establishes the potential of some European trade agreements to strengthen Paris procedures, not a guarantee of a climate outcome (Bertram & Van Coppenolle, 2024, p. 16). This complementarity remains legitimate if the obligation is precise, the procedure accessible, the compliance capacities sustained and the contested measure related to the climate commitment. Otherwise, the more restrictive instrument risks reproducing a power relationship under the vocabulary of execution.

Trade, law, voluntary markets and specialized organizations are not a one-size-fits-all solution. Each corrects a weakness while introducing a risk: trade increases the constraint but can reproduce asymmetries; the judge makes an obligation enforceable but depends on the performance ; the market mobilizes funds but can shift reductions; Organizational plurality extends competences but disperses responsibility.

Their contribution is assessed according to their compatibility with Paris, the additionality of their effects and the possibility of identifying the responsible actor when a result is lacking. In these arenas, the major powers can participate in the regime while delaying action through imprecise contributions, definitions that narrow the scope of subsidies, unfulfilled financial promises, or voluntary schemes with unverifiable contributions. These mechanisms do not divert all attention from the climate so much as they focus it on announcement, membership or financial volume, to the detriment of national instruments, disbursements and outcomes.

Closing these gaps means linking each commitment to a chain of proof and capacity. Transparency must focus on comparable results, the review must generate a public response and funding must become predictable and accessible. Supplementary schemes must strengthen driving obligations without claiming to guarantee a result that is beyond their means.

The articulation between levels completes this architecture by allocating resources and responsibilities where implementation takes place. Action therefore depends less on an all-powerful global centre than on a coordinated set of constraints, incentives and supports whose effects are verifiable.

4 Political, economic and discursive mechanisms of delay

Climate backwardness is not just about denying the physical reality of global warming or a government's complete inaction. It covers here the processes that postpone, weaken or displace measures that are nevertheless compatible with the stated commitments. In the major economic powers, these processes rely on assets whose value depends on hydrocarbons, institutions with conflicting mandates, and frameworks that make some options more acceptable than others. The difficulty of reconciling industrial interests, energy needs, national priorities and the balance of power between states thus explains part of the inadequacy of global action that the mere presence of climate sceptic discourse does not allow us to understand (Guillemot, 2014, p. 349).

Three configurations must be distinguished. Organized obstruction involves identifiable actors who seek to block, dilute or delegitimize a policy. Institutional inertia arises when rules, budgetary routines or an old distribution of powers renew a trajectory without a single centre in a decision. Emerging effects result from the aggregation of ordinary behaviours, for example when the search for profitability, media selection and electoral constraints jointly favour short-term responses. Since scientific consensus does not mechanically convert into collective decisions, expertise cannot resolve these conflicts alone (Dahan & Guillemot, 2015, p. S6). The analysis must therefore focus on the relations between material power, institutional authority and public attention.

This distinction rules out two symmetrical errors: attributing each delay to a concerted strategy of the powers or companies, or treating as simple technical slowness choices that protect rents, close access to decision-making or transfer the cost of the transition. A mechanism becomes politically relevant when it changes the probability, content or timing of a climate measure, even if not all participants share the intent. The levers of governance must therefore act on incentives and rules as much as on public messages.

The image of a homogeneous fossil fuel sector opposed to the state does not reflect the circulation of economic power. In the United States, Kinol et al. analyze the accounts of organizations related to fossil fuels, plastics and agrochemicals. They identify connections between sectors and converging themes that link industrial objectives to individual interests. Their study links cooperation between hydrocarbon industries to the need to regulate production for all uses, and not just for fossil fuels (Kinol et al., 2025, p. 23). Energy producers are thus part of a larger petrochemical group, where the outlets for hydrocarbons can move to other uses while electricity production tends towards less active pollution.

The configuration studied documents a coordinated obstruction, but also reveals a material interdependence. A company can defend its own market without participating in a common direction, while fueling the same collective resistance.

A policy focused on energy demand deals with only part of the network of interests and leaves opportunities for conversion to extraction. Supply regulation must follow hydrocarbons from one use to another, integrate processing infrastructures and examine ownership or financing links between sectors. It does not imply a uniform and immediate closure. Differentiated timetables, controllable production ceilings and conversion measures can prevent a concentrated loss from leading to a veto coalition.

It is therefore necessary to combine material constraint and distributive treatment, otherwise the formal rule risks displacing activity without undermining the political capacity of the network.

Asset values are the link between economic exposure and political action. In their exploratory analysis of the Clean Power Plan, Linquiti and Cogswell observe that U.S. states with coal or gas reserves were more likely to participate in the lawsuit against the Environmental Protection Agency. In both cases, the association is statistically significant at the 0.01 level (Linquiti & Cogswell, 2016, p. 673). That result does not reveal the individual motivation of each applicant. It nevertheless sheds light on the possible conversion of an anticipated loss into a legal opposition.

Reserves, power plants, local tax revenues and specialized jobs are all positions exposed to a strict policy. Local authorities can therefore defend a fiscal and social basis while relaying the interests of incumbent companies, which makes it difficult to empirically distinguish between organised obstruction and the representation of local interests.

This difficulty should not neutralize the question of power. The costs of the transition and the ability to make use of them are not distributed in the same way. In the United States, income-based emissions accounting assigns a high share of national emissions to the income streams of the top decile and highlights the weight of investments in the footprint of the richest percentile (Starr et al., 2023, p. 1). This accounting convention does not measure any intention to obstruct, but recalls the concentration of investment power and responsibility linked to production chains.

A policy exclusively addressed to the consumer further obscures capital allocation decisions. The publication of transition plans by asset owners, due diligence obligations applicable to portfolios and taxation attentive to investment income would shift part of the liability to players capable of modifying the offer.

Legal rules can accentuate this asymmetry by opening up avenues of protest for investors that are inaccessible to affected populations. From an explicitly critical perspective, Deivanayagam and Osborne argue that some trade and investment protection agreements consolidate extractive interests, including through investor-state dispute settlement procedures (Deivanayagam & Osborne, 2023, p. 5). Their normative contribution does not measure the average effect of these procedures in a comparison. However, it identifies a plausible mechanism for delay: the threat of costly litigation can politically increase the cost of a fossil fuel exit and encourage exemptions, compensation or a less demanding timetable. Reducing this effect means clarifying the right to regulate for the climate, phasing out new fossil fuel investments from exceptional protections, and making public demands, amounts, and settlement agreements.

Climate finance itself can be diverted during its implementation. Browne and Razafiarimanana point out that the increase in adaptation funds does not guarantee that they will reach the most vulnerable countries or groups. Aggregated categories of vulnerability can mask power gaps within a community and complicate the identification of real beneficiaries (Browne & Razafiarimanana, 2022, p. 2/23). This observation from Madagascar does not directly describe the administration of the main economic powers, but it is important for assessing their role as donors.

A financial commitment only has an adaptive effect if the allocation criteria, intermediaries and final beneficiaries are traceable. The announced volume and the distributive quality are therefore two distinct dimensions of implementation.

In the Malagasy project studied, officials directed some of the resources to politically connected bureaucrats, consultants, entrepreneurs, and households. National and local patronage thus influenced the design of the project, the choice of territory and the distribution of certain properties (Browne & Razafiarimanana, 2022, p. 8). This case documents a capture, not a universal property of adaptation finance. It shows why the governance of donor powers cannot stop at disbursement.

Disaggregated beneficiary data, accessible complaint mechanisms, independent audits, and representation of exposed groups in allocation bodies make the path of funds traceable. These guarantees must remain proportionate so that the prevention of capture does not itself become an administrative overload delaying projects.

The financialization of environmental solutions opens up another possibility of travel. Chausson et al. acknowledge that natural capital markets can mobilize finance, but highlight the risk that nature-related credits reduce the pressure on companies and governments to reduce emissions at the source (Chausson et al., 2023, p. 3). However, not every nature-based solution is greenwashing.

Risk arises when the exchange value of the credit becomes the primary criterion, additionality remains uncertain, or netting replaces a technically possible reduction. Governance must therefore distinguish between potentially useful funding and the restoration of the right to continue broadcasting. Quantitative limits on netting, prudent accounting and the publication of going concern assumptions reduce the possibility of converting a green asset into a deferral permit.

The economic mechanisms examined form a chain rather than a single cause. Exposed assets make change costly for some groups, industry networks pool narratives and resources, investment rules increase recourse opportunities, and financial channels can dilute the destination of commitments. The intention to obstruct is evident in some coordinated campaigns, but the fiscal dependence of a territory or the prudence of a manager sometimes produce a similar effect without a common strategy. A supply-side policy covering petrochemical uses must therefore be combined with the reform of legal protections, a just transition for exposed groups and the monitoring of flows to their effects. This set acts before opposition crystallizes, and then after adoption, when resources can still be diverted.

When the debate shifts from the reality of global warming to the timeliness of responses, the delay changes form. In the television sample compiled by Painter et al. around the publication of the 2021 IPCC report, scientific skepticism remains mainly present on the right-wing channels. Policy skepticism emerges more broadly, including in some of the mainstream coverage, through narratives that emphasize economic cost and personal sacrifice (Painter et al., 2023, p. 1).

This event-based study does not describe the entire global media space. However, it highlights a discursive strategy compatible with the recognition of the problem: action is accepted in principle, while each concrete instrument is presented as too expensive, premature or socially intolerable.

A discourse of delay is not necessarily a lie in each of its components. It can start with a real difficulty, such as a price increase or the closure of a site, and then dissociate this cost from the damage avoided, the redistribution mechanisms and the cost of maintaining the trajectory.

The choice of time horizon structures this asymmetry: immediate expenses become very visible, while deferred benefits and cumulative risks remain abstract. Debating sacrifices is legitimate in a democracy.

Delay appears when this discussion excludes any alternative solution, transforms each constraint into a reason for postponement or places the burden of adjustment on households without questioning producers and asset owners. Governance must therefore not eliminate controversy, but require a complete comparison of the effects and their distribution.

The communication of fossil fuel companies illustrates this mix of positive statements and restrictions. Desai et al. analyze the annual reports of large companies in the sector. Messages in favour of renewables are on the rise, but are accompanied by reservations about their risks and a presentation of gas as a partner in their development. According to the authors, this dual register associates the transition with the maintenance of fossil production instead of explaining their substitution (Desai et al., 2026, p. 1). The result is based on public documents and does not make it possible to reconstruct all investment decisions on its own. It nevertheless shows how greenwashing can operate without denying the transition: the company adopts the vocabulary, values certain new activities and gives complementarity a definition broad enough to protect its productive core.

The objective of net neutrality lends itself particularly well to this shift when it does not separate present reductions from future removals. Deivanayagam and Osborne argue that companies can announce a pseudo "net zero" trajectory based on promised long-term negative emissions while expanding their fossil fuel activities (Deivanayagam & Osborne, 2023, p. 6). This normative criticism does not justify the rejection of any neutrality target, which can serve as a benchmark if its scope and stages are controllable.

Rather, it calls for decoupling gross emissions, internal reductions and offsets, and then pairing distant promises with intermediate carbon budgets. The commitment becomes dilatory when a technology or a sink that is still uncertain today authorises an avoidable emission without providing for a catch-up in the event of failure.

The dominant framing also gives rise to counter-discourses that seek to broaden the scope of the problem. Thierry LAMIREAU's text must be read from this perspective : a French militant primary source with a deliberately pamphleteering tone, it does not however constitute a technical expertise on nuclear power although it is very specific and extensive. LAMIREAU understands the sector from uranium extraction to waste and disputes the evaluations that separate the stages (LAMIREAU, 2026, p. 5). Its analytical interest lies in this framing struggle. The choice of border determines which costs, territories and temporalities enter the debate. The text does not fully support its health or industrial claims ; He shows how an activist attributes public inattention to a segmentation of the chain and opposes institutional communication with a more encompassing definition of responsibility.

The professional media participate in this hierarchy without being simple relays of industrial interests. In the journals they study around climate conferences, Eikelboom et al. find that climate terminology is more frequent in left-leaning headlines and that the register of urgency is getting stronger over time (Eikelboom et al., 2024, p. 1 / 27). Their model also reveals differences, depending on the orientation of the newspapers, in the causes and the measures that emerged. Fossil fuels and energy efficiency appear in particular in configurations distinct from those of the carbon tax or aviation (Eikelboom et al., 2024, p. 17).

These results do not prove that a readership mechanically adopts the framework received. They indicate that attention is not just about the quantity of coverage: naming a source of emissions and retaining an instrument already limits the field of conceivable responses.

Digital advertising adds to the framing the possibility of finely selecting its recipients. In their sample of organizations, McKie et al. distinguish four categories of narratives that justify fossil fuel continuity in a more indirect form than explicit denial (McKie et al., 2023, p. 23).

The mechanism thus associates a message with the platform's business model. For the actors studied, it is an organized obstruction, while its amplification by the automated sale of space may result from the ordinary incentives of the advertising economy.

The structure of online conversations accentuates this fragmentation. Around the publication of the first working group of the IPCC's fifth report, Pearce et al. observed more conversational links between users of the same orientation than between different positions (Pearce et al., 2014, p. 8). This homophily concerns supporters as well as opponents and does not prove, in itself, manipulation. However, it reduces the opportunities to confront an argument with a heterogeneous audience and allows repeated statements within a group to appear socially established. The architecture of the platforms thus creates probabilities of encounters that organized actors can exploit in several directions.

Among public policy elites, echo chambers do not correspond to a stable division into two camps either. Jasny et al. find that American actors select certain sources of information and amplify them through direct and indirect links (Jasny et al., 2018, p. 7). Repetition can then swell a dissident minority (Jasny et al., 2018, p. 15).

Polarization is thus a relational effect dependent on the context, and not an immutable technical property of the network. It becomes a delay mechanism when the amplification of disagreement increases the perceived electoral cost of a measure or gives decision-makers a reason to wait.

The levers of governance must be adapted to each of these levels. In corporate communication, common indicators linking capital expenditure, projected production and climate targets make doublespeak more questionable. For advertising, complete and searchable libraries, the identification of the real funder, the publication of targeting criteria and secure access for research would make it possible to monitor campaigns without pretending to administratively arbitrate any opinion.

Platform rules should address verifiable omissions and misleading factual claims, while providing for a redress procedure. In the media, transparency in editorial choices is not a substitute for pluralism, but regular comparisons of costs, beneficiaries and horizons reduce the advantage of framing that isolates immediate sacrifice.

The discursive aspect of the delay is therefore based on observable operations: redefining the transition as a complement to hydrocarbons, transferring the effort to future absorption, particularizing the costs, selecting a cause or sending the message to the most receptive public. Some are designed by organizations to preserve the status quo; others are the result of journalistic routines, relational preferences or the economic model of platforms. Bringing them back to a unified propaganda would make the differences in responsibility disappear. Conversely, isolating each message would mask their cumulative effect on what seems feasible.

Information integrity governance reduces the implementation gap when it links declarations to material data, maintains access to competing frameworks and makes visible the actors who finance their dissemination.

Climate expertise is often thought of according to a linear model where more precise knowledge would lead to a more ambitious decision. Dahan and Guillemot show the limits of this representation: the consolidation of the scientific consensus was not enough to produce a global political agreement that was equal to the diagnosis (Dahan & Guillemot, 2015, p. S6).

The decision concerns the distribution of costs, the pace of transformation and the legitimacy of the instruments, all questions that climate science does not decide alone. Presenting the conflict as a simple information deficit allows governments to commission additional expertise without opening distributive arbitration. The time of knowledge then becomes, voluntarily or not, a time of political waiting.

However, not all uncertainty is a matter of strategic fabrication. The models have margins, the local effects are sometimes poorly understood and several instruments compatible with the same diagnosis can have different social consequences. Guillemot emphasizes that the subordination of political agreement to scientific consensus can burden scholarly disputes with properly political issues (Guillemot, 2014, p. 342). The strategic production of uncertainty begins when actors isolate a true margin to challenge a more established conclusion, demand an inaccessible level of proof, or continually shift the threshold deemed sufficient. Institutional inertia appears rather when an administration waits, out of prudence or because of fragmented responsibilities, for any ambiguity to be removed. Both situations delay action, but call for different responses.

University funding can bring these two forms closer together by giving a sectoral interest access to the authority of research. Morris and Jacquet study two American centers supported by the livestock industry. They document their links with companies, the minimisation of the sector's climate contribution and the promotion of voluntary incentives financed by public money (Morris & Jacquet, 2024, p. 25).

This case does not justify attributing to these centers the inadequacy of the entire American agricultural policy. It reveals a more circumscribed mechanism: academic credibility can build trust in an industry's self-regulation, guide metrics, and make a voluntary solution seem more reasonable than a binding standard. The delay is therefore less about the negation of emissions than about the definition of admissible instruments.

Capturing expertise does not imply that every funded outcome is false.

It can intervene upstream, in the choice of questions, or downstream, when certain work is more widely disseminated to regulators. It can also take the form of a network of careers, advisory councils and publications that standardizes the presence of the funder in the production of standards. This approach avoids equating private funding with scientific fraud without reducing the conflict of interest to a statement at the bottom of the page.

The political effect is assessed by looking at who sets the priorities, what data remains accessible, which instruments are evaluated and how the results reach public agencies.

University rules often translate this substantive problem into the narrower language of conformity. Ceccon et al. compare the policies of British and American universities to the media debate on fossil funding. They note that the media associate this funding with delay, misinformation and the legitimacy of research, while institutional texts favour general procedural guarantees (Ceccon et al., 2026, p. 16).

The sample does not represent all higher education and the study focuses on written policies, not their application. The discrepancy nevertheless reveals an administrative neutralization: by reducing a sectoral power relationship to a transparency form, the institution can display its risk control without deciding whether certain financial dependencies are incompatible with its mission.

Public trust depends on both the effective integrity of expertise and the ecosystem in which it is received. In a survey of registered U.S. voters, Alvarez et al. found an association between distrust of academic research and rejection of the problematic or anthropogenic nature of climate change (Alvarez et al., 2023, pp. 1/20). This observational study does not show that restoring trust would automatically change policy preferences.

It also indicates that sources of information remain associated with beliefs after controlling for several political and demographic characteristics (Alvarez et al., 2023, p. 16). Uniform communication is therefore likely to fail: the authority of the messenger, access to conflicting data and the presence of credible intermediaries are as important as the clarity of the content.

Administrative translation also shapes the visibility of fossil fuel support. Skovgaard compares the definitions used by the International Monetary Fund and the Organisation for Economic Co-operation and Development. The two organizations do not identify the same perimeter and do not give the same place to climate effects, differences that the author links in particular to their bureaucratic cultures, their autonomy and the role of internal entrepreneurs (Skovgaard, 2017, p. 351). It is not necessarily an intentional obstruction. An inherited accounting category can make some aid invisible, while an expanded definition greatly increases the amount observed and shifts the debate. The governance of expertise therefore presupposes that the conventions must be made explicit, the results published according to several perimeters and the prevention of a change in definition being confused with a material improvement.

Several safeguards can limit capture without placing the search under permanent suspicion. Contracts should ensure the publication of adverse data and results, as well as methodological independence. Institutions can set exposure thresholds per funder, diversify the resources devoted to subjects of public interest and prohibit certain financing when the conflict cannot be managed. Ceccon et al. also believe that transparency is necessary, but insufficient in the face of the conflicts of interest they study (Ceccon et al., 2026, p. 16). Appointments to standardisation committees would benefit from a mapping of interests and accessible minority opinions. Agencies that use external expertise should finally explain how it influences their choice. Transparency would thus become a means of tracing the transition from funding to recommendation, and not a simple reporting obligation.

At the same time, managing uncertainty requires predetermined decision rules. A threshold of proof, a revision date, and damage indicators can be defined before the results become politically costly. Adaptive policies allow for caution and then correction of the instrument as knowledge progresses. They escape the false choice between waiting for complete certainty and maintaining an irreversible measure. The confrontation of contradictory knowledge must focus on hypotheses and distributional effects, without indefinitely reopening robust findings. Expertise then contributes to implementation because it organizes learning and correction, not because it claims to remove choice from democratic debate.

What these situations have in common is a shift in the conflict. An economic interest becomes a methodological controversy, a financial dependence becomes a reporting problem, and a disagreement over costs becomes a request for additional information. The politicization of expertise can thus disguise political disagreement as scientific dissensus (Guillemot, 2014, p. 342). Organized obstruction exploits these conversions when it actively funds or selects useful knowledge.

Inertia prolongs them when universities and administrations favour a procedure that is incapable of dealing with the power relationship in question. Independence standards, comparable definitions, access to data and reviewable decisions reduce this space of delay. They also bring commitment closer to its execution by making the chain that links the diagnosis, the instrument, the budget and the result observable.

Political attention is a discontinuous resource. To access budgetary trade-offs, the climate must compete with employment, energy prices, security or health crises. This competition does not mean that governments are unaware of global warming; rather, it favours sequences where the overall commitment remains stable while a more immediate urgency postpones its execution. The dilution of responsibility reinforces this effect.

A ministry waits for an interministerial decision, the State refers to the local authorities, companies invoke consumer demand and each power underlines the inadequacy of the others. None of these trips formally nullifies the objective, but their combination deprives it of an actor who is required to produce a result by a specific date.

The visibility of a disaster is not enough to correct this bias in the long term. In U.S. data covering the period 2010-2014, Visconti and Young found no significant change in climate attitudes after exposure to a flood, hurricane, or severe storm. The positive effect observed after a fire disappears after one year (Visconti & Young, 2024, p. 7). The result depends on the type of event, the time period, and the composite measure used; it cannot be generalized to all societies. It does, however, contradict the expectation of machine learning by disaster. Without a public award, a proposal for an instrument and an organisational relay, a window of salience may close before a change in policy has passed the administrative stages.

Keeping the climate on the agenda therefore requires measures that are less sensitive to the news cycle. "Annual carbon budgets", statutory deadlines and reports debated on a fixed date transform a general priority into recurring obligations. An independent body can report discrepancies, but a ministry must be responsible for responding to them, according to a corrective timetable and with identifiable budgetary appropriations. Planning should also specify what remains mandatory during a competing crisis and what can be rescheduled. This continuity does not rigidify the whole policy: it protects the expected results while allowing the means to vary. Above all, it prevents the urgency of the moment from indefinitely suspending an action with less immediately visible benefits.

Public perception can also reduce the electoral cost of delay. List experiments conducted in Germany and the United States by Beiser-McGrath and Bernauer suggest that direct questions sometimes underestimate climate skepticism. The authors cautiously infer that declared support for commitments may not materialize in the voting booth (Beiser-McGrath & Bernauer, 2021, p. 11). This explanation does not apply to all elections and does not make a latent attitude the sole cause of inaction.

It indicates that governments have imperfect information on the intensity of preferences. Publishing a percentage in favour of "action" without testing specific instruments, costs and compensations can therefore give a misleading image of the political mandate. Better designed surveys and deliberative mechanisms make it possible to distinguish between symbolic adherence and informed consent.

Technological solutionism makes it possible to preserve engagement while deferring reductions. Regarding the injection of stratospheric aerosols, Fenn et al. recall the moral hazard argument : the prospect of future climate technology could encourage some actors to maintain their emissions (Fenn et al., 2023, p. 2/25). Their study focuses on the acceptability of a particular technology and mentions this mechanism as a debated argument ; It does not demonstrate that the announcement of this option actually increases emissions. Two excessive conclusions must therefore be avoided.

Research should not be banned simply because it could be used as an alibi, but its scenarios should not be included in emission budgets as acquired capacities. Distinguishing between experimentation, deployment authorization and climate accounting limits the dilatory value of the promise.

The choice between technologies is itself subject to the interests and metrics available. Sekera et al. criticize the US policy for privileging the market viability of mechanical carbon capture and propose to evaluate options according to net removal, resource use efficiency and co-impacts (Sekera et al., 2023, p. 14). This judgment belongs to them and their comparison is based on a normative biophysical grid.

However, their requirement for measurement, publication of results and independent monitoring is a direct response to the implementation gap. A subsidy should be conditional on observable net tonnes, energy and land consumption, as well as adverse effect thresholds. Sunset clauses and automatic reallocation of funds would prevent support granted at the promise stage from becoming an annuity when performance does not follow.

Incrementalism can produce a delay without spectacular speech. In ten Indian urban heat plans, Singh et al. observe a predominance of seasonal and reactive measures. They consider relief measures such as water, shade and shelter to be necessary, but believe that they remain piecemeal and reactive without systemic change (Singh et al., 2024, p. 19). This study of Indian cities is not transposed as such to the main economic powers. It nevertheless makes it possible to distinguish relief from structural adaptation. The gap widens when the indicator rewards only the number of plans or actions deployed, without verifying the lasting decrease in exposure. Credible governance must fund both immediate protection and rule changes that can be measured across multiple mandates.

McNamara et al.'s model estimates that the federal beach recharging subsidy capitalizes on the real estate value of certain U.S. coastal communities. According to this model, its removal would instantly decrease the intrinsic value of coastal properties in some locations by up to 34% (McNamara et al. 2015, p. 10). The authors do not recommend that the system be maintained or abolished uniformly, and their results are modelled for specific sites. The mechanism is no less enlightening: an adjustment measure modifies prices, attracts new investment, and then creates beneficiaries capable of resisting its reform. Announced exit paths, a limitation of exposed new constructions and a gradual sharing of the risk can loosen this lock without causing a shock that would make any correction politically impossible.

Finally, international commitments can signal credibility without constituting a verifiable agenda. Elliott et al. show that references to fossil fuel subsidy reform in the national contributions studied sometimes celebrate a previous policy or display a direction, but rarely link the state to a specific future intervention (Elliott et al., 2022, p. 744). This plasticity facilitates adherence to a standard while sparing national energy institutions. It is not always a deception: a government may lack the data, the skills or the coalition to announce more. However, there is still a potential gap between the diplomatic value of the pledge and its operational content. To reduce it, each commitment should specify the scope concerned, a reference year, the responsible authority, the budgetary resources and the evaluation method.

The dilution of responsibility calls for a chain of obligations rather than a single person responsible. At the national level, targets need to be shared among ministries and reflected in decisions on spending, taxation and infrastructure. At the territorial level, the transfer of competences must be accompanied by comparable resources and indicators. The reduction steps and the consequences of a gap must be contractualised for companies benefiting from public support.

At the international level, the review should focus on policies and their outcomes, clearly distinguishing between insufficient ambition and poor implementation. This architecture limits the possibility for each actor to present his partial contribution as proof that the balance belongs to the others.

However, a distinction must be made between the point of entry of a mechanism and its place of effect. An industrial campaign first acts on attention, but can then change the regulatory timeline and asset values. An administrative definition appears to be institutional while redistributing the reputational cost between sectors. Financial aid acts on the means, but also creates beneficiaries capable of defending its continuity.

This circulation explains why a limited response to communication is not enough in the face of a physical network, and why economic reform can fail if it does not address the narratives of loss that accompany its implementation. The cross-sectoral connections documented by Kinol and its co-authors show in particular that maintaining a petrochemical outlet can preserve common interests beyond the energy market alone (Kinol et al., 2025, p. 23).

The choice of instrument should be preceded by a mapping of dependencies. This identifies the public revenues related to the activities concerned, the specialized jobs, the creditors, the infrastructure, the competent authorities and the communication channels capable of amplifying opposition. This mapping does not grant any right of veto to the interests exposed. It distinguishes between what is a transitional compensation, a reconversion or a necessary prohibition.

The association noted by Linquiti and Cogswell between fossil resources and state participation in the appeal against the "Clean Power Plan" confirms the relevance of this anticipation (Linquiti & Cogswell, 2016, p. 673). A just transition here becomes a strategy of institutional robustness, because it reduces the concentrated losses that obstructionist coalitions can convert into lasting deadlock.

Informational integrity, on the other hand, must link messages to material decisions. Taken in isolation, a statement in favor of renewables says nothing about the share of capital destined for fossil expansion ; An advertisement presenting an energy mix reveals neither the target audiences nor the electoral strategy behind it. The work of Desai and his co-authors on corporate reporting shows the value of jointly examining the benefits attributed to renewables and the reserves that keep them subordinate to hydrocarbons (Desai et al., 2026, p. 1). A useful publication rule would therefore reconcile objectives, expenditures, production volumes, compensation assumptions and closing deadlines. The coherence of the discourse would become a verifiable question without the administration having to decide which political narrative is legitimate.

Finally, the resilience of execution during crises requires that commitments be prioritized before the emergency occurs. Some measures can be modulated, but decisions that lock down infrastructure or remove administrative capacity require special protection. An annual carbon budget, multi-year funding and an obligation to respond to the control body create points of continuity. Visconti and Young observe that the effects of several extreme events are absent or temporary in the American data studied, which suggests that this continuity should not be based solely on the salience of disasters (Visconti & Young, 2024, p. 7). The institution must maintain the climate of arbitration when public attention shifts, while publishing the adaptations made necessary by the competing crisis.

These four requirements constitute a test of consistency. A policy remains fragile if it modifies a price without dealing with the coalition that bears the loss, publishes a target without material data, transfers a competence without means or abandons

its timetable at the first emergency. Conversely, it becomes more difficult to delay when economic dependence is known, responsibilities are assigned, discourse is comparable to investments and intermediate stages are opposable. This test does not assume any intention of obstruction. It assesses the ability of a mechanism, whether deliberate or emerging, to replicate the gap after the commitment has been formally adopted.

These mechanisms are reinforced according to a circular logic. Among the U.S. states surveyed, those with coal reserves were twice as likely to have attacked the Environmental Protection Agency in order to block the Clean Power Plan ; a similar trend is emerging for gas reserves (Linquiti & Cogswell, 2016, p. 673). This result illustrates the possible conversion of an economic exposure into a legal opposition. Affected groups have resources to influence rules, expertise, and communication, while deadline rhetoric lowers the political cost of maintaining assets. Media outlets and platforms select messages that reach audiences ; Administrations translate conflicts into categories and procedures.

Ephemeral attention and incremental responses close the circle: visible action is taken, but the material structure that feeds the opposition remains. The gap between commitment and implementation is therefore not at a single stage. It is reconstituted between the announcement, the instrument, the allocation and the effect.

This reading answers the first part of the research question without attributing a common intention to the main economic powers. Organized obstruction can be found in certain industry coalitions, advertising campaigns, and strategic uses of credibility. Institutional inertia results from investment rules, fiscal dependencies, administrative definitions, and asset trajectories that are difficult to change. As for the emerging effects, they arise from homophily, competition for attention, imperfectly observed electoral preferences and the accumulation of short-term decisions. These mechanisms divert attention by redefining the boundaries of the problem and delay action by increasing the cost or decreasing the accuracy of instruments.

The levers of governance must break this circularity at several points. Supply regulation and investment rules compatible with the exit from fossil fuels reduces the material power of veto. The traceability of funding, the independence of expertise and the transparency of definitions limit institutional capture. Data linking corporate rhetoric to investments, digital advertising rules, and pluralism of framing make delaying tactics more visible. Finally, interim budgets, nominal responsibilities, performance criteria, review clauses and distributive support ensure continuity of execution. Each of these levers can be bypassed if it remains isolated; Articulated from commitment to result, they make the delay more costly, more observable and easier to correct more quickly.

5 Great powers put to the test of climate action

The comparison of the major economic powers is not intended to establish a list of inaction or to attribute to them the same way of delaying climate action. Their influence is due to several systemic positions : they set a large part of the commercial and financial rules, house high-emitting assets, have unequal administrative capacities and weigh on the definition of collective commitments. These positions can promote rapid transformation, but also shift the political cost of action, maintain protected sectors, or prioritize the announcement of targets over the evaluation of their effects. The multi-model comparison of large economies proposed by Roelfsema and his co-authors sheds light on this double problem. Current policies leave a considerable gap with the trajectories compatible with the Paris Agreement, while the full implementation of Nationally Determined Contributions would only reduce about a third of them (Roelfsema et al., 2020, p. 1).

The implementation gap should therefore not mask the ambition gap; conversely, the inadequacy of an objective does not lead to the conclusion that there is no policy.

The observable mechanisms are found at the intersection of the national and international levels. A domestic measure can alter prices and industry coalitions, while still being subject to legal opposition or a lack of capacity. An international commitment may enhance a government's reputation without specifying the acts that would make it possible to monitor its implementation.

Finally, a narrative focused on energy security, competitiveness or social cost selects the dimensions of the problem that become politically salient. In this regard, Dahan and Guillemot describe a discrepancy between the regulatory ambition of global climate governance and an order of competing sovereign states, always engaged in the exploitation of fossil resources (Dahan & Guillemot, 2015, p. S11).

Attention is therefore not only diverted by the denial of climate change. It also shifts to the immediate risks of the transition, the responsibilities of other actors or procedures whose results remain difficult to verify.

The documentation for the following four configurations is asymmetrical. The U.S. can be examined through recent industrial policy, elite networks, trust in expertise, and distribution of emissions. For China, the main source of support is an energy security scenario that does not describe the whole of a contemporary policy. The European Union is approached as a legal order and a commercial power, without equating the French controversies with a single European position. The G20 and certain territorial cases of emerging powers finally make it possible to study the monitoring of commitments, the fossil fuel supply policy and the administrative conditions of implementation. This asymmetry does not preclude comparison, as long as it relates to mechanisms rather than to supposed national intentions.

In the multi-model synthesis by Bistline and his co-authors, the incentives of the Inflation Reduction Act (IRA) accelerate the decline in emissions and have their most pronounced effects in the electricity sector. However, no model concludes that the law alone would be sufficient to achieve the U.S. 2030 target (Bistline et al., 2023, p. 7). This choice of instrument can broaden the groups that materially benefit from so-called "decarbonization" and reduce its cost, especially in a political system where frontal regulation meets many veto points.

However, the scope of industrial policy should not be confused with the achievement of the federal target. The IRA reduces part of the implementation gap without removing the need for complementary instruments. The remaining margin shifts part of the conflict from the adoption of the law to its execution.

This limit distinguishes between two forms of delay. The first is blocking the adoption of an instrument ; the second appears when a measure adopted falls short of the necessary transformation or is not relayed in all sectors. The IRA acts above all by lowering the cost of own options. It does not, on its own, resolve all conflicts relating to existing infrastructure, energy demand or activities that are difficult to decarbonise. A policy can therefore be substantial while leaving a significant gap. Sectoral results should be assessed rather than the law being classified as successes or failures.

The additionality of investments also deserves to be monitored: public spending that accelerates a trend that is already underway does not have the same effect as a system that transforms a sector that has been immobile until now. Each incentive should be linked to indicators of adoption, avoided emissions and distribution of benefits, and then adjusted when its effects remain concentrated.

Opposition to federal politics cannot be reduced to an abstract ideological preference. They are also due to the economic exposure of the territories and to the assets threatened with depreciation. In Linquiti and Cogswell's exploratory analysis, a U.S. state with coal reserves was more than twice as likely to participate in the Clean Power Plan challenge as a state without reservations; a similar association appeared for gas (Linquiti & Cogswell, 2016, p. 673).

This result does not allow us to causally attribute every legal action to the possession of resources. However, he shows how a fossil geography can be translated into a legal coalition. When local revenues, jobs, financial assets and the power of private actors depend on the same assets, litigation makes it possible to postpone a rule while reformulating the controversy as a conflict of competence or cost.

Reducing this veto point requires anticipating localized losses and making economic alternatives credible. Without this, concentrated losses politically dominate the aggregate advantage of a policy.

The production of scientific credibility is another field of struggle. Based on American academic centers linked to the livestock industry, Morris and Jacquet show that researchers and structures funded by this sector have contributed to minimizing its share in climate change, to reinforcing the idea of a voluntary reduction already underway and to orienting policy towards subsidized incentives (Morris & Jacquet, 2024, p. 25). This case does not generalize to all academic research and does not alone explain federal climate policy.

It nevertheless reveals a precise institutional mechanism: economic interest does not only spread its own message, but can borrow the authority of organizations dedicated to the production of knowledge.

The focus shifted from production levels and mandatory rules to voluntary technical improvement.

The disclosure of funding, the independence of research programs and the contradictory evaluation of recommendations can limit this conversion from a sectoral interest to a deemed neutral expertise.

Corporate discourse goes beyond American borders and cannot be attributed to a single government. However, it interacts with national choices by defining technologies that are considered realistic. In the fossil fuel majors reviewed by Desai and his co-authors, the benefits of renewables are accompanied by messages that subordinate them to hydrocarbons. Gas and other fuels are thus presented as partners in the "transition", rather than as activities to be reduced (Desai et al., 2026, p. 1). This framing recognizes the climate objective while making fossil expansion compatible with its vocabulary. It can shift the public assessment of the overall production trajectory to a few visible renewable investments. For an industrial policy such as the IRA, the volume of clean equipment is likely to become the main criterion for success, while parallel fossil fuel capacities remain out of the field of attention.

Accounting separating "low-carbon" investments, fossil fuel production and absolute emissions would make it possible to verify the coherence of the transition narrative.

The structure of relations between public policy actors also maintains American polarization. Jasny and his co-authors observe that the members of these networks select information consistent with their position and amplify it through direct and indirect communication channels (Jasny et al., 2018, p. 7). Disagreement therefore depends as much on the circulation and visibility of the arguments as on their number. The same authors point out that a small dissenting minority can appear much larger when its positions are echoed in an echo chamber (Jasny et al., 2018, p. 15).

This mechanism shifts political attention : the controversy over the soundness of the diagnosis or the feasibility of a measure occupies the space that could be devoted to its implementation methods. The formal opening of a consultation is not enough to correct this bias if the actors continue to receive disjointed sets of information. Adversarial procedures, the publication of the evidence mobilized and the presence of intermediaries capable of circulating between the networks can make the disagreement more proportionate to the available knowledge.

Trust in expertise is not evenly distributed. In the national survey by Alvarez and his co-authors, the rejection of the anthropogenic origin of climate change and low recognition of the problem are associated with a lack of trust in academic research (Alvarez et al., 2023, p. 1/20). This observational relationship does not allow us to affirm that mistrust alone produces denial or to exclude that political orientations simultaneously influence both attitudes. The study also notes an association between the information channels used and the recognition of climate change as a problem, after taking into account political and demographic variables (Alvarez et al., 2023, p. 16).

The authority of a piece of evidence thus depends on the messenger and the informational environment in which it is received. Consistent federal communication risks increasing the distance between audiences who identify the issuing institution with a camp. It is not a question of diluting the scientific content, but of multiplying credible relays and clearly distinguishing between observations, uncertainties and distributive choices.

Declarative polls can themselves give an overly consensual picture of available support. For the United States and Germany, Beiser-McGrath and Bernauer suggest that climate skepticism may be more widespread than direct questions indicate, with the possible consequence of lower electoral support for climate promises (Beiser-McGrath & Bernauer, 2021, p. 11). The authors present this result with caution and call for a response. It nevertheless sheds light on the gap between verbal assent and the political cost actually accepted.

This latent reserve can reduce the electoral cost of partial implementation and helps to understand why cost framing finds an audience. In an analysis of international television coverage, Painter and his co-authors find that skepticism about responses is expressed in particular by emphasizing the economic cost and personal sacrifices (Painter et al., 2023, p. 1). This result is not unique to the United States, but it identifies a discursive repertoire compatible with their polarization.

However, communication is not just about correcting erroneous beliefs. Belief systems associate risk perception, emotions, and support with action. Lee and his coauthors find that concern is positively related to support for climate policies and personal engagement with the issue (Lee et al., 2024, p. 12). This association does not prove that a more intense concern would automatically produce a mobilization.

Rather, it indicates that a message that is entirely technocratic and detached from the experience of risk may be missing a source of support.

In a polarized space, risk must be linked to identifiable capacities for action. Communication that dramatizes the threat without making the instruments intelligible can encourage withdrawal; another, focused solely on economic opportunities, can overshadow losses and trade-offs. Trust is also built by the ability to monitor what a measure produces, who benefits from it and how its effects are corrected.

The distribution of the shows reveals the limits of a narrative centered on the sacrifice of the average consumer. In 2019, the footprint calculated from income streams by Starr and his coauthors associated 40% of U.S. emissions with the top 10% of households; the top percentile accounted for 15-17% of national emissions, and its investments accounted for 38-43% of this footprint (Starr et al., 2023, p. 1). This accounting is based on an allocation by income and does not measure individual causality.

However, it shifts the analysis to investment power, portfolios and value chains. Presenting the "transition" as a sum of identical domestic efforts can distract from the very unequal capacities to direct capital and bear costs. Progressive levies, information on financed emissions and conditions attached to industrial aid would respond better to this asymmetry than a uniform injunction to sobriety. However, their legitimacy would depend on the visible use of revenues and effective access by low-income households to supported facilities.

The American case thus associates action and delay in the same configuration. ERI creates favourable interests in clean technology, but its sectoral scope and inadequacy of the target leave open the question of complementary policies. Concentrated fossil assets fuel legal opposition ; elite networks and mistrust fragment the conditions for receiving expertise ; The framing of individual sacrifice masks the high concentration of the footprint based on income.

Closing the implementation gap requires monitoring the effects of public spending, addressing territorial losses, and making investment responsibilities visible.

Scientific consensus remains necessary, but does not replace distributive arbitration or the building of coalitions capable of maintaining the instruments over time.

The Chinese case requires particular comparative caution. The national result discussed here comes from a modelling published in 2015 and based on mitigation scenarios, not from an assessment of contemporary policies or an observation of their implementation. In Matsumoto's model, mitigation policies improve energy security by reducing supply risks, even if they have a negative effect on economic growth in the scenarios considered (Matsumoto, 2015, p. 14). This result must remain presented as that of a scenario.

It indicates that a climatic constraint and a safety objective are not necessarily antagonistic; It does not support the conclusion that the trade-offs described have been made or that all safety indicators would move in the same direction.

This distinction sheds light on an important discursive mechanism. When the transition is presented exclusively as a threat to energy growth or reliability, its immediate cost captures attention and its strategic benefits remain secondary. The scenario studied modifies the calculation by integrating the supply risk. It makes possible another coalition, in which mitigation also responds to energy vulnerability. The argument does not eliminate trade-offs: a gain in self-sufficiency can coexist with macroeconomic costs and other risks that the model does not capture.

The publication of scenarios that jointly assess emissions, economic cost and safety, by explaining their assumptions, therefore becomes a lever for governance.

A decision that shows that the aggregate price of the transition facilitates its postponement; A decision that only presents the co-benefits overshadows the groups exposed and weakens its credibility.

The comparison of the major economies also prevents us from taking a national contribution for a sufficient trajectory. Roelfsema and his co-authors distinguish between the deficit attributable to the policies actually adopted and the deficit that remains in the contributions themselves: even their full implementation would only partially reduce the gap with the Paris trajectories (Roelfsema et al., 2020, p. 1). This conclusion covers a set of large economies and does not, on its own, provide an estimate specific to China.

It nevertheless imposes an analytical discipline. The evaluation of the Chinese case must separate the announced objective, the instruments that translate it and their effects. Without this distinction, the debate oscillates between two simplifications : treating any commitment as proof of performance or interpreting any inadequacy as a lack of action.

The framing by territorial broadcasts also leaves part of the political economy out of scope. Heras argues that climate responsibility should include fossil fuel production and infrastructure, while recalling that developing countries invoke the responsibility of the North and the inadequacy of its support (Heras, 2024, p. 68). Its analysis concerns a set of low- and middle-income countries and should not become a national statement on China. However, it reveals a relevant tension for emerging powers. Extending accountability to fossil fuel supply makes it possible to better grasp long-term investments, but becomes politically questionable if development constraints, debt and the unequal ability to finance the transition are ignored. A production indicator is therefore only useful if it is accompanied by an explicit distribution of obligations and resources.

The energy needs of emerging economies are neither a uniform alibi nor a purely technical variable. Guillemot attributes the inadequacy of global action less to the presence of skeptics than to conflicts between priorities, industrial interests, state positions and energy needs (Guillemot, 2014, p. 349). Applied with caution, this reading avoids psychologizing Chinese policy. The delay can come from trade-offs between security, development and "decarbonisation", without implying a negation of climate risk. It is reinforced when these trade-offs are presented as natural necessities rather than as choices of distribution over time and between sectors. Explaining the assumptions of demand, the beneficiaries of an infrastructure and its lifespan reduces this depoliticization.

The Chinese case thus leads to a circumscribed conclusion. An energy security narrative can delay mitigation if it reduces the transition to a supply vulnerability or a cost of growth. The scenario studied indicates on the contrary that it can support action when the reduction of fossil dependence is included in the definition of safety. The gap between commitment and implementation should therefore be monitored through several scoreboards covering emissions, investment structure, supply exposure and distributional effects.

Such an approach does not settle political conflicts, but prevents a single indicator from closing the discussion. No robust national conclusions are therefore drawn for Russia, and the Indian case will only be mobilized further than at the level of localized administrative capacities.

The European Union is distinguished less by a unitary climate government than by its ability to link environmental objectives to access to its market. This power allows part of the implementation to be shifted to economic instruments with more structured procedures than those of the Paris Agreement.

Bertram and Van Coppenolle show that the inclusion of Paris in some of the EU's preferential trade agreements can provide a pathway to address procedural shortcomings, lack of ambition or implementation gap through the TSD chapters (Bertram & Van Coppenolle, 2024, p. 16). The lever draws its strength from the articulation of two regimes: a climate commitment acquires additional scope when it enters a more adversarial commercial procedure.

This articulation does not prove that the legal constraint is already producing the expected results. The authors speak of possibility and incentive, not of an observed effect on emissions. Leadership through trade can therefore remain declaratory if the obligations are too imprecise, if the activation of procedures depends on political choices or if the follow-up does not make it possible to identify the acts required. The law reduces the implementation gap when it translates a general objective into verifiable steps; it can also add a normative layer without changing practices.

The assessment must distinguish between the existence of a clause, the initiation of proceedings and the actual correction. Public reporting linking each dispute to the relevant national measures and their climate effects would avoid the number of clauses being a substitute for enforcement.

Trade is not, by nature, a vector of "decarbonisation". The international economic order also contains protections that can consolidate extractive interests. Deivanayagam and Osborne point out that some rules on foreign investment, including investor-state dispute settlement mechanisms, provide transnational corporations with specific legal avenues to defend their interests (Deivanayagam & Osborne, 2023, p. 5). This overall argument does not allow us to attribute all these measures to the European Union. It highlights the structural controversy in which its leadership is situated: the same legal area can condition market access to compliance with climate commitments, while protecting assets that these commitments lead to depreciation.

A coherent trade policy should address these two effects together, instead of assessing climate clauses and investment guarantees separately.

Nor are national controversies to be confused with the Union's position. Guillemot's French study shows that a focus on climate skeptics can mask conflicts over industrial interests, public priorities, and power relations between states (Guillemot, 2014, p. 349). This result helps to understand politicisation in a Member State, but does not describe all European opinions or the functioning of the EU institutions. The comparison of Beiser-McGrath and Bernauer provides another caveat: in both Germany and the US, direct surveys can underestimate skepticism, potentially reducing the electoral translation of climate promises (Beiser-McGrath & Bernauer, 2021, p. 11). European legal authority therefore coexists with national political spaces where consent, costs and partisan identities differ. A common rule does not abolish these mediations; it must be accompanied by national mechanisms for distribution and explanation.

Economic actors can exploit this difference in scale. The discourse studied by Desai and his co-authors associates the development of renewables with fossil continuity and presents fuels as complements to the transition (Desai et al., 2026, p. 1). This directory is not a doctrine of the Union, but it crosses its market and can influence technologies deemed compatible with its objectives.

By valuing the visible addition of clean investments, it diverts attention from the absolute reduction of supply. The legal response should therefore not stop at the presence of a renewable project or a promise of neutrality. It must compare expenses, volumes produced and closing deadlines. When trade rules reward a product that qualifies as sustainable without assessing the company's overall trajectory, they risk certifying prolonged coexistence rather than substitution.

Finally, the European constraint meets the general limit of any central governance. Dahan and Guillemot point out that climate institutions are confronted with economic competition and the persistent sovereignty of states (Dahan & Guillemot, 2015, p. S11).

The EU has a higher degree of integration than the global climate regime, but it is not immune to this tension, especially when implementation depends on national administrations or when trade policy involves partners with different capabilities. A continuous chain of accountability must link a clear obligation, effective access to control, a reasoned decision, the monitoring of the correction and the measurement of the result. Without this chain, normative leadership increases the density of commitments. With it, the commercial weight can make the cost of non-compliance more concrete. This conclusion remains a proposal for governance; The legal analysis establishes institutional potential, not yet an average effect on implementation.

As an arena of coordination, the G20 operates mainly through voluntary commitments and has a limited capacity to impose a common trajectory. Unger and Thielges note that members of climate clubs can claim a contribution to the collective good without keeping their promises ; when the G20 objectives remain unclear, more binding monitoring itself becomes difficult to establish (Unger & Thielges, 2021, p. 17). The delay here results from the combination of display and indeterminacy. Membership in the group provides a reputational benefit, while the absence of common criteria reduces the risk of being identified as a defaulter.

Credible monitoring must therefore precede sanctions : first of all, it is necessary to know the promised policy, its timetable and the expected result.

The reform of fossil fuel subsidies illustrates this weakness. Van Asselt notes that, despite the commitment made by all G20 members in 2009, only one country, Indonesia, explicitly reported on progress on target 12.c in the voluntary national reviews studied (van Asselt, 2023, p. 194).

This finding relates to the documents reviewed and does not mean that the other members have not taken any action. It nevertheless shows that collective commitment remains difficult to verify when distribution channels are little used or dispersed. Documentary silence can shield a government from comparison, even if it takes partial action. Making the submission mandatory, harmonizing the time periods, and requiring an explanation of exemptions would reduce this avoidance space.

The measure itself remains disputed. Skovgaard shows that the International Monetary Fund and the OECD use different definitions of fossil fuel subsidies and do not attribute the same environmental scope to them (Skovgaard, 2017, p. 351). A definition does not only describe an expense; it decides which aids, exemptions or externalities fall within the scope of the examination. Governments can then announce a reform while placing certain support outside the category of support. The implementation gap becomes partly a classification gap. The publication of several complementary measures, the explanation of their discrepancies and the maintenance of a stable time series constitute a lever of governance. The debate on the definition would remain political, without being able to make changes in scope invisible.

The language of national contributions can also provide credibility without creating a verifiable obligation. In the study by Elliott and his co-authors, references to fossil fuel subsidy reform are frequently used to justify the general ambition of emissions targets without committing states to a sufficiently specific future intervention (Elliott et al., 2022, p. 744). This discursive mechanism is less frontal than a rejection of the reform.

It adopts the vocabulary of the law, but does not indicate the beneficiaries concerned, the amounts or the deadline.

It is not a question of accumulating sectoral promises, but of transforming them into enforceable measures. A national contribution should distinguish between the recognition of a guideline, the legally adopted instrument, the resources allocated to it and the results already observable.

Aldy offers monitoring focused on these results. His analysis of the G20 framework recommends that the review of commitments identify their environmental, economic and energy impacts, assess the effectiveness and cost of national policies, and then transfer successful experiences (Aldy, 2017, p. 18).

This approach corrects a common bias of counting policies or announcements without checking their impact. It also provides a basis for comparison that does not impose identical instruments on all countries. Two members may employ different taxes, standards or budgetary reforms, provided that their effects are measured according to common categories. However, peer review gains credibility when the expertise is independent, the data is accessible, and the government responses are published.

Transparency is not always enough to overcome a high political cost. Van Asselt and Kulovesi propose to combine it with reputational and financial incentives. Publishing the scope of grants allows national actors and partners to challenge governments, while international support can make reform more feasible in developing countries (van Asselt & Kulovesi, 2017, p. 368). This coupling is important for differentiation. The same obligation to abolish the bill can weigh very differently depending on the structure of prices, the budgetary capacity and the access of households to alternative solutions.

Without support, the reform risks being postponed or cancelled; Without transparency, external financing can support an announcement that is not transformative. The lever therefore combines a common requirement for results with resources adapted to national constraints.

However, a focus on energy consumption leaves part of the offer intact. Heras advocates for accountability frameworks that integrate fossil fuel production and infrastructure, while highlighting the disappointment of the countries studied with the North's support (Heras, 2024, p. 68). This tension directly concerns the comparison between the members of the G20. Some have a strong financial capacity; others link their recipes and development strategy to resource production. Monitoring limited to territorial emissions can encourage the displacement of extraction, investments or carbon products rather than their reduction. Conversely, a supply-side discipline that ignores historical responsibility and financing needs would reproduce the balance of power it seeks to correct.

The publication of production trajectories, combined with financing and diversification agreements, makes accountability more comprehensive without imposing a uniform timetable.

The case of palm oil in Kalimantan shows why a well-designed instrument on paper can remain partially applied. Austin and co-authors conclude that restrictions on expansion areas could avoid significant emissions, but that governance, institutional, and economic factors may prevent their full implementation (Austin et al., 2015, p. 13). Localized and scenario-based, this result should not become a blanket judgment on Indonesia. However, it reveals a chain of execution that is often absent from international commitments: mapping areas, translating the restriction into land decisions, monitoring authorisations and enforcing the rule. The existence of a national limit does not guarantee any of these links. Financial transfers, access to data and clarification of administrative responsibilities are policy conditions, not optional add-ons.

A similar difficulty arises when a climate competence is added to an administration without new resources. From urban governance in India, Sethi and his co-authors observe that an additional mandate, devoid of staff and funding, creates implementation challenges and requires capacity building of local actors (Sethi et al., 2021, p. 8).

This case does not base any national claim on the whole of India. It makes visible an administrative mechanism that can be transposed with caution : the commitment made at the higher level may be sincere, but remain symbolic when it is entrusted to organizations already entrusted with other missions. International reviews should therefore ask who is implementing each measure, with what budget and what expertise. A target without an identifiable leader maintains the gap while allowing each level to attribute the delay to another.

The comparison remains deliberately limited. It does not establish a robust national diagnosis for Russia and only provides a local perspective on capabilities for India. Nor do the emerging powers form a homogeneous bloc : their place in the fossil fuel supply, their fiscal space and their land organization differ. Their comparison therefore requires a precise unity. Grant reform can be discussed at the G20 level, the application of a restriction at the territorial level and the provision of a mandate at the administrative level. The mixing of these scales would produce an artificial hierarchy of performance. The mechanisms become comparable when the question remains the same: what commitment is made, which organization must execute it, what resources are allocated to it, and what outcome can be monitored?

A first convergence emerges from the four configurations : the delay is lodged in the successive translations between the diagnosis, the commitment, the instrument and the result. In the United States, substantial industrial policy coexists with fossil assets capable of sustaining vetoes, polarized information networks, and highly concentrated emissions responsibility. In the Chinese scenario, the framing of energy security changes the perception of the cost of mitigation, but does not in itself provide information on contemporary execution.

The European Union has a commercial lever that could strengthen Paris, the effect of which depends on the precision and activation of procedures.

At the G20, vague objectives and competing definitions preserve the collective reputation without clearly establishing individual results. None of these configurations can be reduced to a lack of attention to the climate; rather, each selects costs, responsibilities and politically visible indicators.

A second convergence concerns the levers. The proposed monitoring for the G20 should focus on the environmental, economic and energy effects of policies, not just their existence (Aldy, 2017, p. 18). This requirement can be applied to IRA incentives, Chinese security scenarios and European trade clauses without imposing the same instrument on everyone.

It must be supplemented by an accounting of supply and infrastructure, because the mere measurement of territorial emissions leaves possibilities for travel. Finally, it requires endowed administrations, public data and an explicit distribution of costs. Legal control is of little use if no one can activate it; transparency is low if the categories change ; Financing is fragile if it does not create sustainable capacity.

The comparison then distinguishes four functions of levers. The first step is to specify the commitment by a reference, a timetable and a responsible authority, and then to modify the material incentives through spending, taxation, regulation or market access. Enforcement must then be protected against vetoes by the allocation of costs and the opening of control channels. Finally, the effect must be measured and a response imposed when the trajectory diverges. In none of the models examined, the IRA alone achieves the U.S. 2030 climate target (Bistline et al., 2023, p. 7). The presentation of subsidies within the G20 reveals a problem of precision and comparability (van Asselt, 2023, p. 194). A uniform recommendation would therefore miss the link specific to each configuration.

This distinction also sheds light on the ambivalence of power. A large economy has budgetary resources, an attractive market and normative capacity that can accelerate the diffusion of a technology or a rule. The same attributes allow it to pass on certain costs to its partners, to protect domestic assets and to present a national standard as a general solution.

The commercial potential studied by Bertram and Van Coppenolle must therefore be assessed in terms of its asymmetry. The European procedure may strengthen the conduct obligations related to Paris, but its effect depends on the precision and activation of the clauses (Bertram & Van Coppenolle, 2024, p. 16). Power is not a lever in itself; it becomes climatic when its use remains linked to a verifiable result and fair compliance conditions.

The treatment of the tender provides another cross-cutting criterion. Policies to support clean technologies change the composition of investment without guaranteeing the parallel abandonment of fossil fuel infrastructure. Nationally Determined Contributions can announce a reform without identifying the budgetary arrangements that will be abolished. Heras specifically calls for the integration of production and infrastructure into climate responsibility frameworks (Heras, 2024, p. 68). This extension does not justify imposing an identical trajectory on economies with different capacities and needs. Rather, it obliges each power to publish the coherence between its demand, its supply, its foreign investment and its financial support for the diversification of producing countries.

Finally, administrative capacity is an often invisible threshold for comparison. A legally ambitious and centrally funded target can remain symbolic if the territorial authority has neither the staff, nor the data, nor the mandate necessary to translate it. The Indian urban case studied by Sethi and his co-authors shows the difficulties created by adding responsibilities without new resources (Sethi et al., 2021, p. 8).

It does not form the basis of a national ranking, but reminds us that execution occurs in concrete organizations. The comparison of powers therefore requires the observation of the rule adopted, but also the last institution in the chain, the one that issues the authorization, controls the site, pays the aid or protects the population.

These results directly answer the question of diversion of attention and delay. The major powers can shift the focus to individual sacrifices, short-term security, the number of clean technologies or the formal existence of a clause. The defence of concentrated assets, the amplification of dissensus, the vagueness of commitments, competition between legal rules or the inadequacy of the means of enforcement can then delay the action.

Bridging the gap between commitments and their implementation requires linking pledges to verifiable milestones, reviewing their results, opening up monitoring procedures and financing the capacities that make them enforceable. These levers do not eliminate either distributive conflicts or differences in development. They make them observable and contestable, thus limiting the substitution of the display of the action for its realization.

6 Climate justice and levers for reorientation

At the level of climate justice, the quality of financing is judged by the path of its resources. An aggregated total does not identify the actual recipients, the evolution of their vulnerability or the ability of an administration to continue action after the closure of a project. A commitment can therefore be honoured in accounting terms without protecting the most exposed groups. Even spending directed to the right beneficiaries is ineffective when the responsible agency lacks staff, data or authority. The analysis must successively follow the international decision, its national inscription, its local management and the social effects obtained.

The study conducted in Madagascar by Browne and Razafiarimanana shows why an increase in flows is not enough. The authors note that the benefits of international projects and programmes do not always reach the most vulnerable and that the most vulnerable countries receive less funding than moderately vulnerable countries (Browne & Razafiarimanana, 2022, p. 2/23).

This first difficulty can be coupled with a capture during implementation. In the program analyzed, officials directed resources to elites close to power through kickback mechanisms (Browne & Razafiarimanana, 2022, p. 8). It would be abusive to generalize this mechanism to all adaptation financing.

The case nevertheless establishes that the rules for the selection of beneficiaries, the publicity of decisions and the means of appeal are climatic components of the programme, and not mere administrative matters unrelated to its purpose.

The hierarchy of sectors offers a second test. In the international funding analyzed for 2009-2019, Alcayna, O'Donnell and Chandaria estimate the share of adaptation commitments for health at 4.9% (Alcayna et al., 2023, p. 11). The indicator relates to pledges and may therefore overestimate actual disbursements. It shows, however, that a rhetorical priority does not automatically translate into budget categories, eligibility criteria or monitoring systems. Sheehan and colleagues find a similar gap in the plans of large cities: even among municipalities recognized for their health activity, the integration of health services into the different adaptation sectors remains limited (Sheehan et al., 2022, p. 14). A concrete lever is therefore to make sectoral responsibilities visible in budgets, to assign indicators to the competent administrations and to monitor their participation beyond the presence of a chapter devoted to health.

At the same time, the architecture of the funds must preserve national decision-making margin. Bhandary shows that recipient governments sometimes prioritize control of resources, even when this choice does not minimize transaction costs (Bhandary, 2024, p. 1). This preference does not in itself constitute inefficiency; it may reflect the desire not to subordinate national priorities to the procedures of donors.

The difficulty is to combine ownership and credibility. Han and Cheng's findings suggest that aid providers respond more to action plans than to simple emissions targets and that a national contribution may produce a temporary financial gain (Han & Cheng, 2023, p. 808). These two works invite us to go beyond the alternative between external supervision and opaque autonomy. Recipients should be able to set their priorities while publishing timelines, fiduciary rules, and results achieved.

Confidence among States is itself a resource for implementation. Uri and colleagues see the creation and operationalization of the Loss and Damage Fund as a given for developing countries, but believe that power relations have not changed enough to meet emerging needs (Uri et al., 2024, p. 41). The delay in the implementation of the rich countries' previous pledge of financing feeds this mistrust. Pauw and his colleagues show, for their part, that the expansion of the contributor base is necessarily questionable and that its legitimacy depends on the prior respect of the commitments made by the countries historically designated as donors (Pauw et al., 2024, p. 76). A credible lever therefore combines an explicit contribution formula, multi-year payments and balanced access to decision-making. Asking new contributors to fund the system when previous promises remain unfulfilled would turn a capacity reform into a shift of responsibility.

At the level of execution, a mandate without resources often transforms ambition into a symbolic award. In their analysis of urban resilience in India, Sethi and colleagues indicate that adding climate to existing skills, without additional staff or funding, creates governance challenges rather than new capacity (Sethi et al., 2021, p. 8). Horizontal coordination does not compensate for this lack of resources indefinitely. Local authorities must be able to recruit, produce data and negotiate with the sectoral services whose decisions determine their exposure.

This finding also sheds light on the findings of Sheehan and colleagues on the weak integration of health.

An administration can be mentioned in a plan without having a budgetary role, access to data or control power. Reducing the gap therefore requires each climate competence to be associated with identifiable resources, enforceable responsibilities and a learning system.

Nor is distributive efficiency limited to the presence of an administration. In their panel of sub-Saharan African countries, Doku and Phiri find an association between climate finance, corruption control, and an improvement in the hunger indicator affecting women (Doku & Phiri, 2024, p. 1/19). Their econometric strategy does not allow each variation to be attributed to a specific project, but it usefully shifts the evaluation criterion. A flow must be judged according to its differentiated effects on social groups, and not solely according to its conformity to a financial category. A justice-based approach therefore requires disaggregated data, an analysis of access barriers and the involvement of the people concerned in the definition of the results. Without these conditions, a program can reach its disbursement amount while replicating the asymmetries that make some households more vulnerable.

Local factors interact in a way that is difficult for a uniform instrument to grasp. In three irrigated areas of Zimbabwe, Mwadzingeni and colleagues link adaptive capacity to land tenure security, access to credit, policy knowledge, and age and gender differences (Mwadzingeni et al., 2022, p. 15). This local study does not allow us to draw conclusions for all vulnerable countries. However, it explains why a technical grant can mainly benefit actors who already have titles, information or financial guarantees. The conditionality of a fund should therefore be preceded by a diagnosis of rights and access capacities. Remedial mechanisms are also needed when intended beneficiaries cannot meet procedures designed to secure donors.

Finally, accountability must focus on the specific effect of adaptation. Narita and colleagues explain that ordinary methods of financial valuation are not enough to distinguish the general benefits of a project from those that specifically reduce a climate risk. They believe that the assessment should integrate, beyond conventional financial analysis, data from climate modelling and hydrological simulations (Narita et al., 2020, p. 2 / 22).

Such a distinction prevents an infrastructure from being described as an adaptation by simple budget labelling. It also allows the results to be compared with the initial vulnerability and the climate scenarios chosen. The most robust monitoring combines indicators of flow, administrative capacity, social distribution and physical efficiency. It does not guarantee a fair decision on its own, but makes it more difficult to substitute an advertised amount for a verifiable transformation.

These indicators should be ordered, rather than aggregated into a single score. A first level follows the promise, the payment and the deadline ; a second checks the access of targeted institutions and groups; a third measures achievements, for example an infrastructure or a service provided; the latter assesses the evolution of vulnerability in an explicit climate scenario. A good performance at the first level does not automatically compensate for a failure at the last. This chain also makes visible the causes of an insufficient result, whether it is a lack of funding, too little administrative capacity, biased social selection or an erroneous technical assumption. The approach of Narita and colleagues precisely justifies the integration of external physical data into financial accounting (Narita et al., 2020, p. 2 / 22). By publishing each level separately, institutions limit the temptation to choose the most favourable indicator to report a successful program.

Climate justice is also about the distribution of responsibility. A policy focused exclusively on the average consumer tends to mask differences in income, wealth and investment power. According to their income stream accounting, Starr and colleagues attribute 40% of U.S. emissions in 2019 to the top 10% of households.

For the top percentile, investments account for a significant portion of the footprint calculated in this way (Starr et al., 2023, p. 1). This method is an allocation agreement, not evidence that an isolated individual decision causes a specific amount of emissions. It nevertheless shows that acting on production choices, portfolios and corporate governance can be more distributive than a uniform price signal.

Levies or obligations based on income and ownership of capital can target a capacity for action that consumption responsibility alone leaves out of scope.

At the international level, historical responsibility and current capacity do not always designate the same contributors. Pauw and colleagues show that any threshold intended to expand this list involves an element of political choice (Pauw et al., 2024, p. 76). This indeterminacy does not make the distribution arbitrary, but obliges us to publish the criteria and to examine their effects. Cumulative emissions, income, budgetary resources and place in value chains describe different dimensions. A hybrid formula can prevent former large emitters from shifting their burden too quickly to newly enriched economies, while recognising the now substantial financial capacity of some of them. The distributive principle must also apply to the use of funds: countries and populations that have contributed the least to global warming should not have to endure more expensive access procedures than beneficiaries who already have administrative expertise.

The distribution of power also determines what knowledge is recognized. Redvers and colleagues note that the formal adoption of the UN Declaration on the Rights of Indigenous Peoples does not guarantee its translation into national policies (Redvers et al., 2023, p. 6). The gap between the norm and practice is therefore not a simple lack of coordination. It is due to the status of the rights holders in the decision-making process, their control over the territories and their ability to refuse a project.

Mobilizing traditional knowledge without consent or shared authority would replicate an extractive relationship in an ecological form. Reorientation must recognize land rights, free, prior and informed consent, and sovereignty over data and the use of knowledge.

However, participation is not measured by the number of consultations held. In their review of assisted ecosystem adaptation interventions, Vella and colleagues argue that the legitimacy of an uncertain decision depends on negotiation procedures that are deemed fair by the public, indigenous communities, scientists, and resource users (Vella et al., 2021, p. 14).This requirement changes the decision-making sequence.

The objectives, risk thresholds and conditions of discontinuation must be discussed before the final selection of the technique. Late consultation, limited to the acceptance of an option already chosen, collects preferences without sharing power. Open negotiation can, on the other hand, reveal consequences that the aggregated indicators neglect, in particular on access to a territory, health or cultural continuity.

Knowledge becomes usable when it corresponds to the scale of competence. Brédif, Bertrand and Tabeaud situate part of the climate problem in the insufficient articulation between global expertise and territorial action (Brédif et al., 2015, p. S65). More specifically, Bourne and colleagues observe that local authorities have difficulty using information that does not coincide with their political units or mandates (Bourne et al., 2016, p. 15). It is not a question of abandoning global trajectories, which are essential to assess the coherence of efforts. They must be translated into maps, calendars and arbitrations adapted to the jurisdictions that issue permits, manage water or organise transport. This translation must remain reversible: local observations go back to the scenarios and can lead to the correction of a general category that makes a territorial constraint invisible.

Listening to the local cannot justify the withdrawal of the great powers. Territorial capacities depend on fiscal, energy and trade rules that are broadly set at the national or international levels. The co-production of policies must therefore link the scales, and not transfer to local authorities a responsibility without resources. Brédif and his colleagues recommend better articulating the production of expertise and the possibilities for action at the local and global levels (Brédif et al., 2015, p. S74).

From this perspective, procedural justice is not a moral supplement added after the analysis of efficiency. It improves the definition of risks, makes distributional effects visible and provides essential information for implementation.

Finally, a situated approach protects against reducing policy to a single metric. Nature compensation or financing schemes can recover a theoretical tonne of carbon while displacing uses, rights or risks. Chausson and colleagues warn that some nature-based solutions reduce the pressure for "decarbonization" at the source and can increase inequalities when they replace them (Chausson et al., 2023, p. 3). This criticism does not condemn ecological restoration. It requires verification of additionality, permanence, land rights and co-benefits, while maintaining separate fossil emission reduction targets. A fair project does not transform a vulnerable territory into a simple compensation medium for more powerful actors.

The fossil fuel subsidy reform illustrates the necessary shift from a general commitment to observable obligations. Van Asselt and Kulovesi propose three families of incentives compatible with the constraints of international cooperation: making support visible, attaching a reputational cost to non-compliance, and making reforms eligible for financial support (van Asselt & Kulovesi, 2017, p. 368). This combination takes into account the effects that a sudden abolition may have on dependent households or sectors. Transparency must specify the definition chosen, the beneficiaries, the duration and the distributional effect of each measure. International support can then finance targeted compensation, the retraining of workers or the improvement of public services, rather than preserving aid to producers indefinitely.

However, the available documents make this monitoring incomplete. Of the G20 countries, van Asselt identifies only Indonesia, in 2021, as explicitly declaring progress towards target 12.c (van Asselt, 2023, p. 194). This silence may reflect data gaps, competing definitions, or political avoidance; The source does not allow us to attribute a single motivation to him. On the other hand, it indicates that an indicator without an obligation to respond produces little comparability.

Aldy recommends complementing the review of pledges with an assessment of their environmental, economic, and energy outcomes (Aldy, 2017, p. 18). Meaningful monitoring should publish its methods, allow for independent expert review, and distinguish the removal of aid from simply changing the label.

Defining the subsidy is already a climate policy choice. Skovgaard compares the approaches of the IMF and the OECD and shows that they do not make visible either the same support or the same environmental effects (Skovgaard, 2017, p. 351). A definition based on the price gap may incorporate costs that remain off-budget, while an inventory of government measures tracks transfers and tax benefits more directly. The choice of approach changes the amount announced and the designated stakeholder group. It is not a question of imposing a metric without debate, but of publishing several compatible components, explaining their purposes and preventing a government from changing its definition when evaluating its commitment. Methodological transparency thus transforms a framing conflict into a verifiable disagreement, rather than a means of removing a policy from scrutiny.

The supply-side policy extends this reasoning beyond prices. Kinol and colleagues show that obstruction networks link fossil fuels, plastics and agrochemicals, which leads them to advocate coverage of all hydrocarbon uses (Kinol et al., 2025, p. 23). A reduction in energy demand can be offset by the movement of fossil fuels to other markets. Production targets, limits on exploration and rules applicable to infrastructures make it possible to deal with this displacement.

However, they require an explicit distribution of costs between producer states, companies, workers and consumers. Without support for dependent economies and consideration of debt, supply-side policy risks appearing as a constraint imposed by countries that have historically benefited from extraction.

Economic agreements can strengthen or weaken these measures. Bertram and Van Coppenolle consider that certain clauses linking the Paris Agreement to the European Union's preferential trade agreements provide a way to challenge procedural, ambition or implementation gaps (Bertram & Van Coppenolle, 2024, p. 16). Their analysis focuses on the legal force of the texts, and not on the measurement of their real effect. It nevertheless shows the interest of articulating a climate regime based on voluntary progression with more contradictory monitoring procedures. To avoid asymmetric conditionality, access to dispute settlement should not depend exclusively on the will of government, and obligations should apply to European policies as well as those of partners.

National and transnational litigation is another way to change the cost of inaction. In the Urgenda case, Wonneberger and Vliegenthart find that media coverage of the trial has increased attention to climate policies and the overall problem (Wonneberger & Vliegenthart, 2021, p. 710). The study measures an agenda effect, not a direct reduction in emissions. Kotzé and colleagues assign jurisdictions a broader function of translating and consolidating norms, which can constrain states and extend standards to transnational corporations (Kotzé et al., 2023, p. 12). These two levels must be distinguished. A trial can produce visibility without execution, while a legally ambitious decision still depends on the remedies, the deadlines and the ability of the applicants to request its application.

International economic rules, on the other hand, can protect extractive interests. Deivanayagam and Osborne cite investor–state arbitration as an example of a legal arrangement that is specifically open to businesses (Deivanayagam & Osborne, 2023, p. 5). Their article adopts a normative perspective and does not quantify the average effect of this device. However, it highlights an institutional asymmetry: the protection of a transnational asset may be more directly enforceable than the climate commitment that justifies its regulation. Rebalancing requires explicit climate exceptions, transparent procedures and a limitation of offsets based on future fossil profits that are incompatible with public objectives.

Voluntary carbon markets require comparable public infrastructure. Kreibich and Hermwille explain that the market alone cannot solve the problems of double counting and credibility; these depend on the rules of Article 6 and the corresponding adjustments applied by the States (Kreibich & Hermwille, 2021, p. 953). The framework must distinguish between offsetting residual emissions and internal reduction, publish baseline assumptions and avoid a company and the host country claiming the same reduction. Without these guarantees, the announced neutrality shifts responsibility in time or space. The recognition of a credit should therefore never exempt an actor from adopting a verifiable reduction plan within its own scope.

Nature finance calls for the same caution. Chausson and colleagues believe that market mechanisms alone will not fill the funding gap for restoration and recommend complementary sources (Chausson et al., 2023, p. 9). Public budgets, ecological taxation, redirection of subsidies and compulsory contributions can finance assets whose value is not easily converted into private income. This diversification reduces the pressure for standardised loans that favour the most marketable projects. It also makes it possible to subordinate funding to publicly defined ecological and social objectives, rather than to the fluctuating demand of companies seeking compensation.

The expected losses must finally become politically manageable. Linquiti and Cogswell measure a clear gap : the presence of coal reserves more than doubles the probability that a state has sued the EPA to block the Clean Power Plan ; gas has a similar profile (Linquiti & Cogswell, 2016, p. 673). This correlation does not attribute any particular motivation to each government, but it is a reminder that the devaluation of assets creates organized losers. A sustainable policy therefore combines supply-side constraints, social protection, reconversion and diversification of public revenues. Transitional justice is not a concession that would weaken the climate objective ; it reduces the political resources that exposed actors can mobilize to block execution.

No single instrument reduces the implementation gap. Legal standards can lack administrative capacity, finance can be captured, and innovations can be opposed when they redistribute risk without due process. Transformation therefore depends on a coalition that can maintain a direction over time, correct unforeseen effects and make those responsible identifiable. Such a coalition is not limited to a one-off majority of opinion. It connects administrations, communities, affected groups, scientists, workers and economic actors whose resources are needed to carry them out.

The nature-based adaptation initiatives in the Alps, analysed by Dubo and colleagues, illustrate this combination. The levers observed combine formal rules, project coordination, favourable local values, informal knowledge circulation, collaborative planning and scientific support (Dubo et al., 2023, p. 16).

Resulting from twenty situated initiatives, this list is not a universal recipe. It shows, however, that acceptability is not made by means of a communication campaign added at the end. It depends on how the actors share information, distribute responsibilities and adapt the project to local uses.

The information must be designed for the decision without losing its rigor. Bourne and colleagues find that local authorities make little use of analyses that do not correspond to their administrative boundaries (Bourne et al., 2016, p. 15). Producing maps or indicators at the relevant scale can therefore increase ownership, provided that uncertainties and links to global trajectories are maintained. An institutional intermediary, for example a regional scientific agency with a public service mandate, can translate scenarios, document trade-offs and preserve the memory of the project when political leaders change.

Communication also influences the type of policy supported. Myers and colleagues find that guilt is more associated with supporting personally costly measures, hope with proactive policies, and fear with regulatory instruments (Myers et al., 2024, p. 6).

These associative relationships do not prove that a message will produce the same effect. They suggest, however, that a uniform discourse can mobilize one audience and drive another away. Responsible communication links the severity of the risk to credible policy options, clarifies the distribution of costs and does not present concern as an end in itself.

The belief systems studied in the United States by Lee and his colleagues lead to a similar conclusion. Worry is related to support for action and more personal commitment (Lee et al., 2024, p. 12). A communication strategy can therefore link the severity of the risk to identifiable possibilities for action, rather than intensifying the images of disaster without limit. It must show which institutions can act, how citizens can constrain them and what intermediate results can be observed. Trust is built when promises come with deadlines and gaps are acknowledged, rather than masked by triumphant communication.

Finally, the decision in a situation of uncertainty requires rules of review. Vella and colleagues place participation and negotiation at the heart of the ethical mandate of ecosystem interventions (Vella et al., 2021, p. 14). A legitimate system publishes its hypotheses, provides for cessation thresholds and opens up a way of contestation for groups that bear the risks. This conception is in line with the demand for rights put forward by Redvers and his colleagues. Indigenous communities are not mere stakeholders consulted, but rights holders whose consent and authority must be recognized (Redvers et al., 2023, p. 6). Technical reversibility does not compensate for the social irreversibility of an imposed decision.

At the international level, coalitions of the willing remain credible only by making the defection visible. Unger and Thielges observe that vague targets and lack of oversight allow climate club members to benefit from collective posting without fulfilling their promises (Unger & Thielges, 2021, p. 17).

Graduated membership criteria, public monitoring, and the ability to suspend certain benefits may limit this behavior. However, punishment should not replace capacity support. It should distinguish between refusal to act and documented incapacity and associate each requirement with access to relevant finance, technology or expertise.

The stability of a coalition also depends on the treatment of its intermediate results. A policy that waits until the end of a decade to be evaluated leaves its opponents and defenders alike the possibility of selecting the indicators that suit them. Closer public milestones make it possible to distinguish between a delay in construction, a lack of regulation and a technological hypothesis that has become unrealistic. They also give courts, parliaments and the media a clear object of control. The agenda effect observed around the Urgenda litigation indicates that a circumscribed controversy can increase the attention paid to general climate policy (Wonneberger & Vliegenthart, 2021, p. 710). To support enforcement, this attention must be linked to dated obligations, a responsible institution, and accessible data. The coalition then becomes able to correct a trajectory without reopening the legitimacy of the climate objective itself at each stage.

The right lever must also specify what will be protected, by whom and for how long. A general compensation can preserve fossil fuel consumption, the benefits of which are poorly distributed; Targeted assistance may exclude persons who are not in the administrative registers. The evaluation must therefore bring the eligibility criteria closer to the conditions experienced and provide for an appeal procedure. Browne and Razafiarimanana's study shows that local power relations can divert finance from the most vulnerable (Browne & Razafiarimanana, 2022, p. 8). Traceability must not stop at transfers between institutions. It follows the good, service or right to the group that was supposed to benefit from it, and then makes the deviations publicly correctable.

The same requirement applies to the knowledge mobilized. Late consultation requires affected groups to respond to a solution that has already been defined, without changing the boundaries of the problem or the criteria for success.

Redvers and his co-authors highlight the limitations of mechanisms that formally recognize indigenous knowledge without giving the peoples concerned sufficient control over its use (Redvers et al., 2023, p. 6). Substantial participation therefore begins before instrument selection, includes power over the data, and continues during the evaluation. It does not replace the obligation of the public authority to achieve results, but improves its ability to detect misplaced damage or a vulnerability that an aggregated indicator makes invisible.

Finally, capacities must be conceived as an institutional heritage. An expert report funded for a single project can produce a report without leaving any personnel, procedures or information systems usable in the next decision. Institutional factors and access to services, coupled with adaptive capacity in the Zimbabwean case studied by Mwadzingeni and his co-authors, serve as a reminder that economic resources do not act in isolation (Mwadzingeni et al., 2022, p. 15). International funding would therefore benefit from covering recurrent functions: data collection, maintenance, monitoring, training and coordination between levels. Capacity becomes measurable when the administration can implement and revise the instrument after the withdrawal of external support.

These elements can be combined in an implementation pact. The authority announcing the target publishes the milestones, resources, expected beneficiaries and distributive risks. Institutions tasked with acting agree to indicators tailored to their level, affected groups have access to data and a means of contestation, and the evaluation triggers a pre-planned response. Such a pact does not eliminate disagreement over the pace or cost of the transition.

It prevents it from being hidden in a shifting definition, a competence without a budget or a promise of future compensation. Justice then ceases to be a moral supplement to climate policy. It becomes a condition of continuity, because

it reduces the asymmetries that transform a concentrated loss into a veto and a diffuse vulnerability into silence.

The levers examined thus respond to the research question according to a common logic. Major powers close the gap between commitment and implementation when they make fossil fuel supports and outcomes observable, explicitly allocate costs, subject markets and investments to enforceable climate norms, and then give territorial institutions and affected groups real power in execution. Conversely, a policy based on vague objectives, future compensation or competences lacking resources keeps people lagging behind, even when it multiplies announcements.

This reorientation does not eliminate conflict or uncertainty. It places them in proceedings where interests, responsibilities and effects can be challenged. Finance then becomes a means of building capacity and justice, rather than a substitute for reduction; the law transforms commitments into controllable obligations;

Participation improves knowledge of consequences instead of legitimizing a decision after the fact. These conditions do not guarantee the immediate alignment of the great powers, but they do reduce the institutional and discursive spaces in which diversion of attention and postponement can recur. They also allow for the revision of instruments without abandoning the collective objective when an unforeseen distributional or technical effect emerges.

7 Conclusion

The answer to the question formulated in the introduction is as follows. The major powers are lagging behind when they separate their announcements from current decisions, prioritise the immediate costs of the transition, shift responsibility or protect fossil assets with veto points. Unclear objectives, under-resourced administrations and future solutions invoked to extend current trajectories then widen the implementation gap. To reduce it, each commitment must be linked to a verifiable timeline, identified resources, responsible authority, accessible control channel, and distributively fair correction.

This answer rules out the idea of a single strategy led by a homogeneous group of leaders. The mechanisms identified share neither the same intention nor the same entry point. Some coalitions actively organize the opposition, fund a speech, or exploit a procedure. Other forms of delay stem from legacy rules, administrative cultures, budgetary dependencies or the accumulation of short-term decisions. However, they converge towards the same effect: the objective remains officially recognised, while the measure likely to modify emissions, infrastructure or vulnerability is delayed, limited or made difficult to assess.

The conceptual framework makes it possible to localize this effect. Denial disputes the reality or origin of the problem; obstruction seeks to block or delegitimize a response; The discourse of delay often admits the need for action while justifying the postponement of a specific instrument. The ambition gap must be distinguished from the implementation gap. A contribution may be fully implemented while remaining insufficient, while a demanding target may remain without a budget or competent authority. This distinction prevents any activity from being interpreted as adequate progress and any inadequacy as a total absence of action.

Political attention thus appears as a mobile boundary of the problem. It selects the time horizon, the indicator and the responsible party that will enter the arbitration. A policy can enhance the number of clean investments while leaving fossil fuel production out of scope. A debate can make the sacrifice of the average consumer very visible and neglect the investment power of the wealthiest households. An institution may publish an amount of funding without showing the disbursement, accessibility, or recipients. "Looking the other way" is therefore less about ignoring the climate than about moving the examination to the part of the chain that is most compatible with the interests and capacities in place.

Economic mechanisms make this shift a long-term one. Reserves, power plants, infrastructure and professional skills form assets whose depreciation creates concentrated losses. These losses can be converted into litigation, budgetary pressure or territorial opposition. Industrial networks are expanding the coalition by linking energy uses to plastics, petrochemicals or agriculture. Investment protections can further increase the expected cost of regulation. The lockdown is therefore not only technological: it combines financial values, government revenues, jobs and rules that make the exit more expensive as it is postponed.

The distributive treatment of these losses is not a concession external to the climate objective ; it determines the robustness of the instrument. An unprepared shutdown can provide a lasting social basis for a veto coalition. Conversely, a general subsidy maintained in the name of justice can protect especially large consumers and postpone its own reform indefinitely. A just transition distinguishes the social objective from the fossil instrument, prepares for the conversion, targets the offsets and publishes the duration of the transition. It does not neutralize all conflicts, but reduces the possibility that a localized loss will block a broader collective benefit.

Discursive mechanisms extend this material structure. Explicit denial is no longer necessary once a company or government adopts the language of "transition". Presenting gas as a sustainable complement to renewables, highlighting future neutrality based on uncertain removals or isolating the immediate cost of a standard is enough to make the continuation of activity compatible with a declared ambition. Media outlets and platforms don't create these messages on their own, but their routines, segmentation, and business models affect the likelihood that they will reach certain audiences. The delay then arises from the articulation between the producer of the story, the dissemination infrastructure and the political vulnerability of the recipient.

The answer is not to suppress the controversy. The cost of a measure, its territorial impact and its acceptability must be debated. Rather, informational integrity requires a complete and verifiable comparison. Business objectives should be reconciled with expenses, volumes produced, and closing deadlines. Political ads must be attributed to their funder and made searchable with their targeting criteria. Technology scenarios should distinguish between research, authorized deployment, and discounts already accounted for. These rules do not define legitimate opinion ; they prevent a material omission from being hidden behind a general statement.

The expertise presents the same ambivalence. The consolidation of the scientific consensus does not decide either the distribution of costs or the choice of instruments. Asking for additional knowledge can promote learning, but also postpone a trade-off that the available elements would already allow us to open. Industrial funding of university centres, the selection of metrics, or the reduction of a conflict to a simple transparency form can limit the solutions deemed admissible. Independence is therefore not just a matter of declaring a funder. It presupposes access to data, the publication of unfavourable results, methodological autonomy, a plurality of opinions and an explanation, by the public authority, of the use it makes of the expertise.

International governance organizes a large part of these tensions without having a central power equivalent to that of a state. The Paris Agreement provides direction, reporting obligations and review cycles. Its facilitative nature promotes participation, but does not guarantee that a contribution is ambitious, with specific instruments or executed. Transparency can reveal a gap; it does not decide on the national budget or sectoral reform. The global stocktake aggregates progress, but does not attribute responsibility for policy failures alone. Implementation thus depends on a loop linking international information, national arbitration, local capacity and public feedback on the outcome.

The G20 shows what becomes of a promise when the definition and reporting remain open. The commitment to reform fossil fuel subsidies has a high diplomatic visibility, but the scope of support, timelines and monitoring documents remain difficult to compare. A peer review is useful if it publishes a baseline, environmental and economic effects, and then the government's response. Limited to an exchange of practices, it becomes an activity without consequences. Climate clubs face a similar difficulty: membership provides a reputational benefit, while a vague objective allows you to claim a contribution without clearly exposing the defection.

Climate finance reveals that capacity and trust are inseparable. A broken promise reduces available resources and weakens the legitimacy to demand input from new actors. A complex procedure can exclude the administrations that are most in need of capacity building. An architecture designed solely to minimize donor risk can weaken national ownership; national control without transparency can facilitate capture. This requires a combination of predictability, public criteria, preparedness assistance, proportionate access, follow-up of beneficiaries and representation of affected countries.

The announcement, the accounting commitment, the disbursement and the result must be evaluated separately.

Loss and damage make this requirement particularly clear. The creation of a fund is an institutional step forward, but its scope depends on the capitalization, the time frame for access, the nature of the instruments and the power granted to the affected countries. A loan granted after a disaster does not have the same distributional effect as a quick grant. Rigorous fiduciary governance is not enough if the criteria and deadlines remain mainly defined by the contributors. Financing narrows the gap when it allows exposed institutions to plan and act; it shifts it when it transfers risk to the actors who have contributed the least to the problem.

Supplementary schemes can give more control over enforcement. A commercial clause may make certain procedural obligations of Paris more enforceable; a dispute to attract attention, specify an obligation and impose a response; a voluntary market to mobilise resources. However, each introduces its own risk, whether it is a question of commercial asymmetry, dependence on judicial enforcement or compensation for reductions that should have been made at source. Their value cannot be deduced either from their binding nature or from the financial volume announced. It depends on the accuracy of the ruler, access to the control and the follow-up of the correction.

The comparison of powers confirms that the same functions take different forms. In the United States, the "Inflation Reduction Act" shows that substantial industrial policy can accelerate "decarbonization" without being enough to meet the federal target. Fossil fuel assets, appeals and the polarisation of expertise leave veto points remaining. In the Chinese scenario studied, mitigation can improve security of supply while incurring a macroeconomic cost. The security framework is therefore not necessarily hostile to the climate; its effect depends on the dimensions it makes visible and the instruments that result from it.

The European Union has a particular ability to link its objectives to market access. This power may reinforce the conduct expected of partners, but only produces a climate outcome if the clause is accurate, activated and followed.

It must also be examined in the light of the legal protections that may protect extractive investments. Within the G20, divergent definitions and poor reporting can protect collective reputations. In the territorial cases studied in India or Indonesia, the gap is more in the last part of the chain: a mandate entrusted without resources, incomplete land mapping, insufficient control or dispersed administrative responsibility.

This comparison leads to the rejection of two conclusions that are too simple. High capacity does not guarantee automatic implementation. A wealthy power can have a market, data, and a developed administration while maintaining assets and coalitions that can slow down action.

Conversely, any capacity constraint cannot be interpreted as an excuse. A documented disability calls for support with verifiable steps; The persistent refusal to correct a discrepancy despite the means available calls for a political or legal consequence. Differentiation thus remains compatible with accountability.

Effective levers form a sequence. The commitment must first be specified by a reference, a perimeter, a timetable and a responsible institution. The resources must then be aligned, in particular the budget, staff and skills. Stable data then makes the results and their distribution visible. The review and the appeal are open to affected actors, parliaments, courts or partners. Finally, a correction is provided for, in the form of additional support, an amendment to the instrument, a loss of advantage or an enforceable obligation. Any incomplete chain offers the delay a new point of reconstitution.

Justice goes through each of these stages. It leads to asking who has contributed to the problem, who can act, who bears the cost of the measure and who benefits from the funding. It also requires the intervention of situated knowledge before the solution is decided.

Formal recognition of a vulnerable group is not enough if the allocation criteria are captured or if its data is used without them retaining control over them.

Participation becomes a lever for implementation when it improves diagnosis, gives access to recourse and makes it possible to correct an inappropriate effect. It never replaces the responsibility of the authority responsible for the result.

The general answer can therefore be summed up as a rule of continuity. As long as a power can separate its objective from its production, its financing from its beneficiaries, its competence from its means or its discourse from its investments, the focus can be shifted without officially abandoning climate action.

On the contrary, the gap narrows when these elements are linked in a public and reviewable chain. The control is not intended as a uniform sanction. He distinguishes between insufficient ambition, lack of execution, incapacity and obstruction, and then associates each diagnosis with a proportionate lever.

This conclusion remains subject to the limits of the literature used. The American, European and transnational mechanisms are documented with more precision than the contemporary policies of China or Russia. The Chinese case is mainly based on an energy scenario published in 2015, and not on an exhaustive assessment of current implementation. The Indian cases concern urban administrations and do not allow for any national diagnosis. The results for Madagascar, Zimbabwe, Kenya and Indonesia identify capacity, capture or enforcement mechanisms; Their transposition requires taking into account local institutions and power relations.

The diversity of methods also limits aggregation. A discourse analysis establishes what an organization makes visible, but not the causal effect of a message on a decision. A network study shows the structure of relationships and amplification without reconstructing each intention.

A model estimates the consequences of assumptions, while a legal analysis evaluates institutional possibilities. The comparisons proposed in this thesis are therefore mechanistic: they show how an effect could circulate between assets, institutions and attention when certain conditions are met. They provide neither a single coefficient of backwardness nor a quantitative hierarchy of its causes.

A first research perspective would be to compare sectoral chains of execution. For electricity, transport, industry, agriculture or urban adaptation, the objective, authority, budget, data and correction route could be identified by means of a common grid.

The comparison would focus on the functions rather than the identity of the instruments.

In particular, it would show at what level the gaps form: national ambition, budgetary arbitration, territorial coordination, administrative authorization or control. It would also make it possible to study cases where a correction has withstood a change of government or a competing crisis.

A second perspective concerns distribution. Climate assessments should simultaneously track avoided emissions, beneficiaries, job losses, prices, access to finance and territorial impacts. This approach would help to distinguish an opposition fuelled by a real loss from a strategy that instrumentalizes the social cost. Above all, it would make it possible to design compensation before the adoption of the measure and to plan for its exit. Justice would then be measured in execution, rather than merely invoked in the objective.

In terms of action, the priority is not to add a new blanket promise, but to make existing commitments more difficult to separate from their effects. Governments can publish supply and demand trajectories, enshrine targets in budget decisions, assign each step to an authority, and open monitoring data. Donors can finance sustainable administrative functions and simplify access without sacrificing traceability. Parliaments and courts may require a dated response to discrepancies.

Platforms and companies may be required to make the funding and material content of their statements verifiable.

The final observation is therefore not that the main powers have stopped looking at the climate. They often look at it through categories that protect existing trajectories: short-term competitiveness, security reduced to immediate supply, number of projects, announced volume or distant neutrality. Reorienting this view implies placing the coherence between objectives, present decisions and distributed effects at the centre. When production, financing, administration and control become simultaneously visible, the display loses its ability to replace action. On this condition, economic power can cease to be a means of postponing the "transition" and become an effective capacity to implement it.

But let us keep in mind now that the ONLY URGENCY is that the planet burns, floods and trembles.

The economy is now becoming an accessory parameter and growth an outrage to human dignity and the survival of the living world, even our species...

The rest is just propaganda.

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May this work remain a humble testimony, a modest contribution to information and reflection.

"Let us be wary of those who *today* present themselves as rigorous managers for *tomorrow* when we have to face their lack of foresight yesterday."

Thierry LAMIREAU / Press conference in Limoges
(Haute-Vienne / France) in 1993.

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