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Sustainability Reporting and Climate Accountability in the Public Sector: A Systematic Review

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A R T I C L E I N F O

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A B S T R A C T

Public-sector sustainability reporting is expanding, but whether disclosure strengthens climate accountability remains uncertain. Using PRISMA, this systematic review synthesizes 33 studies spanning 2019-2026 across accounting, public administration, environmental governance, and sustainability research. The evidence shows that reporting adoption is strongly shaped by institutional pressures, governance capacity, and stakeholder demands, while disclosure quality varies markedly across jurisdictions. Symbolic reporting remains common when materiality, assurance, budget integration, and audit mechanisms are weak. Climate accountability improves when reporting is connected to public financial governance through budgeting, accounting, internal control, and independent oversight. The review develops a reporting-to-accountability pathway and recommends stronger standardization, capacity building, assurance, and longitudinal evaluation of reporting outcomes

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INTRODUCTION

Public sector organizations occupy a distinctive position in contemporary sustainability and climate governance. Governments establish climate policy, allocate resources for mitigation and adaptation, regulate markets, own or control large infrastructure systems, and ultimately remain answerable for progress toward national and international climate commitments. As public climate expenditure has grown, expectations have shifted from announcing ambitions to demonstrating how commitments are financed, implemented, monitored, and evaluated. Citizens, legislatures, supreme audit institutions, development partners, and other stakeholders increasingly expect public organizations to show not only what has been promised but also how public resources are used and what outcomes have been achieved (Ball et al., 2014; Falkner, 2016). Sustainability reporting has therefore become closely connected to public financial management and democratic accountability rather than remaining a peripheral communication practice.

The public-sector reporting environment differs fundamentally from the private-sector setting in which most sustainability frameworks developed. Corporate frameworks such as the Global Reporting Initiative, the Task Force on Climate-related Financial Disclosures, and newer sustainability standards are largely oriented toward investors and capital-market decision making. Public organizations, by contrast, serve multiple constituencies and operate through political authorization, budgetary control, public-law obligations, and service mandates. Their accountability extends beyond financial return to stewardship, intergenerational equity, social value, environmental protection, and the legitimacy of public decisions. Consequently, the transplantation of private-sector reporting models into government has produced heterogeneous practices, uneven materiality judgments, and considerable variation in the accessibility and usefulness of disclosed information (Arias et al., 2025; Georgieva, 2025; Mol et al., 2025).

Climate accountability intensifies these challenges because climate commitments must be translated into budget classifications, investment decisions, accounting records, risk disclosures, performance indicators, and audit evidence. Green budgeting and climate-sensitive public financial management increasingly seek to connect climate policy with routine fiscal processes, yet the available evidence suggests that these links remain incomplete in many jurisdictions (Gonguet et al., 2021; Petrie, 2021). Reporting may therefore become decoupled from operational practice: organizations can disclose commitments, indicators, or sustainability narratives without changing resource allocation, internal controls, or environmental outcomes. This distinction between symbolic and substantive reporting is central to evaluating whether disclosure contributes to accountability or merely enhances organizational legitimacy.

The literature has grown across accounting, public administration, environmental governance, and sustainability studies, but it remains theoretically and methodologically fragmented. Institutional and legitimacy perspectives explain why public organizations adopt reporting practices; stakeholder and accountability perspectives examine to whom organizations report and for what purposes; and public financial management research focuses on budgeting, accounting, control, and audit mechanisms that can convert disclosure into action. These streams are often examined separately, making it difficult to identify the conditions under which reporting becomes consequential. Evidence is also mixed regarding disclosure quality, stakeholder engagement, assurance, comparability, and the relationship between reporting and actual environmental performance (Andrades et al., 2024; Bonetti et al., 2023; Ruiz-Lozano et al., 2021; Silva et al., 2020).

Five gaps motivate this review. First, the field lacks an integrated mapping of its principal theoretical lenses. Second, symbolic and substantive reporting are frequently discussed but are not consistently distinguished across public-sector settings. Third, institutional and governance conditions explaining variation in reporting quality remain dispersed across country-level and organizational studies. Fourth, evidence linking sustainability or climate disclosure to environmental performance is still limited and contradictory. Fifth, the mediating role of public financial governance—especially budgeting, accounting, internal control, assurance, and audit—has not been sufficiently integrated into explanations of climate accountability. Addressing these gaps is important because reporting requirements can increase administrative burden without necessarily improving answerability or performance if the surrounding governance mechanisms are weak.

This review therefore asks how sustainability reporting in the public sector is shaped by institutional and governance conditions, when reporting is more likely to be symbolic or substantive, and how public financial governance connects disclosure to climate accountability. The review contributes by integrating institutional, legitimacy, accountability, and public financial management perspectives; synthesizing evidence on reporting practices and climate-related mechanisms; and developing a reporting-to-accountability pathway that identifies the conditions required for disclosure to become operationally meaningful. These contributions are intended to support policymakers, auditors, public managers, standard setters, and researchers seeking to design reporting systems that enhance accountability rather than merely satisfy formal disclosure expectations.

LITERATURE RIVIEW

Institutional and Legitimacy Perspectives

Institutional theory explains why public organizations often converge on similar reporting forms under coercive, normative, and mimetic pressures. Regulatory mandates, professional expectations, international organizations, peer jurisdictions, and dominant private-sector practices can all encourage adoption. However, evidence from public universities, supreme audit institutions, and state-owned enterprises shows that organizations do not respond mechanically. They may acquiesce, compromise, avoid, or symbolically comply depending on resource dependence, managerial capacity, political exposure, and perceived legitimacy needs (Andrades et al., 2024; Tetteh et al., 2022). Legitimacy theory complements this view by explaining why disclosure may be used to demonstrate conformity even when operational change is limited. This creates a recurrent risk of decoupling between reporting structures and substantive sustainability performance (Ruiz-Lozano et al., 2021).

Accountability and Stakeholder Perspectives

Public accountability requires more than information production. It involves an actor being required to explain and justify conduct to a forum capable of questioning, evaluating, and potentially sanctioning that conduct. Sustainability disclosure contributes to this process only when information is relevant, understandable, accessible, and connected to decision rights. The reviewed literature highlights weak two-way stakeholder engagement, complex reporting formats, and political or hierarchical constraints that can reduce the accountability value of disclosure (Bonetti et al., 2023; Johnstone et al., 2023; Quayle et al., 2020). Stakeholder participation therefore functions not simply as an audience for reports but as a mechanism through which materiality is identified and reporting priorities are contested.

Public Financial Governance as the Connecting Mechanism

The review adopts public financial governance as the connecting mechanism between reporting and climate accountability. In this perspective, sustainability information becomes consequential when it enters budget formulation, resource allocation, accounting systems, internal control, performance management, and independent audit. Climate budgeting, carbon accounting, environmental performance indicators, and assurance mechanisms can embed sustainability commitments into recurring administrative routines (Bai et al., 2024; Cordery & Hay, 2021; Gonguet et al., 2021). The resulting conceptual expectation is that disclosure quality alone is insufficient: substantive accountability requires alignment among reporting standards, organizational capacity, fiscal processes, and oversight institutions.

METHODOLOGY

This review followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) approach to strengthen transparency and reproducibility (Page et al., 2021). The review question was structured with the SPICE framework: the setting comprised public-sector organizations and governmental reporting environments; the perspective included governments, public managers, auditors, citizens, and other accountability stakeholders; the intervention comprised sustainability, ESG, environmental, and climate-related reporting practices; the comparison concerned variation across jurisdictions, organizational types, reporting arrangements, and degrees of implementation; and the evaluation focused on disclosure quality, governance mechanisms, accountability, and climate-related outcomes.

The search covered Scopus, Web of Science, ScienceDirect, SpringerLink, and Google Scholar because the topic spans accounting, public administration, environmental governance, and sustainability research. Search terms combined three concept blocks: sustainability disclosure (for example, sustainability reporting, ESG disclosure, climate reporting, carbon reporting, and environmental reporting); public-sector context (government, public administration, public agencies, municipalities, state-owned or publicly controlled organizations, and public institutions); and accountability or climate-governance outcomes (accountability, transparency, climate governance, climate action, carbon neutrality, and environmental accountability). Database-specific syntax was adapted while retaining the same conceptual logic. The evidence matrix ultimately contained studies dated 2019-2026; the 2019 study was retained because it directly examined spillover effects in public-sector sustainability reporting and formed part of the final 33-study corpus.

Studies were eligible when public-sector sustainability reporting, climate-related transparency, environmental accountability, public financial governance, or public-sector sustainability standard setting constituted a substantive focus. Quantitative, qualitative, mixed-method, conceptual, review, case-study, and policy-analysis designs were considered when they contributed evidence or theory relevant to the review question. Corporate-only studies without a clear public-sector implication, editorials without original analysis, inaccessible full texts, duplicate reports, and studies with severe methodological weaknesses were excluded. English-language full texts were required. The broad design criteria reflected the emerging and interdisciplinary character of the field, but methodological quality was considered during full-text assessment so that weak evidence did not drive the synthesis.

Two reviewers independently screened titles, abstracts, and full texts, resolving disagreements through discussion and consultation with a third reviewer when required. A calibration exercise was conducted before formal screening, and the reported Cohen's kappa of 0.82 indicated substantial agreement. The search identified 1,056 records. After 284 duplicates were removed, 772 records were screened and 599 were excluded. Full texts were sought for 173 reports; 38 could not be retrieved. Of the 135 reports assessed for eligibility, 102 were excluded because of insufficient public-sector focus,

methodological weaknesses, limited relevance, duplication, superseded material, or non-research content. The final synthesis therefore included 33 studies. Figure 1 reports the full PRISMA flow.

Quality appraisal was undertaken at full-text stage using design-appropriate criteria rather than a single instrument applied mechanically across all evidence types. Quantitative studies were assessed for clarity of measures, sampling, analytical appropriateness, and reporting transparency; qualitative studies were considered in relation to sampling logic, data-generation procedures, analytical credibility, and contextual adequacy; mixed-method studies were assessed for integration across components; and conceptual or review contributions were evaluated for coherence, transparency, and relevance to the review question. Quality judgments informed interpretation rather than being treated as a purely numerical ranking. This approach was necessary because a conceptually important case study and a cross-country regression provide different forms of evidence and should not be evaluated by identical statistical criteria.

Data extraction captured study design, public-sector setting, country or region, reporting framework, sustainability practice, governance or institutional factors, and key findings. The synthesis combined descriptive mapping with thematic analysis. Studies were grouped into three substantive domains: governance, accountability, and institutional pressures; sustainability reporting practices and disclosure quality; and climate accounting, budgeting, and local climate action. A fourth cross-cutting analytical layer examined the relationship between symbolic and substantive reporting. Because the evidence base combined country-level quantitative analyses, organizational case studies, interviews, disclosure indexes, conceptual work, and policy analysis, statistical pooling would have implied false comparability. Narrative synthesis was therefore used to identify recurrent mechanisms, contradictory findings, boundary conditions, and theoretical linkages across designs.

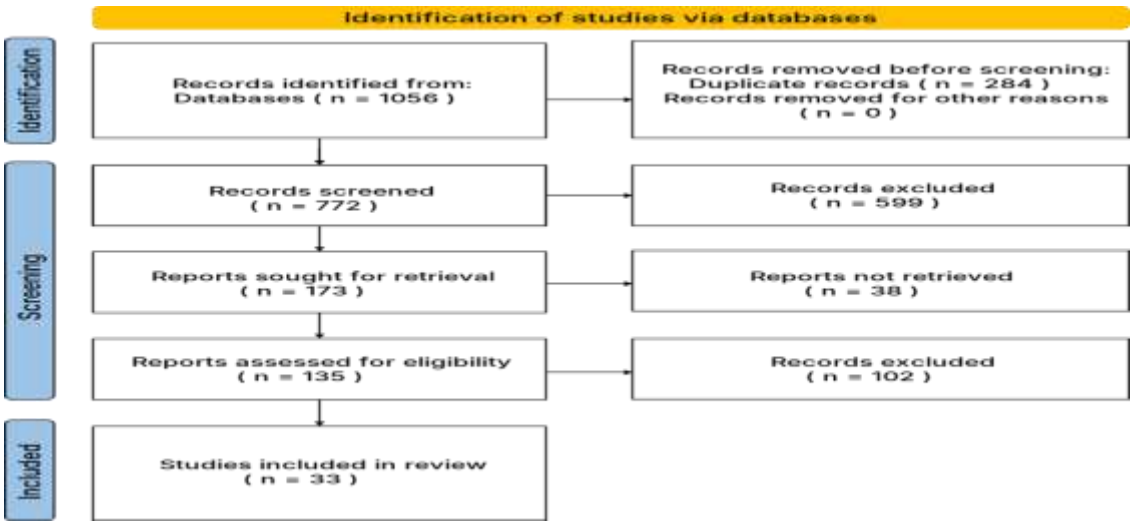


Figure 1. PRISMA Flowchart of the Study Selection Process

RESULT

Research Profile

The 33 included studies show a distributed but uneven publication pattern. Audit of the evidence matrix yields one study in 2019, five in 2020, eight in 2021, three in 2022, four in 2023, six in 2024, four in 2025, and two in 2026. The concentration in 2021 and 2024 reflects sustained rather than episodic interest, while the smaller 2026 count should be interpreted cautiously because the publication year was still incomplete. The corpus spans local governments, public universities, state-owned enterprises, public utilities, supreme audit institutions, and broader cross-country public-sector samples. Methodologically, the field is pluralistic: content analysis, interviews, case studies, cross-country regressions, document analysis, action research, and conceptual framework development all appear. This diversity broadens contextual insight but limits direct effect-size comparison.

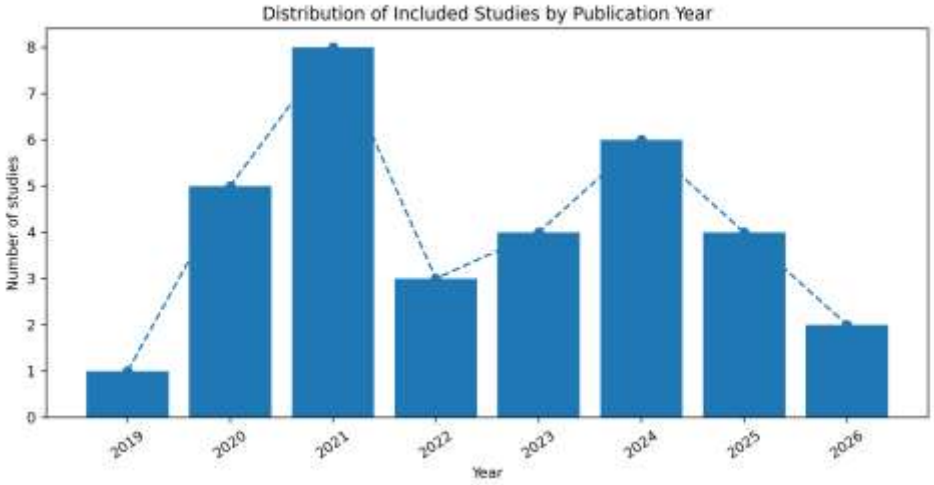


Figure 2. Distribution of Included Studies by Publication Year (N = 33)

Table 1. Cross-Theme Synthesis of the Included Evidence

Theme	Core evidence	Main accountability implication
Institutional pressure and governance	Adoption is influenced by coercive, normative, mimetic, and spillover pressures; responses differ with governance capacity and organizational agency.	Formal adoption does not guarantee internalization; governance capacity determines whether pressure becomes practice.
Disclosure quality and materiality	Reporting formats are diverse; materiality, readability, comparability, and two-way stakeholder engagement are often weak.	Disclosure quantity should not be treated as equivalent to decision usefulness or accountability.
Climate accounting and budgeting	Carbon accounting, green PFM, smart-city data, and local climate planning connect climate targets with administrative information systems.	Climate accountability strengthens when sustainability metrics enter

		budgets, controls, and performance management.
Audit and assurance	SAIs and internal controls can challenge sustainability claims but face independence, resource, and capability constraints.	Credible oversight is necessary to transform disclosure into answerability and consequences.

Governance, Accountability, and Institutional Pressures

Institutional pressure is one of the most consistent explanations for why public organizations adopt sustainability reporting, but adoption does not guarantee internalization. Spanish public universities responded to similar pressures through acquiescence, compromise, avoidance, and defiance, showing that organizational agency shapes how external demands are translated into practice (Andrades et al., 2024). Comparable patterns appear in Ghana's Supreme Audit Institution, where coercive, normative, and mimetic pressures interacted with dependence on political and administrative actors, producing both coupling and loose coupling in SDG audit practices (Tetteh et al., 2022). Mandatory reporting can therefore produce formal conformity without a corresponding transformation of materiality assessment, resource allocation, or accountability routines. Evidence from Spanish state-owned enterprises, for example, indicates that the materiality process may remain weak even under mandatory sustainability reporting, consistent with symbolic legitimacy seeking (Ruiz-Lozano et al., 2021).

Governance quality also operates as a transmission mechanism. Cross-country evidence indicates that broader governance performance is associated with public-sector sustainability reporting, while private-sector and geographical spillovers influence reporting propensity across jurisdictions (Uyar, Karmani, et al., 2021; Uyar, Kuzey, & Kılıç, 2019). At organizational level, Romanian state-owned enterprises with stronger corporate governance systems report higher non-financial disclosure quality, and governance quality mediates the adverse relationship between concentrated state ownership and disclosure (Dragomir et al., 2022). These findings suggest that external standards are most effective where institutions can convert requirements into credible routines of measurement, review, and explanation.

The accountability literature further shows that reporting operates within political and organizational relationships. Local-government climate accountability is shaped by community expectations, political cycles, hierarchical authority, collaboration, and leaders' interests (Quayle et al., 2020). In Swedish local government, formal accountability interacts with employees' professional and personal ethics rather than simply disciplining individual behavior (Johnstone et al., 2023). Supreme Audit Institutions can provide an independent accountability forum, but their capacity depends on institutional autonomy, legitimacy, and resources (Cordery & Hay, 2021). The recurring implication is that reporting credibility depends on who can challenge reported claims and whether oversight bodies possess sufficient authority and competence to do so.

Sustainability Reporting Practices and Disclosure Quality

The reviewed studies document considerable diversity in reporting instruments, ranging from sustainability and ESG reports to integrated reporting, non-financial disclosure, internal control reports, SDG reporting, and emerging public-sector sustainability standards. Italian public universities illustrate experimentation with integrated reporting alongside other forms of sustainability disclosure, producing a risk of parallel reporting structures rather than a coherent accountability architecture (Mauro et al., 2020). Higher education institutions often use reporting to communicate commitment to the SDGs, but disclosure does not necessarily demonstrate integrated decision processes (Caputo et al., 2021). In public utilities, stakeholder engagement disclosed in ESG reports remains limited and frequently lacks two-way dialogue, reducing its capacity to identify contested material issues (Bonetti et al., 2023).

Disclosure quality is especially sensitive to materiality, readability, comparability, and assurance. Evidence from Spanish state-owned enterprises shows low disclosure of the materiality determination process, even when sustainability reporting is mandatory (Ruiz-Lozano et al., 2021). Public-sector accountability reports may also be lengthy, technically complex, or inaccessible to non-specialist users, undermining their practical decision usefulness (Assis et al., 2023). Cross-country studies add a structural dimension: governance quality and spillover effects help explain why some public sectors disclose more extensively than others (Uyar, Karmani, et al., 2021; Uyar, Kuzey, & Kılıç, 2019). Quantity and quality should therefore be treated separately. More disclosure may signal institutional response, but substantive accountability depends on whether information is material, intelligible, comparable, and subject to credible assurance or challenge.

Stakeholder Engagement, Assurance, and Standard-Setting

The evidence also points to a gap between formal stakeholder orientation and meaningful participation. Italian public utilities report stakeholder-engagement activities, yet the underlying processes often remain one-directional and provide limited opportunities for stakeholders to influence reporting priorities or organizational responses (Bonetti et al., 2023). Similar concerns arise in emerging public-sector standard setting. Stakeholder submissions to the IPSASB sustainability-reporting consultation indicate broad support for public-sector-specific standards, but they also reveal divergent expectations about materiality, users, scope, implementation cost, and the relationship between sustainability information and general-purpose financial reporting (Morrison et al., 2025). This diversity matters because a standard can improve comparability only when preparers interpret core concepts consistently and users understand what reported information represents. Assurance adds another layer. Where sustainability information is not subject to internal control, audit, or independent verification, the credibility of reported claims depends heavily on managerial representations. The literature therefore supports a gradual shift from voluntary communication toward controlled reporting processes in which data

responsibilities, documentation, review, and assurance are specified alongside disclosure requirements.

Comparability, Materiality, and Public-Sector Specificity

Cross-jurisdiction comparability remains one of the field's most persistent weaknesses. Public organizations differ in mandates, service portfolios, asset structures, fiscal autonomy, climate exposure, and stakeholder relationships, which complicates standardized performance comparisons. At the same time, excessive local tailoring can make cross-government benchmarking impossible. The evidence suggests that materiality offers a potential organizing principle, but only when the process for identifying material issues is transparent and stakeholder-informed. Weak materiality disclosure in state-owned enterprises illustrates how formally compliant reports can omit the reasoning that determines what is included and excluded (Ruiz-Lozano et al., 2021). Public-sector specificity also requires attention to outcomes that private-sector frameworks may understate, including service continuity, distributional effects, public value, intergenerational obligations, and stewardship of non-market assets. A credible reporting architecture must therefore balance common definitions and comparable core indicators with contextual explanations that preserve the distinctive responsibilities of governments and public organizations.

Climate Accounting, Budgeting, and Local Climate Action

Climate-specific studies shift attention from disclosure toward the administrative infrastructure needed to implement commitments. Carbon accounting models in Chinese public institutions demonstrate how energy use, commuting patterns, procurement practices, and other operational data can be converted into standardized measurement systems (Bai et al., 2024). Work on green public financial management similarly emphasizes the need to integrate climate considerations into budget preparation, expenditure classification, investment appraisal, fiscal risk analysis, and reporting (Gonguet et al., 2021). These approaches strengthen the link between climate ambition and financial decision making because they make climate objectives visible within recurring fiscal routines rather than leaving them in stand-alone sustainability documents. Local climate action exposes the consequences of weak integration. A review of 308 United Kingdom local authorities that declared climate emergencies found large variation in the scope of commitments, delivery plans, funding arrangements, and citizen involvement; political willingness was widespread, but implementation pathways were often incomplete or weakly financed (Gudde et al., 2021). Swedish municipalities similarly show that successful SDG localization requires coordination, organizational learning, flexibility, timing, and cross-sector collaboration, not merely formal adoption of a sustainability framework (Krantz & Gustafsson, 2021). Emerging work on government ESG reporting in smart cities suggests that administrative data can support monitoring and assurance, but the value of such systems still depends on governance rules, data quality, and the capacity to translate information into decisions (Gu et al., 2024).

Across the climate-related evidence, a common pattern emerges: accounting and reporting tools are advancing faster than the institutional mechanisms required to ensure consequences. Visual carbon reporting may attract public attention but does not automatically create meaningful dialogue (Aguiar et al., 2025). Environmental accountability can weaken when donor arrangements, domestic safeguards, or oversight incentives change, even when formal sustainability guidelines remain in place (Silva et al., 2020). Public financial governance therefore functions as the critical bridge between information and accountability. Without budget integration, internal controls, independent review, and opportunities for stakeholder challenge, climate disclosure risks becoming a parallel reporting layer rather than a mechanism of governing.

Table 2. Reporting-to-Climate-Accountability Pathway

Stage	**Mechanism**	**Failure risk**	**Substantive indicator**
1. Adoption	Standards, regulation, institutional pressure	Ceremonial compliance	Clear mandate and defined reporting responsibilities
2. Measurement	Materiality, data systems, carbon/environmental accounting	Selective or incomparable metrics	Traceable, consistent, decision-relevant data
3. Integration	Budgeting, accounting, internal control, performance management	Parallel sustainability reporting	Use of metrics in allocation and management decisions
4. Oversight	Audit, assurance, legislative and stakeholder scrutiny	Information without consequence	Independent challenge, follow-up, and corrective action
5. Accountability outcome	Explanation, evaluation, and consequences	Legitimacy without performance change	Evidence of learning, improved governance, and climate action

DISCUSSION

The synthesis suggests that sustainability reporting and climate accountability are not linked by a simple disclosure-effect relationship. Reporting should instead be understood as one component of an accountability chain in which institutional pressure stimulates adoption, organizational capacity shapes implementation, reporting processes produce information, public financial governance embeds that information in decisions, and oversight forums determine whether explanations have consequences. Breakdowns at any stage can produce decoupling. This interpretation explains why jurisdictions exposed to similar standards or sustainability agendas display markedly different reporting quality and accountability outcomes.

A central contribution of the review is the distinction between symbolic and substantive reporting. Symbolic reporting is not necessarily false reporting; rather, it occurs when disclosure satisfies visibility or legitimacy demands without materially changing budgeting, management control, operational routines, or environmental performance. The evidence on materiality, stakeholder engagement, and institutional responses shows several pathways to symbolism: organizations may adopt recognized formats while disclosing little about how material issues were identified; they may publish extensive information that is difficult for citizens to use; or they may respond strategically to institutional pressure while preserving established routines (Andrades et al., 2024; Assis et al., 2023; Ruiz-Lozano et al., 2021). Substantive reporting, in contrast, is more likely when disclosed metrics are connected to planning, fiscal allocation, management control, assurance, and corrective action.

The review also extends institutional theory by showing that institutional pressure must be interpreted together with governance capacity. Cross-country evidence demonstrates that governance quality is associated with reporting propensity, while organizational studies reveal that state ownership structures, institutional logics, and resource dependencies condition the effectiveness of pressure (Dragomir et al., 2022; Uyar, Karmani, et al., 2021; Vikstedt et al., 2024). Thus, coercive requirements can increase formal reporting while producing only limited internalization when organizations lack technical capability, managerial ownership, data systems, or credible oversight. This helps reconcile apparently contradictory findings in which mandatory disclosure expands reporting output but leaves accountability effects uncertain.

A second theoretical implication concerns accountability itself. Much of the reporting literature implicitly treats transparency as an outcome, yet public accountability requires an answerability relationship and the possibility of evaluation. The public sector therefore faces an 'information-without-consequence' problem when reports are produced but no actor has the mandate, capacity, or political space to challenge performance. Supreme Audit Institutions, legislatures, internal control functions, and engaged stakeholders can provide such forums, but their effectiveness depends on independence, resources, access to reliable data, and institutional legitimacy (Cordery & Hay, 2021; Tetteh et al., 2022). This observation supports the review's central framework: public financial

governance mediates the relationship between sustainability reporting and climate accountability.

Climate accounting and budgeting sharpen this argument because climate commitments are resource commitments. Net-zero targets, adaptation plans, and environmental programs require multi-year expenditure, asset management, procurement, risk assessment, and performance monitoring. If climate indicators remain outside the budget and accounting architecture, reporting can describe ambition without revealing fiscal trade-offs or implementation risk. Green public financial management, carbon accounting, and integrated control systems therefore provide mechanisms for embedding climate information in decisions (Bai et al., 2024; Gonguet et al., 2021). At the same time, greater technical sophistication can create new accessibility problems if reporting becomes too complex for citizens or elected representatives. Decision usefulness must therefore be evaluated across multiple public-sector users rather than assumed from technical completeness alone.

The theoretical contribution can also be stated in terms of boundary conditions. Institutional pressure is more likely to generate substantive reporting where organizations possess measurement capability, where governance arrangements allocate clear responsibility, where sustainability information is linked to recurring financial processes, and where oversight actors can demand explanations. In settings lacking these conditions, the same pressure may generate ceremonial adoption, selective disclosure, or fragmented reporting. This conditional view links institutional theory with accountability and public financial management rather than treating them as competing explanations. It also suggests that governance quality is not merely a background control variable; it is part of the mechanism that determines whether disclosure becomes actionable. Future empirical models should therefore test governance capacity, audit strength, data capability, and stakeholder contestability as moderators or mediators rather than assuming uniform reporting effects across jurisdictions.

From a measurement perspective, the synthesis also cautions against using report publication or disclosure volume as the primary proxy for accountability. A more defensible evaluation framework would separate at least four dimensions: reporting availability, information quality, administrative integration, and accountability consequences. Availability captures whether information is disclosed; quality captures materiality, completeness, comparability, reliability, and accessibility; integration captures whether the information enters budgets, controls, and operational decisions; and consequences capture whether oversight, learning, or corrective action follows. Distinguishing these dimensions would improve comparability across studies and help prevent positive findings about disclosure quantity from being interpreted as evidence of improved climate performance. This multidimensional approach is especially important for public organizations because citizens and legislatures require understandable explanations, while managers and auditors require sufficiently granular data for control and decision making.

The policy implications follow directly from these findings. Mandatory standards should be accompanied by implementation guidance on materiality, data governance, comparability, and links to budgeting and performance management. Public organizations need staff capability in sustainability measurement, carbon accounting, and data interpretation, while managers require incentives to use sustainability information in resource decisions rather than treating reporting as an annual communication exercise. Assurance and audit should extend beyond checking whether a report exists to examining data provenance, internal control, consistency with budget execution, and evidence of follow-up. Stakeholder engagement should move beyond one-way publication toward mechanisms that allow citizens, legislatures, and affected groups to contest materiality choices and performance claims. Standard setters should also recognize public-sector specificity, including non-market objectives, intergenerational responsibilities, and the central role of budgetary accountability.

The integrated framework emerging from the review can be expressed as a sequence rather than a single causal link. Institutional and stakeholder pressures first create incentives to report. Organizational capacity, leadership, and data infrastructure then determine the quality of measurement. Public financial governance determines whether sustainability information is connected to budgets, accounting records, procurement, risk management, and performance systems. Finally, audit, legislative scrutiny, and stakeholder challenge determine whether explanations lead to learning or corrective action. This sequence helps clarify why reporting reforms can succeed at one stage while failing at another. A government may publish a technically sophisticated report but lack budget integration; another may collect high-quality climate data but provide little public access; a third may disclose transparently but face weak oversight. Treating climate accountability as a chain of linked institutional mechanisms therefore provides a more precise research and policy framework than treating disclosure as the terminal outcome.

The temporal dimension also deserves greater attention. Several included studies capture organizations during early stages of sustainability or climate-reporting adoption, when data systems, responsibilities, and professional routines are still developing. Early implementation may therefore produce low comparability, parallel reporting, or symbolic responses that later become more substantive as organizations learn. Conversely, initial enthusiasm can dissipate when reporting obligations are not integrated into budget cycles or when political priorities change. Longitudinal evidence is necessary to distinguish temporary transition problems from persistent institutional decoupling. This is particularly relevant for local governments and public organizations facing constrained staff and financial capacity, because the costs of establishing data systems, carbon inventories, assurance processes, and stakeholder engagement may be substantial relative to organizational resources. Implementation maturity should therefore be treated as a boundary condition in future evaluations of reporting effectiveness.

A further implication concerns the relationship between sustainability reporting and organizational learning. Reporting processes can create feedback by forcing agencies to define indicators, reconcile information across departments, and compare planned commitments with observed performance. Yet this learning effect is conditional. Where reporting responsibility is isolated in a sustainability unit, the process may remain disconnected from finance, procurement, asset management, and service delivery. Where reporting is embedded across functions, it can reveal data gaps, conflicting objectives, and implementation bottlenecks that would otherwise remain hidden. This suggests that the organizational value of reporting should be assessed not only through external disclosure but also through its capacity to stimulate internal coordination and evidence-based adjustment. Research on local governments and integrated SDG management supports this interpretation by showing that coordination, learning, timing, and cross-sector collaboration are necessary for sustainability commitments to influence everyday administrative practice (Krantz & Gustafsson, 2021; Vikstedt et al., 2024).

The review has limitations. The evidence base is small and methodologically heterogeneous, and English-language restrictions may underrepresent jurisdictions with distinctive public-sector reporting traditions. The inclusion of conceptual, review, and preprint material was useful for an emerging field but produces variation in evidentiary strength. Several studies examine sustainability reporting broadly rather than climate accountability specifically, so some climate-related conclusions remain inferential. Cross-country quantitative studies provide breadth but may rely on disclosure quantity as a proxy for accountability, whereas organizational case studies offer richer mechanisms but limited generalizability. Finally, rapidly evolving public-sector sustainability standards mean that findings about reporting practices may become dated quickly as formal requirements mature. These limitations justify cautious interpretation of causal claims.

Table 3. Priority Research Agenda

Priority	Research need	Recommended design
Causality	Test whether disclosure changes budgets, controls, and climate outcomes	Longitudinal, quasi-experimental, panel, and matched comparative studies
Symbolic vs substantive reporting	Develop observable criteria separating communication from operational integration	Mixed methods combining report analysis, interviews, budget data, and audit evidence
Users of public-sector reporting	Examine how citizens, legislators, auditors, and managers interpret sustainability information	User experiments, deliberative studies, and comparative stakeholder research

Standards and implementation	Assess emerging public-sector sustainability standards across different administrative capacities	Cross-jurisdiction implementation studies with common measures
Climate finance integration	Link carbon/climate metrics to public budgets, assets, liabilities, and fiscal risk	Case-comparative and longitudinal public financial management research

CONCLUSIONS AND RECOMMENDATIONS

The synthesis also indicates that effective reform should be sequenced. Public organizations should first establish clear reporting responsibilities and minimum data controls, then connect sustainability information to budgeting and performance systems, and only thereafter expand the sophistication of disclosure and assurance. This sequencing matters because ambitious reporting requirements imposed on weak information systems can increase compliance burden without improving accountability. A phased approach can therefore reduce symbolic implementation by matching reporting expectations with organizational capability and by creating explicit milestones for data quality, integration, external scrutiny, and corrective action.

This review shows that sustainability reporting can support climate accountability in the public sector, but disclosure alone is insufficient. Across 33 studies, reporting adoption is consistently shaped by institutional pressure, governance quality, organizational capacity, and stakeholder expectations, while the transition from formal reporting to substantive accountability depends on materiality, decision use, budget integration, internal control, assurance, and independent oversight. The evidence therefore challenges the assumption that more reporting automatically produces better accountability. The more defensible proposition is conditional: reporting becomes consequential when public financial governance converts sustainability information into resource decisions and when accountability forums can question and evaluate those decisions.

Recommendations follow from the synthesis. Public-sector sustainability standards should be accompanied by guidance on materiality, climate-data governance, comparability, budget integration, assurance, and accessible communication. Governments should build capability in carbon accounting and climate-sensitive public financial management, establish clear institutional ownership of sustainability information, and require follow-up on significant audit or assurance findings. Reporting should be evaluated not only by the presence of a report or the volume of disclosure, but by evidence that sustainability information informs fiscal decisions, management controls, public scrutiny, and corrective action.

FURTHER STUDY

For practice, governments and standard setters should align sustainability disclosure with budgeting, accounting, performance management, audit, and accessible stakeholder communication. Capacity building is especially important for local governments and other entities with constrained resources. Future research should prioritize longitudinal and comparative designs that test whether stronger reporting produces measurable changes in climate expenditure, risk management, and environmental outcomes; examine how new public-sector sustainability standards alter practice; and evaluate the role of citizens, legislatures, and audit institutions as users of sustainability information. Research should also develop comparable measures that distinguish disclosure quantity from substantive accountability and investigate how reporting systems can capture intergenerational climate obligations without becoming inaccessible to non-specialist users.

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