

The Ecological Burden of Political Campaigning in Indonesia: An Environmental Justice Analysis

JISPO
Jurnal Ilmu Sosial dan
Ilmu Politik
2026, Vol. 16, No. 1: 35-62
<https://journal.uinsgd.ac.id/index.php/jispo/index>
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ABSTRACT

Physical campaign materials remain integral to Indonesian elections, yet their environmental consequences receive limited attention in electoral governance and scholarship. This study examines how political campaigning generates ecological burdens, how existing regulations allocate responsibility for those burdens, and what environmental justice issues arise from current governance arrangements. Using a qualitative desk-review design, the study analyses election and environmental regulations, government reports, scholarly literature, media reports, and other relevant documentary sources through Kuehn's multidimensional environmental justice framework. The findings show that Indonesian regulations already address recyclable materials, placement, property-owner permission, cleanliness, and removal of campaign materials. However, governance remains less developed after removal, particularly regarding material inventories, traceability, recovery targets, end-of-life management, and allocation of associated costs. The evidence does not establish that particular socioeconomic groups systematically bear disproportionate campaign-related environmental burdens. The study contributes by connecting electoral campaigning, waste governance, and environmental justice and by conceptualising elections as material as well as political processes. It concludes that the principal gap lies in incomplete lifecycle governance rather than regulatory absence. This conclusion implies that stronger material reporting, traceability, and lifecycle accountability are needed to assess environmental performance, clarify responsibility, and support more environmentally accountable electoral governance in Indonesia while providing a basis for more targeted empirical research.

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Keywords

Campaign materials; election waste; electoral governance; environmental justice; Indonesia; political campaigning

INTRODUCTION

Indonesia's elections mobilize parties, candidates, campaign workers, voters, and public institutions across a vast archipelagic polity. Since the post-1998 democratic transition, this competition has become increasingly candidate-centred and professionally mediated. Research on vote buying and brokerage shows the importance of individualized candidate strategies and local mobilization networks (Aspinall et al. 2017), while studies of the campaign industry document the growing role of consultants, image-making, polling, data, and specialized political communication (Rakhmani and Saraswati 2021; Ahmad 2024). Digital platforms have further altered electoral communication without displacing older forms of campaigning: Indonesia's elections operate through a hybrid media environment in which social media, messaging applications, mass media, and face-to-face communication coexist (Neyazi et al. 2022; Baulch, Matamoros-Fernández, and Suwana 2024). Material visibility therefore remains politically valuable. Fox (2022) documents the proliferation and increasingly candidate-centred design of Indonesian election posters, while Farhan, Revita, and Oktavianus (2024) show that political billboards remained a persuasive medium during the 2024 election. Electoral modernization, in other words, has not dematerialized campaigning. It has produced a hybrid campaign ecology in which digital communication coexists with large quantities of physical promotional material.

The political function of these materials is well understood; their environmental afterlife is not. Posters, banners, billboards, flags, stickers, clothing, and other campaign items are also material objects with a lifecycle. Their production requires substrates, inks, energy, and transport; their distribution and installation use additional resources; and after campaigning they must be removed, stored, reused, recycled, burned, landfilled, or otherwise discarded. The environmental burden therefore extends beyond the visual disorder of campaign season or the litter visible immediately after polling. It concerns material throughput, waste generation, transport,

disposal, and potential leakage across the campaign lifecycle. Recent material analysis strengthens the plausibility of this concern: Seo (2025) identifies polymer-containing election promotional materials and shows that weathering and fragmentation can create a pathway for microplastic generation, while also emphasizing that the study does not quantify pollution loads. In this article, “ecological footprint” is consequently used in a bounded analytical sense to denote the material, waste, and logistical externalities associated with election campaigning. It does not refer to a formal Ecological Footprint biocapacity calculation, nor does the article claim to provide a national carbon footprint or life-cycle assessment.

The broader literature confirms that elections and environmental outcomes are connected, but it approaches that relationship from different directions. Wynes, Motta, and Donner (2021) examine the climate responsibility associated with electoral choices, while Boly, Combes, and Combes Motel (2023) ask whether voters reward politicians for environmental performance. Cerqua, Fiorino, and Galli (2024), in turn, show how political representation can affect local waste-management policy. These studies demonstrate that electoral incentives, political representation, and environmental outcomes can be analytically linked. Seo (2025) moves closer to the materiality of campaigning by focusing on promotional materials themselves. Yet this emerging literature still leaves a distinct question underdeveloped: how electoral competition produces a temporary but recurrent stream of material residues, how those residues move through waste-management systems, and how political and administrative rules distribute responsibility for preventing and managing their impacts.

This question is especially important in Indonesia because campaign residues enter an already uneven waste-management system. Studies of Indonesian plastic and solid-waste governance document persistent problems in collection, sorting, recycling, final disposal, and environmental leakage (Lestari and Trihadiningrum 2019; van Emmerik et al. 2019; Rinasti et al. 2022; Wikurendra et al. 2024). Arifin et al. (2023) show that reducing marine plastic pollution requires stronger policy implementation and coordination, while Iacovidou et al. (2025) map Indonesia’s plastic value chain as a system of material flows and unequal stakeholder

capacities and influence. The broader global literature demonstrates why containment matters: inadequately managed macro- and microplastics can be transported through terrestrial and river systems to aquatic environments (Meijer et al. 2021; Stokal et al. 2023; Gómez-Sanabria and Lindl 2024; Cottom, Cook, and Velis 2024). Waste recovery is also socially organized rather than institutionally neutral. Indonesian waste pickers perform significant collection and recovery functions while facing economic and occupational vulnerability (Kristanto, Kemala, and Nandhita 2022; Al Furqan et al. 2026). These studies do not establish that campaign waste disproportionately burdens particular social classes or communities. They do show, however, that the destination of campaign residues matters: collection, sorting, recycling, transport, and disposal involve different actors with unequal resources, authority, and exposure.

The 2024 election made the scale, and the uncertainty, of this problem more visible. Before the electoral cycle had been completed, the Ministry of Environment and Forestry (*Kementerian Lingkungan Hidup dan Kehutanan*, KLHK) estimated that election activities could generate at least 784,000 cubic metres, or approximately 392,000 tonnes, of waste (Puspa 2024). This figure must be interpreted carefully. It was an official estimate reported during the election period, not the result of a nationwide post-election material audit. The sources reviewed for this study do not provide a national inventory specifying the quantities and composition of campaign materials actually produced, the proportion recovered or recycled, or the amount sent to disposal facilities or leaked outside formal systems. The evidentiary limitation is therefore substantive in its own right. Without standardized inventories and end-of-life reporting, neither regulators nor researchers can determine the actual material footprint of campaigning with confidence. The problem is not simply that election waste exists, but that its production and fate remain weakly measured.

The regulatory gap is likewise narrower, but more significant, than a claim of complete legal absence would suggest. PKPU No. 15 of 2023 on election campaigning, as amended by PKPU No. 20 of 2023, already contains environmentally relevant provisions. Article 33(6) directs election participants, when printing campaign materials, to prioritize materials that can be recycled; Article 36(5) requires the placement of campaign

props to consider ethics, aesthetics, cleanliness, and the appearance of the locality; and Article 36(7) requires participants to remove campaign props no later than one day before polling (Komisi Pemilihan Umum Republik Indonesia 2023a, 2023b). KLHK also issued Circular Letter No. 3 of 2024 specifically on waste arising from the 2024 election, directing local governments and relevant actors toward segregation, reuse, recycling, and environmentally appropriate handling (Kementerian Lingkungan Hidup dan Kehutanan 2024). These provisions demonstrate regulatory recognition of the problem. However, they do not establish a comprehensive lifecycle accountability system. The instruments do not require a uniform inventory of campaign materials by party or candidate, quantified waste-prevention or recovery targets, standardized disclosure of material composition, traceable reporting of end-of-life destinations, or a clearly specified polluter-pays mechanism through which the actors producing campaign materials bear the full costs of recovery and remediation. Removal from streets and public spaces is therefore not equivalent to environmentally sound end-of-life management.

Existing scholarship mirrors this institutional fragmentation. Indonesian election studies explain why candidates seek visibility, how campaign organizations professionalize persuasion, and how conventional and digital media coexist (Rakhmani and Saraswati 2021; Fox 2022; Neyazi et al. 2022; Ahmad 2024; Baulch, Matamoros-Fernández, and Suwana 2024). Indonesian waste scholarship, by contrast, examines plastic leakage, material flows, circularity, and the actors who recover discarded materials (Lestari and Trihadiningrum 2019; Rinasti et al. 2022; Kristanto, Kemala, and Nandhita 2022; Wikurendra et al. 2024; Iacovidou et al. 2025). A small but important Indonesian literature does address the intersection more directly. Firdaus and Kalingga (2021) examine legal responsibility for campaign-waste handling, and Thalib (2024) identifies waste reduction and cross-sector coordination as elements of “green election” practice. These studies make it inappropriate to claim that campaign waste has never been studied in Indonesia. Their existence instead allows a more precise gap to be stated: the literature has not yet integrated the material lifecycle of campaign objects, the institutional allocation of responsibility, and the distribution of environmental burdens within a multidimensional

environmental-justice framework. Internationally, the emerging material evidence provided by Seo (2025) reinforces the need for such an integration but does not resolve the Indonesian governance question.

Environmental justice provides the conceptual leverage for doing so because it asks not only whether environmental harm occurs, but how burdens, recognition, participation, and responsibility are organized. Schlosberg (2004) established that environmental justice cannot be reduced to distribution alone, emphasizing recognition and participation alongside distributive concerns. Kuehn (2000) similarly distinguishes distributive, procedural, corrective, and social dimensions of environmental justice. More recent scholarship has extended these concerns across sustainability policy, demonstrating the importance of examining unequal exposure and place (Banzhaf, Ma, and Timmins 2019), structural tensions between environmental goals and social justice (Menton et al. 2020), the translation of justice commitments into sustainability interventions (Wijsman and Berbés-Blázquez 2022), and the operational assessment of recognitional, procedural, distributive, and restorative dimensions in research and public policy (Méndez-Barrientos et al. 2024; McCauley et al. 2024). Plastic pollution itself has increasingly been framed as a justice problem because impacts and responsibilities are distributed unevenly across the plastics lifecycle and across societies (Stoett et al. 2024). Applied to elections, this perspective shifts attention from whether campaign materials make public spaces untidy to a more consequential set of questions: who benefits from material visibility, who encounters or manages the residues, who participates in setting the rules, whose experiences are recognized, and who is responsible for prevention, recovery, and remediation.

This framework also disciplines the article's claims. The available evidence does not justify assuming in advance that poor or marginalized communities bear the greatest campaign-waste burden throughout Indonesia. Demonstrating distributive injustice requires empirical evidence about where residues accumulate, who is exposed to them, who performs cleanup and recovery, and who bears the associated costs. The environmental-justice approach is therefore used here to investigate, rather than presume, inequality. Distributive justice concerns the spatial and social allocation of environmental burdens and benefits; procedural

justice concerns access to information and participation in rule-making and implementation; recognition justice concerns whether affected residents and waste workers are visible within governance arrangements; and corrective or restorative justice concerns responsibility for preventing harm and paying for cleanup, recovery, or remediation.

Against this background, this article examines the ecological footprint of political campaigning in Indonesian elections through an environmental-justice lens. It asks three related questions: (1) How do the production, distribution, use, removal, and disposal of campaign materials generate identifiable ecological burdens? (2) How do existing electoral and environmental rules allocate responsibility for preventing, measuring, and managing those burdens? and (3) What distributive, procedural, recognition, and corrective-justice issues arise from the present governance arrangement? The article's novelty lies not in claiming the first recognition of campaign waste, but in bringing together three bodies of scholarship that have largely developed separately: Indonesian electoral campaigning, waste and plastic governance, and environmental justice. Conceptually, it treats elections as material as well as communicative and institutional processes. Analytically, it follows campaign materials beyond their persuasive use to their removal and end-of-life governance. Normatively, it argues that a "green election" cannot be judged only by whether public spaces are cleaned after campaigning; it must also be assessed through prevention, material reduction, traceability, meaningful participation, and accountable recovery. In this sense, environmental responsibility is part of democratic quality: electoral competition takes place in shared ecological space, and democratic institutions must determine fairly who may use that space, who bears the resulting burdens, and who is responsible for the residues political competition leaves behind.

METHODS

Research Design

This study employed a qualitative desk-review design to examine the environmental implications of political campaigning in Indonesia through an environmental-justice framework. The design was appropriate to

the study's research questions because the analysis focuses on two related issues: how campaign practices generate ecological burdens and how existing electoral and environmental governance arrangements recognize, distribute, and assign responsibility for those burdens. Rather than measuring the volume of campaign waste directly or estimating a national ecological footprint quantitatively, the study critically examined documentary evidence concerning campaign materials, waste generation and management, electoral regulation, environmental governance, and environmental justice.

The study, therefore, treats the ecological footprint of campaigning as a governance and justice problem that can be investigated through existing documentary sources. This approach enables an assessment of how campaign-related environmental impacts are represented in public records and scholarship and how responsibilities for prevention, removal, waste management, and remediation are defined institutionally. Because the study relied entirely on secondary documentary materials, no human participants were recruited or interviewed, and participant sampling and recruitment were not part of the research design.

Sources and Document Selection

The documentary corpus consisted of several categories of secondary sources relevant to elections, campaign practices, environmental management, and environmental justice in Indonesia. These included official reports and information issued by the Ministry of Environment and Forestry (*Kementerian Lingkungan Hidup dan Kehutanan*, KLHK); electoral and environmental laws and regulations, particularly Law No. 7 of 2017 on General Elections, PKPU No. 15 of 2023 on Election Campaigning, and Law No. 32 of 2009 on Environmental Protection and Management; peer-reviewed journal articles; relevant media reports; and previous research addressing political campaigning, campaign materials, waste management, and environmental justice.

Documents were included on the basis of their relevance to the research problem. Official regulatory and government sources were used to establish the formal institutional framework governing elections and

environmental management, while scholarly literature was used to locate the study within existing debates on campaigning, waste governance, and environmental justice. Media reports were used where they provided contemporaneous information concerning election-related waste and public statements by responsible institutions. The study did not conduct an independent physical inventory of campaign materials or waste and therefore does not treat reported estimates as measured national totals.

Analytical Framework

The documents were interpreted using Robert R. Kuehn's (2000) environmental-justice taxonomy as the principal analytical framework. Four dimensions guided the analysis. Distributive justice concerns how environmental burdens and benefits associated with campaigning are distributed. Procedural justice concerns participation, access to decision-making, and the processes through which rules governing campaign materials and their environmental consequences are established and implemented. Corrective justice concerns responsibility, liability, remediation, and the obligation to address environmental harm. Social justice directs attention to the broader social and institutional structures through which environmental burdens may interact with socioeconomic inequality.

These dimensions were used as analytical categories for examining the relationship between campaign practices, environmental consequences, and institutional responsibility. The analysis therefore moved beyond describing discarded campaign materials as a problem of visual pollution or waste management and examined how the governance of those materials raises questions about responsibility, participation, burden distribution, and remediation. Importantly, the framework was used to investigate possible environmental inequalities rather than to presume them. The documentary evidence available to this study does not by itself establish that poor, marginalized, or densely populated communities experience greater campaign-related environmental harm throughout Indonesia.

Methodological Scope and Trustworthiness

The credibility of the analysis rests on maintaining a clear distinction between documented evidence, institutional provisions, reported estimates, and normative interpretation. Claims concerning electoral regulation were grounded in relevant legal and regulatory documents, while empirical claims were limited to what could be supported by the secondary sources reviewed. The analysis does not claim to quantify campaign waste, identify causal environmental effects, or establish population-level patterns of exposure.

These limitations also define the study's transferability. The desk-review design is suitable for identifying regulatory gaps, institutional responsibilities, and environmental-justice questions, but it cannot substitute for field-based measurement, interviews, spatial analysis, or lifecycle assessment. The findings should therefore be interpreted as a theoretically informed documentary assessment of the environmental governance of political campaigning in Indonesia rather than as a direct measurement of its national ecological impacts.

RESULTS

Physical Campaigning and the Material Scale of Indonesian Elections

The documentary evidence shows that physical campaign materials remain an important part of Indonesian electoral campaigning despite the expansion of digital media. Studies of campaign professionalisation, posters, and hybrid media show that candidates continue to combine online communication with material forms of visibility, including posters, banners, billboards, flags, stickers, and other promotional items (Rakhmani and Saraswati 2021; Fox 2022; Neyazi et al. 2022; Ahmad 2024; Baulch, Matamoros-Fernández, and Suwana 2024). This matters environmentally because these objects do not disappear when their communicative function ends; they enter subsequent processes of removal, reuse, recycling, storage, or disposal.

The scale of the 2024 contest provides the institutional context for this material campaigning. KPU established a final candidate list of 9,917 candidates for the House of Representatives (DPR) and 668 for

the Regional Representative Council (DPD), in addition to presidential candidates and candidates for provincial and district or municipal legislatures (Komisi Pemilihan Umum Republik Indonesia 2023c). These figures do not measure campaign-material production, but they show the breadth of simultaneous competition in which individual candidates and parties sought public visibility.

PKPU No. 15 of 2023 confirms the diversity of physical materials used in campaigns. It distinguishes materials distributed to voters, such as leaflets, brochures, pamphlets, posters, stickers, clothing, calendars, business cards, pins, and writing materials, from outdoor campaign display materials such as billboards, banners, and pennants (Komisi Pemilihan Umum Republik Indonesia 2023a). Article 33(6) also directs election participants to prioritise recyclable materials. The regulation therefore recognises the material consequences of campaigning, although it does not impose a quantitative ceiling on production or require that recyclable materials are actually recovered after use.

Available government estimates indicate that election-related waste was considered potentially substantial. During the 2024 election period, KLHK estimated that election activities could generate at least 784,000 cubic metres, or approximately 392,000 tonnes, of waste (Puspa 2024). This was a prospective administrative estimate, not a completed post-election audit. It cannot therefore be treated as a verified national total of waste generated, recycled, landfilled, or leaked into the environment.

The national plastic-waste series reproduced in Figure 1 provides only broader waste-management context. The data show that plastics represented a substantial share of reported waste during 2019-2024, but the series does not isolate election-related materials and may also reflect changes in reporting coverage. It therefore cannot establish that elections caused increases in national plastic-waste generation. In this study, Figure 1 is used descriptively, not as evidence of an election-year effect. The figure is nevertheless useful for locating election-related residues within a waste system already handling a large plastic fraction. Its analytical value is contextual: campaign materials constitute an additional, episodic stream whose magnitude cannot be separated from general waste statistics with the available data. This is why the study relies on election-specific

regulations, estimates, and enforcement records for its principal findings rather than inferring campaign effects from national annual trends.

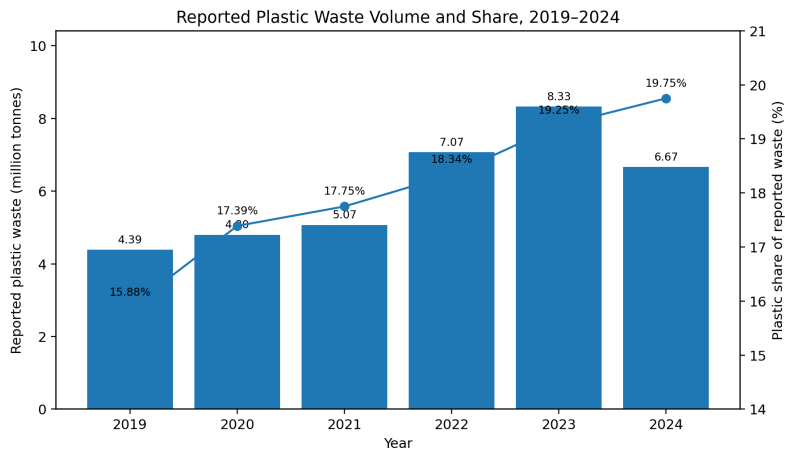


Figure 1. Reported Plastic Waste Volume and Share of Reported Waste, 2019-2024

Source: KLHK 2019-2024, compiled by Author, 2025.

The documents reviewed do not provide a comprehensive national inventory of political campaign materials (*alat peraga kampanye*, APK). No consolidated dataset identifies the number, weight, material composition, or final destination of materials produced by all parties and candidates. Consequently, the evidence establishes that election-related material waste is a recognised governance problem, but it does not permit a national calculation of campaign waste, recycling rates, environmental leakage, or lifecycle impacts. This absence is consequential for interpretation of the KLHK estimate. Without producer-level or jurisdiction-level inventories, the estimate cannot be validated against observed material flows or disaggregated by material type, political actor, or locality. The result is a measurement gap between recognition of the problem and the capacity to describe its magnitude precisely.

Local enforcement records provide more concrete evidence of the management burden created by campaign displays. In Batang Regency,

Central Java, Bawaslu and local authorities removed 8,601 campaign materials that violated campaign rules during the 2024 regional-election cycle (Pemerintah Kabupaten Batang 2024). Such figures document enforcement and removal, not waste mass or environmental damage, and they should not be generalised nationally. They nevertheless show that large numbers of physical campaign materials can require public regulatory intervention.

Taken together, the documentary evidence supports a bounded finding: physical campaign materials remain widely recognised electoral instruments; environmental authorities anticipated a substantial election-related waste stream; and local enforcement generated significant removal activity. What remains unmeasured is the national quantity produced, the proportion recovered, and the route materials follow after their political use ends.

Regulation, Removal, and Post-Campaign Waste Management

The documentary review also corrects the claim that Indonesian election law regulates only campaign schedules, size, and location. PKPU No. 15 of 2023 contains several environmentally relevant provisions. Article 33(6) prioritises recyclable materials; Article 36(5) requires attention to ethics, aesthetics, cleanliness, and local appearance; Article 36(6) requires owner permission for installation on private property; and Articles 36(7)-(8) require cleanup before polling and provide for sanctions under applicable rules (Komisi Pemilihan Umum Republik Indonesia 2023a). These provisions establish immediate responsibilities for material choice, placement, permission, and removal.

Table 1 summarises the main legal instruments relevant to corrective responsibility. It shows that Indonesian law already contains general environmental-liability principles and campaign-specific cleanup duties. The remaining gap is narrower: the reviewed instruments do not create a comprehensive lifecycle system linking campaign-material production to verified recovery, recycling, or final disposal.

Table 1. Relevant Legal Basis for Corrective Responsibility in Political Campaigning

Regulation / instrument	Relevant provision	Verified substance	Accountability implication
Law No. 32 of 2009	Arts. 2 and 87(1)	General polluter-pays and restoration/compensation framework where legal conditions are met.	Relevant general liability basis, but no campaign-specific restoration mechanism was identified.
Law No. 7 of 2017	Arts. 280(1) and 521	Defines prohibited campaign conduct and consequences for specified violations.	Supports electoral enforcement but not a full material-lifecycle regime.
PKPU No. 15/2023, amended by PKPU No. 20/2023	Arts. 33(6), 36(5)-(8)	Prioritises recyclable materials; regulates cleanliness, permission on private property, removal, and sanctions.	Creates immediate duties but no national inventory, recovery target, or end-of-life traceability requirement.
KLHK Circular Letter No. 3/2024	Election-waste guidance	Directs sorting and further management, including reuse and recycling.	Extends attention beyond removal, but does not create producer-specific national traceability.

Source: Compiled by Author from Law No. 32 of 2009, Law No. 7 of 2017, PKPU No. 15 of 2023 as amended by PKPU No. 20 of 2023, and KLHK Circular Letter No. 3 of 2024.

The environmental response extended beyond the KPU. On 31 January 2024, KLHK issued Circular Letter No. 3 of 2024 on waste generated by the election, directing regional governments and relevant actors toward sorting and further management, including reuse and recycling (Kementerian Lingkungan Hidup dan Kehutanan 2024). This demonstrates administrative recognition of the post-removal stage, although the circular does not establish a producer-specific national inventory or traceability regime.

The key documentary finding is therefore the distinction between removal and end-of-life management. Election participants have a clear duty to remove display materials, but the reviewed documents do not

require standardised reporting of how much each participant produced, how much was collected, or where the materials ultimately went. Nor do they establish quantified reduction or recovery targets. A banner can thus be removed in compliance with election rules without the documentary record showing whether it was reused, recycled, stored, landfilled, burned, or otherwise handled. This distinction is important for assessing the actual scope of regulatory responsibility. The electoral rules specify when campaign displays must disappear from their installation sites, while the environmental circular addresses subsequent handling in more general terms. The documents reviewed do not connect these stages through producer-level records. Consequently, compliance with the electoral cleanup deadline and environmentally appropriate waste treatment are related but analytically separate outcomes.

Institutional Responsibility, Participation, and Evidentiary Gaps

Responsibility is distributed across several actors. Election participants produce and use campaign materials and must comply with placement, permission, and removal rules. KPU regulates campaign methods and locations; Bawaslu supervises compliance; local governments may participate in removal; and environmental authorities become relevant when materials enter waste-management systems. Table 2 summarises these formal roles and the principal gaps identified in the reviewed documents. This distribution also means that the institutional pathway changes as the material moves through its lifecycle. Before removal, the material is primarily an object of electoral regulation; after removal, it may become an object of municipal and environmental management. The documents identify actors at both stages, but they do not provide a single accountability chain that follows the material across this transition.

Table 2. Actors, Formal Responsibilities, and Remaining Gaps in Campaign-Material Governance

Actor / institution	Applicable basis	Documented role	Main remaining gap
Election participants	Law No. 7/2017; PKPU No. 15/2023	Use materials; comply with placement/ permission rules; remove displays before polling.	No standard reporting of quantities, recovery rates, or final destinations identified.
KPU / regional KPU	Law No. 7/2017; PKPU No. 15/2023	Regulate campaign methods, locations, cleanliness, permission, and removal.	No comprehensive material-lifecycle inventory or recovery-reporting system identified.
Bawaslu	Election supervision framework	Supervise campaign compliance and participate in enforcement.	No separate lifecycle waste-accounting or recycling-verification mandate identified.
DKPP	Law No. 7/2017	Oversees ethics of election organisers.	No specific campaign-waste or material-traceability role identified.
KLHK / local environmental authorities	Law No. 32/2009; KLHK Circular 3/2024	Provide environmental framework and election-waste guidance.	No verified national post-election audit linking recovered materials to producers.
Community / property owners	1945 Constitution; Law No. 32/2009; PKPU No. 15/2023	Hold environmental rights; owners must consent to private-property installation.	No distinct participation mechanism for setting campaign-material sustainability standards identified.

Source: Compiled by Author, 2025, from the laws, regulations, environmental guidance, and enforcement records reviewed in the study

As Table 2 shows, immediate cleanup responsibility is clearer than financial and operational responsibility for the full material lifecycle. The documents do not provide a standard national mechanism identifying who pays for sorting, transport, recycling, treatment, and final disposal after materials are removed, especially when they enter ordinary municipal waste systems. The table also shows that no single institution in the reviewed framework is assigned responsibility for integrating electoral records with waste-management records. This fragmentation helps explain

why material removal can be documented without producing an equivalent record of recovery or final treatment.

Public participation is similarly mixed. PKPU No. 15 of 2023 requires owner permission before campaign displays are placed on private property, so the earlier claim that residents lack any consent mechanism is unsupported. However, the reviewed regulations do not create a distinct process through which residents, environmental organisations, sanitation workers, or waste pickers participate in setting material standards, recovery targets, or post-campaign reporting requirements. The evidence therefore indicates a gap in environmental participation rather than an absence of property consent.

Finally, the documentary evidence does not establish how campaign-related burdens are distributed among socioeconomic groups. No comparative spatial survey, waste audit, neighborhood mapping, or household evidence was undertaken. Claims that poorer communities receive more campaign waste than affluent areas, or that they bear a disproportionate share of cleanup costs, are therefore not retained as findings. The same applies to the earlier national carbon calculation, which lacked the material, energy, transport, and disposal data required for a defensible lifecycle estimate.

DISCUSSION

From Political Communication to the Material Politics of Elections

The findings extend Indonesian campaign scholarship by following campaign objects beyond their communicative use. Previous studies explain why candidates invest in visibility, personalised campaigning, political consulting, posters, and hybrid media (Rakhmani and Saraswati 2021; Fox 2022; Neyazi et al. 2022; Ahmad 2024; Baulch, Matamoros-Fernández, and Suwana 2024). This study adds a material perspective: once the political value of a banner, poster, or billboard expires, the object enters a different institutional system concerned with removal and waste management. This perspective does not diminish the political significance of physical campaigning. Rather, it adds a second analytical register to the same object: a poster is simultaneously a communication device during the

campaign and a material object requiring management afterwards. That dual status helps explain why the issue can be overlooked when electoral studies and waste studies are examined separately.

That transition matters because the material persists after the message becomes obsolete. Seo (2025) shows that polymer-containing election promotional materials can weather and fragment, providing a plausible pathway for microplastic generation. Indonesian waste research likewise documents broader problems of plastic recovery, leakage, and circularity (Lestari and Trihadiningrum 2019; Rinasti et al. 2022; Iacovidou et al. 2025). The present analysis connects these literatures without claiming to quantify the national ecological footprint of elections.

The empirical contribution is therefore institutional rather than causal. KLHK estimates, campaign regulations, enforcement records, and environmental guidance together reveal a discontinuity between the regulation of campaign visibility and the traceability of materials after use. This refines the initial argument: the problem is not regulatory absence, but incomplete lifecycle governance.

Procedural Justice: Beyond Permission to Install

Procedural justice concerns participation and equal consideration in decisions that allocate environmental burdens (Kuehn 2000; Schlosberg 2004). PKPU No. 15 of 2023 requires owner permission for installations on private property, so campaign governance cannot accurately be described as eliminating consent. The more substantive gap lies at the rule-making level: site-specific permission is not equivalent to public participation in defining the environmental limits of campaigning.

The reviewed instruments do not create a specific deliberative mechanism through which communities, waste workers, or environmental groups set material standards, reduction targets, recovery requirements, or disclosure rules. This finding refines the procedural-justice argument from an absence of consent to limited institutionalisation of environmental participation, consistent with scholarship distinguishing formal procedure from meaningful involvement (Menton et al. 2020; Wijsman and Berbés-Blázquez 2022; Méndez-Barrientos et al. 2024).

Corrective Justice: Where Does Responsibility End?

Corrective justice focuses on responsibility, liability, and remedy (Kuehn 2000). Here the primary regulations materially change the earlier interpretation. Election participants are required to remove campaign displays, and sanctions may apply for non-compliance. KLHK guidance also addresses sorting, reuse, and recycling. Corrective responsibility therefore exists, but it is clearest at the removal stage.

The unresolved issue is whether responsibility extends through the material lifecycle. The reviewed documents do not require every producer to report quantities produced, demonstrate recovery, trace materials to recycling or final disposal, or bear a clearly attributable share of downstream costs. This supports a distinction between cleanup responsibility and lifecycle responsibility. A participant may comply by removing a banner even though its final environmental destination remains unrecorded. From an environmental-justice perspective, this boundary matters because the point at which formal electoral responsibility ends may determine whether later costs become diffuse within public waste-management arrangements. The present evidence cannot calculate those costs, but it does show that the regulatory documentation becomes less producer-specific after removal.

This distinction cautiously connects the case to broader debates on producer responsibility and plastic justice (Stoett et al. 2024). It does not, however, establish that a particular regulatory instrument would be effective in Indonesia. Take-back schemes, recovery targets, deposits, or material restrictions would require separate assessment of legality, cost, administrative capacity, enforcement, and possible effects on electoral participation.

Social Justice, Recognition, and the Limits of the Evidence

Social and recognition justice place environmental burdens within wider structures of inequality. This perspective is relevant because Indonesian waste recovery involves workers who may face economic and occupational vulnerability (Kristanto, Kemala, and Nandhita 2022; Al Furqan et al. 2026). Yet the present study does not establish that campaign

waste is disproportionately handled by these workers or that marginalised communities experience greater exposure.

The social-justice dimension should therefore be treated as an empirical agenda rather than a completed finding. Establishing it would require tracing campaign materials after removal and collecting evidence from sanitation agencies, recycling facilities, campaign organisations, residents, and informal waste workers. Such procedures were outside the desk-review design.

Contribution and Policy Implications

The manuscript makes three linked contributions. Conceptually, it treats campaigning as a material as well as communicative process. Analytically, it follows campaign materials across a lifecycle of production, distribution, installation, removal, and recovery or disposal. Institutionally, it shows that different regulatory systems govern different stages and that the connection between electoral cleanup and end-of-life material management is comparatively weak. This contribution is also methodological in a limited sense. By reading electoral rules, environmental guidance, waste estimates, and enforcement records together, the desk review makes visible a governance discontinuity that would be difficult to identify from any one documentary category alone. The approach does not replace field measurement, but it provides a structured basis for determining what future empirical work must measure.

Environmental justice adds precision by separating questions that should not be collapsed. Distribution asks who bears material and financial burdens; procedure asks who participates in setting environmental rules; corrective justice asks how far producer responsibility extends; and social or recognition justice asks whether existing inequalities shape exposure and participation. This prevents the existence of waste from being treated automatically as proof of every form of environmental injustice.

The findings also support a limited policy implication: better measurement is a prerequisite for stronger accountability. Standardised reporting of material quantities, composition, recovery, and destination would allow regulators to determine whether the existing preference for

recyclable materials produces actual recycling and whether cleanup costs are transferred beyond campaign organisations. More interventionist measures should be evaluated separately rather than assumed to be effective. Such reporting would also improve the evidentiary basis for environmental-justice assessment. Without information linking producers, locations, quantities, and destinations, it is difficult to determine whether burdens are concentrated geographically or socially. Better data would therefore serve both waste governance and the assessment of distributive effects.

Limitations

The study is based on documentary evidence and does not directly observe production, placement, collection, recycling, or disposal. It cannot establish causal environmental effects or population-level exposure. The KLHK figure is an estimate rather than a verified post-election total, and local enforcement counts cannot be generalised nationally or converted into waste tonnage. Figure 1 cannot establish an election effect because national plastic-waste data aggregate many sources and may reflect changes in reporting coverage.

The study also provides no basis for a national carbon-footprint estimate, health-effect claim, or conclusion that low-income communities are disproportionately exposed. Those claims require field measurement, lifecycle assessment, spatial analysis, or population evidence not available here. These limitations narrow the argument but strengthen its credibility.

Within these boundaries, the study supports a specific conclusion: Indonesian election governance already recognises recyclable materials, placement, permission, cleanliness, removal, and election-related waste management, but it does not yet provide a transparent, standardised system tracing campaign materials from production through recovery or final disposal. The environmental-justice significance of the case lies in that institutional gap rather than in an unverified claim of universal or class-specific harm.

CONCLUSION

This study shows that political campaigning in Indonesia creates a material environmental burden through the production, installation, removal, and disposal of physical campaign materials, although the available evidence does not permit a precise national measurement of that burden. The documentary analysis identifies three principal findings. First, physical campaign materials remain an important component of electoral competition, while existing data provide only limited information on their quantity, composition, recovery, and final destination. Second, Indonesia does not face a complete regulatory vacuum: PKPU No. 15 of 2023 addresses recyclable materials, placement, property-owner permission, cleanliness, and the removal of campaign display materials, while KLHK issued specific guidance for managing election-generated waste in 2024. The central weakness is instead incomplete lifecycle governance. Existing arrangements regulate campaign materials more clearly while they are being used and removed than after they enter waste-management systems, where producer responsibility, material traceability, recovery targets, and public reporting remain underdeveloped. Third, viewed through environmental justice, the findings raise distinct questions of distribution, participation, recognition, and correction. The evidence indicates a potential separation between those who obtain political benefits from campaign materials and those responsible for managing their residues, but it does not establish that particular socioeconomic groups systematically bear greater environmental burdens. The article's principal contribution is therefore to connect electoral campaigning, waste governance, and environmental justice by treating elections as material as well as political and communicative processes.

These findings imply that environmentally responsible election governance requires attention beyond the removal of campaign materials from public space. Greater transparency regarding material quantities, composition, collection, recovery, and final treatment would provide a stronger basis for assessing environmental performance and allocating responsibility. However, the study's desk-review design places clear limits on these conclusions. It did not directly measure campaign waste, undertake lifecycle or carbon-footprint assessment, observe post-election waste flows, or establish spatial and socioeconomic patterns of exposure. Government

waste estimates and local enforcement figures also cannot be treated as verified national measures of environmental impact. Future research should therefore conduct material-flow and waste-characterization studies across election cycles, spatially compare campaign-material concentrations and socioeconomic conditions, and trace materials from production through recovery or disposal. Interviews with political parties, candidates, KPU, Bawaslu, environmental agencies, local governments, residents, recyclers, and waste workers would further clarify how responsibility and costs are actually distributed. Comparative research across jurisdictions could also assess the feasibility and consequences of stronger reporting, take-back, recovery, or producer-responsibility arrangements before such measures are recommended for broader adoption.

REFERENCES

- Ahmad, Nyarwi. 2024. "What Drive Marketization and Professionalization of Campaigning of Political Parties in the Emerging Democracy? Evidence from Indonesia in the Post-Soeharto New Order." *Journal of Political Marketing* 23 (1): 26–50. <https://doi.org/10.1080/15377857.2021.1910610>.
- Al Furqan, Radhitiya, Elprida Agustina, Athicha Uttajug, and Naoya Abe. 2026. "Towards an Inclusive Society and Solid Waste Management System: Revealing Waste Pickers' Life Preference and Satisfaction in Indonesia." *Journal of Material Cycles and Waste Management* 28 (4): 3543–57. <https://doi.org/10.1007/s10163-026-02635-y>.
- Arifin, Zainal, Dede Falahudin, Hiroaki Saito, Tuti Hendrawati Mintarsih, Muhammad Hafizt, and Yulianto Suteja. 2023. "Indonesian Policy and Researches toward 70% Reduction of Marine Plastic Pollution by 2025." *Marine Policy* 155: 105692. <https://doi.org/10.1016/j.marpol.2023.105692>.
- Aspinall, Edward, Noor Rohman, Ahmad Zainul Hamdi, Rubaidi, and Zusiana Elly Triantini. 2017. "Vote Buying in Indonesia: Candidate Strategies, Market Logic and Effectiveness." *Journal of East Asian Studies* 17 (1): 1–27. <https://doi.org/10.1017/jea.2016.31>.

- Banzhaf, Spencer, Lala Ma, and Christopher Timmins. 2019. "Environmental Justice: The Economics of Race, Place, and Pollution." *Journal of Economic Perspectives* 33 (1): 185–208. <https://doi.org/10.1257/jep.33.1.185>.
- Baulch, Emma, Ariadna Matamoros-Fernández, and Fiona Suwana. 2024. "Memetic Persuasion and WhatsAppification in Indonesia's 2019 Presidential Election." *New Media & Society* 26 (5): 2473–91. <https://doi.org/10.1177/14614448221088274>.
- Boly, Mohamed, Jean-Louis Combes, and Pascale Combes Motel. 2023. "Does Environment Pay for Politicians?" *Economic Modelling* 128: 106491. <https://doi.org/10.1016/j.econmod.2023.106491>.
- Cerqua, Augusto, Nadia Fiorino, and Emma Galli. 2024. "Do Green Parties Affect Local Waste Management Policies?" *Journal of Environmental Economics and Management* 128: 103056. <https://doi.org/10.1016/j.jeem.2024.103056>.
- Cottom, Joshua W., Ed Cook, and Costas A. Velis. 2024. "A Local-to-Global Emissions Inventory of Macroplastic Pollution." *Nature* 633 (8028): 101–8. <https://doi.org/10.1038/s41586-024-07758-6>.
- Farhan, Fachri Bintang, Ike Revita, and Oktavianus. 2024. "Persuasive Languages on Political Billboard of the 2024 Indonesian General Election in Padang City West Sumatra, Indonesia." *Cogent Arts & Humanities* 11 (1): 2325679. <https://doi.org/10.1080/23311983.2024.2325679>.
- Firdaus, Aras, and Qory Rizqiah H. Kalingga. 2021. "Kebijakan Hukum Pidana Penanganan dan Pengelolaan Sampah Kampanye dalam Pemilihan Umum di Indonesia." *Jurnal Ilmiah Penegakan Hukum* 8 (1): 1–7. <https://ojs.uma.ac.id/index.php/gakkum/article/view/4508/3340>
- Fox, Colm A. 2022. "Visualizing Politics in Indonesia: The Design and Distribution of Election Posters." *International Journal of Communication* 16: 4187–4209. <https://ijoc.org/index.php/ijoc/article/view/18797>.

- Gómez-Sanabria, Adriana, and Florian Lindl. 2024. "The Crucial Role of Circular Waste Management Systems in Cutting Waste Leakage into Aquatic Environments." *Nature Communications* 15: 5443. <https://doi.org/10.1038/s41467-024-49555-9>.
- Iacovidou, Eleni, Spyridoula Gerassimidou, David C. Wilson, Jessika Richter, Susan Jobling, and Eddy Soedjono. 2025. "System-Wide Assessment of Indonesia's Plastic Value Chain: Mapping Flows and Stakeholders Dynamics." *Journal of Cleaner Production* 520: 146082. <https://doi.org/10.1016/j.jclepro.2025.146082>.
- Kementerian Lingkungan Hidup dan Kehutanan Republik Indonesia. 2024. *Surat Edaran Nomor 3 Tahun 2024 tentang Pengelolaan Sampah yang Timbul dari Penyelenggaraan Pemilihan Umum Tahun 2024*. January 31, 2024. https://dlh.bulelengkab.go.id/informasi/download/80_surat-edaran-pengelolaan-sampah-yang-timbul-akibat-penyelenggaraan-pemilu-2024.pdf.
- Kementerian Lingkungan Hidup/Badan Pengendalian Lingkungan Hidup. n.d. "Sistem Informasi Pengelolaan Sampah Nasional (SIPSN)." Accessed August 12, 2026. <https://sampahnasional.kemenlh.go.id/>.
- Komisi Pemilihan Umum Republik Indonesia. 2023a. "Pengumuman DCT Pemilu 2024: DPR 9.917 Calon, DPD 668 Calon." November 3, 2023. <https://www.kpu.go.id/berita/baca/12058/pengumuman-dct-pemilu-2024-dpr-9917-calon-dpd-668-calon>.
- Komisi Pemilihan Umum Republik Indonesia. 2023b. *Peraturan Komisi Pemilihan Umum Nomor 15 Tahun 2023 tentang Kampanye Pemilihan Umum*. Berita Negara Republik Indonesia Tahun 2023 Nomor 548. <https://jdih.kpu.go.id/peraturan-kpu/detail/jJlZ4105MwbSiHVbm2Sp tkwxMVB3aFRsRlZDdENsT0E0WHlUaXc9PQ>.
- Komisi Pemilihan Umum Republik Indonesia. 2023c. *Peraturan Komisi Pemilihan Umum Nomor 20 Tahun 2023 tentang Perubahan atas Peraturan Komisi Pemilihan Umum Nomor 15 Tahun 2023 tentang Kampanye Pemilihan Umum*. Berita Negara Republik Indonesia Tahun 2023 Nomor 816. <https://jdih.kpu.go.id/peraturan-kpu/detail/1ioldEgja6A1I3v1u6krCTZB dTJRY3E2Tk84OFBGtZhaZmVVWFE9PQ>.

- Kristanto, Gabriel Andari, Dini Kemala, and Paras A. C. Nandhita. 2022. "Challenges Confronting Waste Pickers in Indonesia: An On-Field Analysis." *Waste Management & Research* 40 (9): 1381–89. <https://doi.org/10.1177/0734242X211029181>.
- Kuehn, Robert R. 2000. "A Taxonomy of Environmental Justice." *Environmental Law Reporter* 30 (9): 10681–10703. <https://www.elr.info/articles/elr-articles/taxonomy-environmental-justice>.
- Lestari, Prieskarinda, and Yulinah Trihadiningrum. 2019. "The Impact of Improper Solid Waste Management to Plastic Pollution in Indonesian Coast and Marine Environment." *Marine Pollution Bulletin* 149: 110505. <https://doi.org/10.1016/j.marpolbul.2019.110505>.
- McCauley, Darren, Alberto Quintavalla, Kostina Prifti, Constanze Binder, Felicia Broddén, and Hannah van den Brink. 2024. "Sustainability Justice: A Systematic Review of Emergent Trends and Themes." *Sustainability Science* 19 (6): 2085–99. <https://doi.org/10.1007/s11625-024-01565-8>.
- Meijer, Lourens J. J., Tim van Emmerik, Ruud van der Ent, Christian Schmidt, and Laurent Lebreton. 2021. "More than 1000 Rivers Account for 80% of Global Riverine Plastic Emissions into the Ocean." *Science Advances* 7 (18): eaaz5803. <https://doi.org/10.1126/sciadv.aaz5803>.
- Méndez-Barrientos, Linda E., Sameer H. Shah, A. D. Roque, V. MacClements, and A. K. Stern. 2024. "Assessing Environmental Justice Contributions in Research and Public Policy: An Applied Framework and Methodology." *Journal of Environmental Policy & Planning* 26 (2): 188–204. <https://doi.org/10.1080/1523908X.2024.2321183>.
- Menton, Mary, Carlos Larrea, Sara Latorre, Joan Martinez-Alier, Mika Peck, Leah Temper, and Mariana Walter. 2020. "Environmental Justice and the SDGs: From Synergies to Gaps and Contradictions." *Sustainability Science* 15 (6): 1621–36. <https://doi.org/10.1007/s11625-020-00789-8>.

- Neyazi, Taberez Ahmed, Aaron Yi Kai Ng, Ozan Kuru, and Burhanuddin Muhtadi. 2022. "Who Gets Exposed to Political Misinformation in a Hybrid Media Environment? The Case of the 2019 Indonesian Election." *Social Media + Society* 8 (3): 20563051221122792. <https://doi.org/10.1177/20563051221122792>.
- Pemerintah Kabupaten Batang. 2024. "Bawaslu Batang Tertibkan 8.601 APK yang Melanggar dalam Pilkada." October 28, 2024. <https://berita.batangkab.go.id/detail/13137/bawaslu-batang-tertibkan-8-601-apk-yang-melanggar-dalam-pilkada>.
- Puspa, Atalya. 2024. "KLHK: Sampah Alat Peraga Kampanye Pemilu 2024 Diprediksi 392 Ribu Ton." *Media Indonesia*, February 14, 2024. <https://mediaindonesia.com/humaniora/651433/klhk-sampah-alat-peraga-kampanye-pemilu-2024-diprediksi-392-ribu-ton>.
- Rakhmani, Inaya, and Muningsari Sri Saraswati. 2021. "Authoritarian Populism in Indonesia: The Role of the Political Campaign Industry in Engineering Consent and Coercion." *Journal of Current Southeast Asian Affairs* 40 (3): 436–60. <https://doi.org/10.1177/18681034211027885>.
- Rinasti, Aprilia Nidia, Indradhi Faisal Ibrahim, Kavinda Gunasekara, Thammarat Koottatep, and Ekbordin Winijkul. 2022. "Fate Identification and Management Strategies of Non-Recyclable Plastic Waste through the Integration of Material Flow Analysis and Leakage Hotspot Modeling." *Scientific Reports* 12: 16298. <https://doi.org/10.1038/s41598-022-20594-w>.
- Schlosberg, David. 2004. "Reconceiving Environmental Justice: Global Movements and Political Theories." *Environmental Politics* 13 (3): 517–40. <https://doi.org/10.1080/0964401042000229025>.
- Seo, Ji Hoon. 2025. "Toward Sustainable Election Campaigns: Addressing Microplastic Pollution from Promotional Materials." *Science Progress* 108 (4): 368504251397431. <https://doi.org/10.1177/00368504251397431>.
- Stoett, Peter, Vitória M. Scrich, Carla I. Elliff, Mariana M. Andrade, Natalia de M. Grilli, and Alexander Turra. 2024. "Global Plastic Pollution,

- Sustainable Development, and Plastic Justice.” *World Development* 184: 106756. <https://doi.org/10.1016/j.worlddev.2024.106756>.
- Strokal, Maryna, Paul Vriend, Mirjam P. Bak, Carolien Kroeze, Jikke van Wijnen, and Tim van Emmerik. 2023. “River Export of Macro- and Microplastics to Seas by Sources Worldwide.” *Nature Communications* 14: 4842. <https://doi.org/10.1038/s41467-023-40501-9>.
- Thalib, Abbadi Said. 2024. “Analisis Sistematis Praktik Pemilu Hijau di Indonesia untuk Pilkada Serentak Tahun 2024.” *Electoral Governance: Jurnal Tata Kelola Pemilu Indonesia* 5 (2): 138–58. <https://doi.org/10.46874/tkp.v5i2.1212>.
- van Emmerik, Tim, Michelle Loozen, Kees van Oeveren, Frans Buschman, and Geert Prinsen. 2019. “Riverine Plastic Emission from Jakarta into the Ocean.” *Environmental Research Letters* 14 (8): 084033. <https://doi.org/10.1088/1748-9326/ab30e8>.
- Wijsman, Katinka, and Marta Berbés-Blázquez. 2022. “What Do We Mean by Justice in Sustainability Pathways? Commitments, Dilemmas, and Translations from Theory to Practice in Nature-Based Solutions.” *Environmental Science & Policy* 136: 377–86. <https://doi.org/10.1016/j.envsci.2022.06.018>.
- Wikurendra, Edza Aria, Arnold Csonka, Imre Nagy, and Globila Nurika. 2024. “Urbanization and Benefit of Integration Circular Economy into Waste Management in Indonesia: A Review.” *Circular Economy and Sustainability* 4 (2): 1219–48. <https://doi.org/10.1007/s43615-024-00346-w>.
- Wynes, Seth, Matthew Motta, and Simon D. Donner. 2021. “Understanding the Climate Responsibility Associated with Elections.” *One Earth* 4 (3): 363–71. <https://doi.org/10.1016/j.oneear.2021.02.008>.