POLICY-PRACTICE (DE)COUPLING IN CORPORATE DECARBONIZATION

Abstract: This question-driven research refines decoupling theory by disaggregating policy and practice into analytically-distinct components, each of which can be symbolic, moderate or substantive. Applying this framework to the context of corporate decarbonization, we uncover meaningful variation in the ways firms adopt climate policies and implement emissions-reduction practices, highlighting multiple distinct configurations—symbolic and moderate coupling, reverse decoupling, and substantive alignment—that have received limited attention in the literature. To do this, we pioneer an empirical approach for identifying whether practices are symbolic or substantive, based on the tradeoffs firms made when choosing to pursue certain decarbonization initiatives over others. By developing more precise conceptual and empirical tools, this study offers a roadmap for evaluating (de)coupling in domains marked by institutional complexity and strategic tradeoffs.

Managerial abstract: Achieving decarbonization via effective and efficient policies and practices lessens the threat climate change poses for society and helps managers, along with their stakeholders, to allocate limited resources and attention more effectively. In an ideal world, institutional pressure would push firms to couple substantive policy with substantive practice, but this is difficult because of inherent complexity, practice multiplicity and outcome interdependence. This study identifies policies associated with more substantive adoption of emissions-reduction practices: firms that adopt science-based targets, monetary incentives for top leadership and non-monetary incentives tend to enact practices that achieve larger-scale emissions reduction while also achieving cost savings. While these firms focus on the technical details of their emissions-reduction programs, there are others that use moderate and even symbolic policies and practices.

Keywords: Symbolic, substantive, climate change, decarbonization, multiple goals, decoupling

Firms face increasing normative pressure to reduce their greenhouse gas emissions (Flammer et al., 2021; Li, 2025; Reid & Toffel, 2009). However, emissions reduction is technologically and organizationally complex and requires strategic tradeoffs between multiple (short- and long-term, financial and non-financial) goals, and currently there is not a consistent shared understanding of which policies and which practices firms should adopt to achieve decarbonization (Delmas & Toffel, 2008; Huang et al., 2022). This complexity could result in policy-practice decoupling, where "policies are adopted purely as ceremonial window dressing or implemented, evaluated, and monitored so weakly that they do little to alter daily work routines" (Bromley & Powell, 2012: 7). It also offers an opportunity for question-based strategy research (Graebner et al., 2023) to understand which policies actually support practices that substantively prioritize emissions reduction.

While decoupling (or greenwashing) is often the focus of prior research (Bothello et al., 2023; Kim & Lyon, 2015; Montgomery et al., 2024), achieving coupling is arguably the more interesting outcome, particularly when normative pressures are applied to opaque and vexing challenges like climate change (Wijen, 2014, 2015; Wright & Nyberg, 2017). Understanding coupling requires identifying the conditions under which firms respond to normative pressure by adopting policies and practices that effectively accomplish the intended goals of the pressure (Durand et al., 2019). For example, research shows that early joiners in the U.S Department of Energy's Climate Challenge Program were more likely to pursue substantive cooperation than later joiners (Delmas & Montes-Sancho, 2010). However, the first step in achieving coupling—disentangling policy from practice—remains elusive in this context.

We refine existing theory by building a deeper understanding of policy-practice decoupling that distinguishes between (1) *policies* as formal management and accountability structures, targets, or rules that encourage or monitor the desired practices, and (2) *practices* as actions expected to directly and causally impact the target outcome. Both can be symbolic or substantive, but true coupling occurs when substantive policies are meaningfully connected to substantive practices. Our framework thus advances prior literature by identifying less-studied forms of (de)coupling, such as symbolic and moderate coupling and reverse decoupling.

We demonstrate this updated typology in a question-driven configurational analysis (Calic et al., 2025; Graebner et al., 2023; Nava et al., 2025) of corporate emissions management policies and practices as reported in the Carbon Disclosure Project (CDP) survey (Huang et al., 2022; Li, 2025). Using a novel combination of revealed preference models (Chambers & Echenique, 2016) and behavioral simulations (Albert & Csaszar, 2023; Dorobantu et al., 2020), we identify tradeoffs that firms made between environmental and financial impacts when choosing their decarbonization initiatives, allowing us to distinguish between symbolic and substantive practices. We then examine which policies are coupled with substantive practices. We find that some policies that enjoy institutional support and legitimacy, such as integrated and substantive climate risk evaluation, are in fact decoupled from substantive practices that prioritize emissions reduction over cost or impression management. Overall, our analysis reveals significant variation in how firms prioritize the various interdependent impacts of their decarbonization initiatives as well as how they combine these practices with symbolic or substantive policies.

This study offers three primary contributions. First, we provide a more robust theoretical understanding of policy-practice decoupling that disentangles the two, opening avenues for research on understudied variants of decoupling (Bromley & Powell, 2012; Crilly et al., 2016; Jabbouri et al., 2022; Wijen, 2015) and more importantly, for research on coupling. Second, we pioneer an empirical approach for identifying whether practices are symbolic or substantive based on the tradeoffs firms made when choosing to pursue certain decarbonization initiatives over others. This approach could be applied in a number of other empirical contexts to provide more robust measures of strategic decision-making (e.g., Dorobantu et al., 2020). Finally, we provide evidence of the gap between legitimate policies—associated with substantive emissions reduction—and substantive action in an important societal context (Huang et al., 2022; Li, 2025). This clarity about the actual impact of policies and practices can guide managers, policymakers, and institutional architects to focus their efforts on the most effective policies and practices.

THEORETICAL FRAMEWORK

Coupling, Decoupling, and Complexity

Decoupling is, fundamentally, a gap between organizational actions and goals. In institutional theory, it refers to the separation between formal structures adopted to conform to normative pressure on the one hand and daily activities that threaten normal operations on the other (Meyer & Rowan, 1977; Oliver, 1991). Recently, this conceptualization has been expanded to differentiate between two types of decoupling: gaps between policy and practice, and between means (practices) and ends (outcomes) (Bromley & Powell, 2012), where institutional pressures identify the desired ends as well as the policies and practices considered to be legitimate (Jabbouri et al., 2022).

Coupling, on the other hand, is fundamentally about alignment, wherein organizational goals, policies, practices, and outcomes are linked in a strong causal chain, reported accurately and transparently in external messages, and conform to salient institutional norms that target a clear normatively-aligned outcome (Haack et al., 2021). Coupling is essential for managers, stakeholders, and institution-builders of all types as they strive to address complex challenges, yet it has received little to no attention in the literature (Jabbouri et al., 2022). Understanding and encouraging coupling requires understanding when organizations respond to normative pressure by adopting policies and implementing practices that effectively accomplish its intended goals (Durand et al., 2019).

This understanding is theoretically and empirically challenging, however, because of inherent complexity, practice multiplicity, and outcome interdependence in organizations. First, institutional norms that define legitimate policies and practices are easier to decouple in situations where causal chains are ambiguous and complex (Bromley & Powell, 2012; Wijen, 2014, 2015). Under these conditions, institutional norms arise as an attempt to provide order and make sense of complexity (Hengst et al., 2020). However, if firms and their stakeholders cannot readily identify whether policies are implemented in practice, or which practices in fact lead to a desired outcome, these norms can indeed be purely ceremonial (Meyer & Rowan, 1977; Oliver, 1991). High complexity thus enables firms to reap legitimacy benefits from symbolic policies and practices because it obscures the real relationships that would exist in transparent and tightly-coupled causal chains (Haack et al., 2021).

Second, because each firm is a bundle of unique capabilities, resources, and people operating in a unique context, they adopt unique policies and practices even in response to similar institutional pressure (Crilly et al., 2012). This practice multiplicity creates tension between isomorphic conformity to standards and flexible adaptation to actual conditions (Wijen, 2014, 2015). Indeed, organizations that are genuinely dedicated to adopting effective practices within their context may avoid legitimate policies that do not actually contribute to the target outcome, a type of decoupling that is little understood in the literature (Dick & Coule, 2020). In such cases, failure to conform to institutionalized policies could still be associated with practices or outcomes that meet the normative goal of the emergent institution, further obscuring the true causal chain connecting policies, practices, and outcomes (Heese et al., 2016). In turn, practice multiplicity, combined with inherent complexity, can create a set of emergent norms so inscrutable that some observers are unable to differentiate between symbolic and substantive adoption of policies or practices (Crilly et al., 2016).

Finally, organizational actions are not siloed (Stål & Corvellec, 2022): A single action can affect multiple outcomes (Hu & Bettis, 2018), and any one of those outcomes could motivate action (Audia & Greve, 2021; Gaba & Greve, 2019). This outcome interdependence is built into the original conceptualization of decoupling, wherein firms avoid adopting practices that conform to normative pressure but disrupt core activities and thus harm other organizational goals (Meyer & Rowan, 1977). However, the full implications of outcome interdependence for decoupling theory are underexplored. It is possible that firms adopt practices that appear to address normative pressure because those practices help them achieve an entirely unrelated goal (Jacqueminet & Durand, 2020).

Applying this insight to the institutional view of decoupling suggests that policy-practice decoupling must be more than failing to adopt corresponding practices. Instead, decoupling could manifest as adopting practices that affect the target outcome but in a way that prioritizes other organizational goals that share the same task space (Hu & Bettis, 2018). In other words, a wider view of decoupling would take into account the tradeoffs firms make when choosing practices that affect many outcomes simultaneously.

To conclude, existing theory does not adequately account for the above-mentioned inherent complexity, practice multiplicity, and outcome interdependence. As a result, current literature treats policy and practice constructs ambiguously. Therefore, to refine existing theory and expand our understanding of policy-practice decoupling, we next disentangle policies from practices.

Disentangling Policy from Practice

Existing literature defines decoupling as the misalignment between policy and practice (the focus of this paper) or between means and ends (Bromley & Powell, 2012). A more complete theory of decoupling therefore requires defining and measuring at least two constructs (policy and practice or means and ends) and identifying the degree of alignment between them. Policy adoption is the first step in this process and is defined as creating management and accountability structures, formal policies, targets, and rules that conform to the demands of the increasingly rationalized environment (Bromley & Powell, 2012). However, this view presumes that policies are observable and known to be substantive to outside stakeholders who make legitimacy judgements and convey rewards or penalties based on those judgements (Haack et al., 2021). Yet, policies do not need to be tightly coupled with practices to convey legitimacy benefits; in some cases, their pure existence is enough (Hensel & Guérard, 2020; Huang et al., 2022; Westphal & Zajac, 1998).

Moreover, stakeholders may struggle to interpret the substantiveness of policies when norms are emergent, policy legitimacy is unclear, and links between policies and substantive practices that achieve intended goals are uncertain (York et al., 2018). In such cases, institutional architects, such as standards boards, play a critical role in identifying and encouraging the suite of polices that they consider to be legitimate (Delmas & Montes-Sancho, 2010; Lee et al., 2017). Nonetheless, firms can and do implement multiple policies that can sometimes conflict and that stakeholders do not uniformly perceive as legitimate (Vergne et al., 2018). For example, policies might be symbolic if they are low-cost and require little effort to adopt or substantive if they are instead high-cost, difficult to credibly adopt, and championed or rewarded by institutional architects (Wijen, 2014). In turn, firms might refuse to adopt policies altogether due to their lack of ability or willingness (Durand et al., 2019). Therefore, policies vary qualitatively in substance and substantiveness, and this variation is separate from whether they are coupled or decoupled from practices.

The second step in deeply understanding policy-practice decoupling focuses on the actual practices adopted by firms. Making real changes to daily practices has often been seen as a signal of substantive action and therefore coupling (Westphal & Zajac, 1994, 2001). But this view assumes that any real change is a substantive one and that substantive change to daily practices is a result of full implementation of policies that are also substantive and consistent with well-understood institutionally-defined norms (Westphal & Zajac, 1994, 2001). However, these assumptions are likely inaccurate as policies and practices are not of uniform quality. In addition, practices are variable, situational, and difficult to link to outcomes in the face of complexity and causal ambiguity (Wijen, 2014). This leads to unreliable assessments of practices and their substantiveness.

For example, in the corporate sustainability literature, scholars often differentiate between symbolic and substantive practices but conflate the characteristics of actions with means-ends and policy-practice decoupling. Substantive practices are often defined as those that are costly, internally-oriented (Hawn & Ioannou, 2016), difficult to reverse (Bothello et al., 2023; Durand et al., 2019), and expected to lead to desired outcomes (Berrone et al., 2017; Kudłak, 2024). This only represents coupling if we assume uniform implementation of substantive policies, such that the only variation is in the substantiveness of practices. By contrast, symbolic practices are often characterized as externally-oriented (Hawn & Ioannou, 2016) and intended to give the appearance of change without actually requiring change (Bothello et al., 2023; Durand et al., 2019). This definition is nearly synonymous with the definition of policy-practice decoupling and is often proxied with communication tactics rather than daily practices (Fabrizio & Kim, 2019; Kim & Lyon, 2015).

A more accurate definition of practice adoption should be distinct from either means-ends or policy-practice decoupling. It should independently identify the substantiveness of actual practices and thereby accommodate direct comparisons between policies and ends—to support measures of decoupling as a link between these constructs. In other words, practices should be understood as concrete actions that are expected to (1) directly result from policies, and (2) directly cause changes in the outcome of interest (ends). For example, firms might adopt an internal price on carbon as a policy, which is meant to create incentives for various decision-makers to pay attention to greenhouse gas emissions. This policy might cause decision-makers to implement concrete practices, such as installing building efficiency upgrades or replacing fossil-fuel-powered equipment with all-electric equipment. These practices are expected to reduce overall greenhouse gas emissions as the target outcome. Each policy, practice, and outcome can be measured independently. However, while this example differentiates practices from policy and outcome, it does not clarify how researchers might differentiate between symbolic and substantive practices.

We argue that practices substantively conform to institutional pressure when they prioritize the normative goal of that pressure above all other goals that they also affect. In other words, substantiveness is measured based on goal tradeoffs embodied in practice. Measuring this does not require any particular set of policies, nor does it guarantee any specific outcomes. It therefore resolves the measurement problems we previously highlighted.

While outcome interdependence is common in modern organizations (Hu & Bettis, 2018) and complicates traditional measures of (de)coupling, it also provides the theoretical foundation for goal tradeoffs as a measure of practice substantiveness. As firms enact daily practices, they simultaneously alter their commitments and expected outcomes related to many organizational goals that share the same task space. Some practices may favor the institutionalized target to the detriment of other goals, while other practices might find synergy—or have no relationship—between different goals that are jointly affected. Continuing with our example above, practices like implementing building efficiency upgrades influence greenhouse gas emissions, but they also require upfront costs, might provide long-term financial savings, could require ongoing maintenance, and influence how salient stakeholders view the firm. Firms might implement this practice because of the emissions impact, the expected cost savings, or a particular cost-benefit balance between the two. By our definition, choosing practices that prioritize emissions reduction above cost is substantive practice.

Identifying Configurations of Policy-Practice (De)coupling

Defining policies and practices as independent constructs—that each vary from substantive to symbolic—creates unique combinations of policy-practice (de)coupling that expand our current understanding (e.g. Bromley & Powell, 2012). Once the substantiveness of policies and practices are each precisely and independently measured, identifying (de)coupling is a matter of analyzing the strength of the relationship between them. Coupling occurs when policies and practices are closely and causally linked, and decoupling occurs when these links are weak or non-existent. Figure 1 illustrates the substantiveness of policies and practices extending in orthogonal dimensions: each can vary from non-adoption to symbolic, moderate, or substantive. Each combination of policies and practices represents a strong link between their symbolic or substantive properties and thus describes the nature of the organization's (de)coupling profile.

*******Insert Figure 1 about here*******

This variation in (de)coupling profiles yields several important insights for the decoupling literature. First, our model includes *full decoupling* as traditionally defined (Westphal & Zajac, 1994, 2001) in the bottom right region of the plot, where firms adopt substantive policies but implement only symbolic practices or no practices at all. Yet our extended model also allows for variants of full decoupling, such as (de)coupling between moderate (rather than substantive) policies and symbolic practices. This type of decoupling might occur when uncertainty about the merit of policies leads organizations to adopt less costly policy variants that might still yield commensurate legitimacy benefits even without adopting substantive daily practices. Adding *moderate* extent of policy or practice adoption, which fits in-between symbolic and substantive degrees, moves existing theory beyond its binary treatment of these concepts and allows for situations where it is difficult to categorize policies or practices as symbolic or substantive.

Second, our model allows for *substantive coupling*, similar to the ideal type where substantive formal policies are closely and causally linked to substantive daily practices (Bromley & Powell, 2012) that prioritize normatively-aligned expected outcomes. At the same time, it also allows for *symbolic coupling*, wherein organizations combine symbolic policies with symbolic practices and the two share close causal ties between them. This spectrum of coupling—from symbolic to substantive—arises because firms have different levels of commitment to normative pressure and therefore different reasons to engage either symbolically or substantively. When such organizations—and their stakeholders and institutional observers—experience ambiguity about cause and effect, multiple forms of coupling can appear legitimate and thus generate benefits (Wijen, 2014). In turn, firms that engage in symbolic coupling might, with time, move towards substantive coupling as institutional norms become clearer and internal structures adapt (Dick & Coule, 2020; Espeland & Stevens, 1998; Sauder & Espeland, 2009).

Third, policy-practice combinations in the top left region of the figure indicate *reverse decoupling* (Bromley & Powell, 2012), in which organizations implement substantive practices but do not adopt conforming policies. The literature suggests three potential reasons for this type of decoupling. First, if the institutional field demands rigidly-defined policies that in fact interfere with firms' ability to implement effective practices (Wijen, 2014, 2015), firms might reject those policies and instead activate communication strategies that explain and justify their policy non-compliance

(Dick & Coule, 2020). Second, firms that face complex and conflicting institutional pressures—in the absence of institutionally-required policies—might adopt a set of obscuring practices in the name of stakeholder impression management (Carlos & Lewis, 2018; Lewis & Carlos, 2023) or to appear to conform to a different set of institutional norms (Fabrizio & Kim, 2019; Okhmatovskiy & David, 2012). Finally, we might observe reverse decoupling due to outcome interdependence: firms might adopt practices that address the normative goal as a side effect of their efforts to address a different goal. For example, a company might switch to green energy and thereby achieve emissions reduction because this saves money and buffers the company against variations in the price of oil. At the national level, politicians might prioritize expanding green energy infrastructure because it is less costly and because it supports an advantageous geopolitical position relative to rivals, but not because of concern for national decarbonization per se.

Finally, organizations might *not conform* by avoiding adoption of either policies or practices. Durand et al. (2019) suggest that this outcome is likely when the costs of conformity are higher than the expected benefits. In their model, this is likely to occur when the normative pressure relates to an issue that has either very low salience in the public eye—such that action or inaction do not seem to matter—or very high salience and complexity—such that one organization's action is not enough to materially change the overall outcome.

METHODS AND ANALYSIS

Empirical Context: Mapping (De)Coupling in Corporate Decarbonization

We leverage this repertoire of policy-practice (de)coupling configurations as a framework to guide our question-driven analysis (Graebner et al., 2023) of corporate decarbonization. This context is well-matched with our theoretical framework for several reasons, including inherent complexity, practice multiplicity and outcome interdependence. First, firms face increasing institutional pressure from multiple sources—including customers, employees, investors, regulators, and competitors—to adopt decarbonization policies and practices, yet with little consensus on their coupling. Examples of institutionalized policies include setting formal and externally-validated targets (Ioannou et al., 2016) and specific management structures (Flammer et al., 2021); examples of institutionalized practices include green energy purchases and equipment upgrades (Coen et al., 2022).

Second, differentiating symbolic and substantive practices is challenging because norms are emergent, decarbonization is inherently complex, and actions affect many outcomes (Freiberg et al., 2021; Hu & Bettis, 2018). Decarbonization initiatives simultaneously affect greenhouse gas emissions, short-term financial costs, and long-term gains in ways that are salient and observable to many stakeholders. Because of these interrelated factors, firms could undertake decarbonization initiatives to achieve cost savings, to reduce emissions, or to influence various stakeholders, or some combination of the three goals. Thus, while prior research has simply counted the number of decarbonization initiatives or aggregated their volume (Freiberg et al., 2021), firms might vary in whether they adopt practices that substantively (or symbolically) prioritize decarbonization goals.

In this study, we leverage granular data on more than 13,000 decarbonization initiatives undertaken by more than 700 firms to identify substantive, moderate, and symbolic practice adoption archetypes based on the goal tradeoffs firms made when choosing between multiple practices advancing multiple goals mentioned above. We then map each of these archetypes against policies that institutional architects describe as more (or less) substantive to understand how corporate decarbonization efforts fit on our framework of policy-practice decoupling. We describe each of these analyses in the next sections.

Data, Sample, and Variables

Our analysis focuses on corporate policies and practices reported to the CDP (formerly Carbon Disclosure Project), the only annual global survey on carbon emissions and emissions management practices (Huang et al., 2022; Li, 2025). We focus on the period between 2013—the first year in which the CDP included detailed reporting on initiatives—and 2019—the last year before COVID-19-related disruptions. We limit our analysis to industries that are not commonly considered to be hard to decarbonize. Accordingly, our study includes firms in the services, retail, hospitality, apparel, or healthcare industries. While firms in each of these industries face unique constraints and opportunities for decarbonization, their options are generally well-understood and feasible using existing technology, such as improved process or infrastructure efficiency, electrification of equipment, and adoption of green energy sources. We also require firms to have reported to the CDP for at least 5 years in the sample period.

We utilize two types of data from CDP. First, we exploit firm-level data reporting policies like emissions management structures and governance, risk evaluation procedures, goal setting, and incentives. Second, we use practice-level data detailing carbon reduction initiatives implemented in the reporting year. This data includes expected emissions impact, upfront financial cost, long-term financial impact, and a text description for each initiative. In addition to the CDP data, we draw controls from Refinitiv Eikon and Bureau Van Dyke. Appendix A catalogues the definition and source of each variable in our analysis, while Appendix B provides a descriptive overview of the initiative-level data.

Measuring policy substantiveness

Based on prior literature in this domain (Coen et al., 2022; Huang et al., 2022; Li, 2025) and the rating criteria published by CDP, we identify several policies that represent structures, protocols, or rules expected to be causally linked to practice adoption in this context. Importantly, in addition to gathering data, CDP also provides guidance on policy substantiveness by rating firms based on their emissions management reporting and adopted policies. In particular, it lists the most substantive policies that qualify firms for their most prestigious “Climate Leadership” designation. A moderate version of these policies results in lower-tier recognition for “Climate Management.” Finally, symbolic policies lead to “Climate Awareness” rating. We use this rating criteria to code substantive, moderate and symbolic policies as described in Appendix A.

For example, firms can report details of any emissions-reduction targets they set. However, only very stringent targets that are vetted and approved by the Science-Based Targets Initiative (SBTI) qualify for “Climate Leadership” points. Accordingly, we interpret setting these targets as *substantive* policy. Less stringent targets qualify for “Climate Management” points, so we interpret them as *moderate*, while lack of targets demonstrates lack of awareness and conformity. Similarly, firms report different risk-evaluation procedures that can be integrated (substantive) or siloed (moderate) and vary in substantiveness based on their frequency and scope. Firms can implement incentives for emissions reduction, which can be considered substantive if they offer monetary rewards to executives or board members, moderate if they offer monetary incentives for junior staff only, and symbolic if they offer only non-monetary rewards to any employee.

Some policies have only one tier. For example, setting an internal price on carbon is considered moderate because it contributes to “management” but not “leadership” designation, while purchasing carbon credits and claiming (without justification) that climate change is integrated into strategy are both considered symbolic because they do not contribute to recognition at either the “management” or “leadership” tiers. We model each policy separately to allow for a more detailed understanding of how different policies map on to substantive, moderate and symbolic practice adoption, which is described in detail in the next section.

Measuring practice substantiveness

In line with our theory, we represent each firm’s practice substantiveness as the goal tradeoffs they accepted in choosing among various practices. In particular, we identify practices as substantive if they prioritize emissions reduction relative to the upfront cost, expected long-term financial savings, and messaging strategy used to describe the initiative. Symbolic practices are those that prioritize messaging or cost savings above emissions impact. Moderate practices fall in between symbolic and substantive ones. We identify archetypes that embody different types of tradeoffs and classify firms to each archetype by analyzing the suite of practices (emissions-reduction initiatives) that a firm implemented relative to their peers.

Figure 2 provides a summary overview of the process for estimating practice adoption *archetypes* based on initiative-level CDP data. The process is described in detail in Appendix C. Briefly, we first represent each initiative based on its expected emissions impact, upfront cost, expected lifetime financial savings, and messaging strategy. While environmental and financial data are reported numerically, we represent these variables based on their within-industry quintile to scale them relative to industry norms, lessen the impact of extreme outliers, and avoid making restrictive assumptions about the functional form of tradeoffs that firms might be willing to accept.

In addition, we identify six types of messaging strategy using Latent Dirichlet Allocation (LDA) content analysis of the qualitative description of each initiative. First, we find three strategies that describe technical details of *systems* upgrades, *green energy*, and *lighting* upgrades. Second, we identify two non-technical messaging strategies describing *financial* impact of initiatives or general sustainability- and emissions-related *buzzwords*. Finally, when initiatives do not clearly fall within one of these categories our content analysis classifies them as *ambiguous*. Table 1 provides details of the LDA analysis, including the top 20 keywords associated with each messaging strategy and examples of initiative descriptions categorized into each type.

******* Insert Table 1 about here *******

We then construct a behaviorally-aligned simulation of each firm's initiative search process, which presents each firm as searching within an observable choice set of initiatives. We simulate the choice set as a subset of initiatives pursued by industry peers in prior years (Dorobantu et al., 2020). We use a latent class logit model to analyze each firm's choices as a function of each initiative's features while recognizing the complex nesting of initiatives within choice sets and firms (Chambers & Echenique, 2016; Hess, 2014; Raffiee et al., 2022). The model jointly estimates two key outputs:

(1) tradeoff archetypes that define the substantiveness of practices; and (2) probabilities that each firm's observed pattern of initiative selection is consistent with each archetype.

We first estimate the relative importance (RI) weights that represent distinct tradeoff patterns for a flexible number of latent classes ("archetypes"). These archetypes represent substantive, moderate, or symbolic practice adoption, depending on the RI of emissions reduction. We found that a five-archetype model (where the fifth archetype is constrained to catch unidentifiable tradeoffs), strikes an appropriate balance between minimizing the model fit criteria (AIC) and maximizing the probability of correctly predicting firms' choice patterns. As a robustness test, we also considered models with more and fewer latent classes, with results reported in Appendix C. We then estimated the probability that each firm's observed pattern of initiative selection is consistent with each archetype. Firms that systematically choose initiatives that embody a certain tradeoff archetype have a high probability of membership in that archetype. This collapses the complex initiative-level data into firm-year data that describes each firm based on the tradeoffs it accepted in its practices in each year. Our final measure of *practice substantiveness* is operationalized as the probability that the firm's practices belong to each of the five archetypes.

******* Insert Figure 2 about here *******

Control variables

We control for several firm-level characteristics, including return on assets (ROA), current assets (winsorized at 99^{th} percentile), research and development (R&D) expenses, earnings before interest, taxes and depreciation (EBITDA), employee count (logged), current ratio, industry, and headquarters region. Financial data is drawn from Bureau Van Dijk, which provides reasonably comprehensive coverage of the firms in the CDP sample. However, our sample includes a number of private companies for which financial data is unavailable; in such cases we control for missingness.

Analysis: (De)Coupling Links Between Policy and Practice

To identify policy-practice (de)coupling, we model the relationship between policy and practice adoption in a regression analysis at the firm-year level. In particular, we model the probability of firms belonging in each archetype (*practice adoption* described above) as a function of their policies, while controlling for annual financial performance and stable characteristics such as industry and headquarter region. The results of these models indicate the degree to which specific policies are coupled with each practice adoption archetype. Statistically significant coefficients signify coupling, while the nature of that coupling depends on whether the coupled policies and practice adoption archetypes are symbolic or substantive as described above.

However, selection into the sample is not random: firms generally self-select into the CDP sample overall, and some self-select into the sample that both reports to CDP and provides full data for decarbonization initiatives. We therefore use a two-stage Heckman model (Cook et al., 2021; Heckman, 1976), where selection into the latter subsample is modeled in the first stage. Following Certo et al. (2016), we use required versus fully voluntary reporting as a potentially viable exclusion restriction for the probability of reporting initiatives. Specifically, some firms (so-called "supply chain reporters") report to the CDP at the request of their customers—hence, their reporting is coerced, rather than fully voluntary. Ideally, the exclusion restriction should be correlated with selection into the initiative-reporting sample, but uncorrelated with practice adoption archetypes (Certo et al., 2016). When we check this in our data, we find that two archetypes ("Moderate: buzzwords" and "Symbolic: financialized") are unsurprisingly (positively and negatively) correlated with coerced reporting. This reflects differences in their incentive structure as the requirement by their customer(s) to report to CDP pushes them towards stakeholder impression management.

Nonetheless, the Heckman model is appropriate in our analysis because of strong correlations between the error terms in the first (1) and second (2) stage models, and statistically significant coefficients on the independent variables of interest in both stages. We report results of both stages in our results section, where we repeat the second stage for all five archetype probabilities and adjust the parameters and standard errors based on the Inverse Mill's Ratio (IMR) from the first stage. Thus, the parameter estimates from the second stage (2) are contingent on the results of the first stage (1), which controls for selection into the "initiatives reporting" subsample:

$$P(reporting) = f(Required\ Reporting, Policies, Characteristics, Year) + \mu_1 > 0 \tag{1}$$

$$Practice\ Adoption \mid reporting = f(\ Policies, Characteristics, IMR) + \mu_2 \tag{2}$$

RESULTS

Descriptive Statistics

The final sample includes 782 firms (4,314 firm-year observations) of varying size, from every continent (except Antarctica), reporting a total of 13,400 decarbonization initiatives. While, when asked directly, 84% reported having undertaken initiatives at some point in the sample, firms did not disclose any specific initiatives in about 40% of the sample (n=1,988). Table 2 summarizes initiative-level data, while Table 3 presents firm-level summary statistics.

*******Insert Table 2 and Table 3 about here*******

Practice Adoption Archetypes

Our core measure of practice adoption classifies firms into five archetypes, based on their chosen practices. Table 4 describes these archetypes as a set of distinct tradeoffs that demonstrate the relative importance (RI) of emissions impact, upfront cost, long-term financial impact, and messaging strategy. Within each archetype, the most important feature has RI score of 100, while the least important feature scores 0. Appendix C further explains and visualizes the RI of each of these features for each archetype.

The first archetype (15.1% of the sample) represents *substantive practice adoption*. Firms with a high probability of belonging in this archetype systematically select initiatives with higher-than-average emissions reduction (100% RI) and place a high weight on technical descriptions of systems (92% RI), lighting upgrades (90% RI) and green energy purchases (87% RI). They are also moderately willing to accept above-average up-front costs (42% RI) and achieve above-average financial savings (34% RI). Overall, this substantive practice adoption group places a pragmatic emphasis on high emissions reduction, and they are willing to pay higher upfront costs in order to achieve not only emissions reduction but also financial returns in the long run. We call this archetype *"Substantive"*.

The second archetype (15.4% of the sample) represents *moderate practice adoption*, wherein firms target initiatives with below-average emissions impact (100% RI), upfront cost (25% RI) and expected financial savings (43% RI). These organizations balance costs and benefits by focusing on initiatives that minimally impact both emissions and finances. Similar to their more substantive peers, these firms value technical descriptions of systems (88% RI) and lighting upgrades (84% RI), although their chosen initiatives place lower RI on green energy purchases (55% RI). This group shows unwillingness to make large upfront financial investments in order to achieve high emissions impact and instead settles for small-scale initiatives that provide a pragmatic balance between costs and benefits. Accordingly, we coin it *"Moderate: Small Scope"*.

The third archetype (11.2% of the sample) also represents *moderate practice adoption.* This group values technical descriptions of green energy projects (88% RI) but it is unique in emphasizing generic *buzzwords* to describe sustainability more generally (100% RI). While the initiatives selected in this archetype can have upfront costs that are very high or very low (as represented by a very low RI (1% RI)), they place a moderate weight on both higher-than-average emissions reduction (23% RI) and lower-than-average expected financial savings (11% RI). This indicates these firms' willingness to commit to practices with high emissions impact, even in the absence of corresponding financial return. But this tradeoff is of secondary importance relative to their messaging strategy. This combination of priorities suggests moderate practice adoption that varies qualitatively from the first and second archetypes, we thus label it *"Moderate: Buzzwords".*

The fourth archetype (12% of the sample) uniquely values a systematic description of financial features of initiatives (100% RI). It represents *symbolic practice adoption* because firms in this group do not seem to select initiatives based on their emissions (5% RI) or financial impact (3% RI), since both can span the entire distribution of values. We interpret this group as placing a high value on conveying the credibility of their initiatives to stakeholders, potentially to mask the lack of systematic financial investments, cost savings, or emissions impact. Thus, we label this group *"Symbolic: Financialized"*.

The final archetype comprises 6.4% of the sample and represents firms that do not systematically select initiatives based on any of the above-mentioned characteristics. Instead, their choices appear random. We therefore label this group *"Random"*. The remaining 40% of the sample is firms that reported to CDP but did not report any initiatives.

*******Insert Table 4 and Table 5 about here*******

Policy-Practice (De)Coupling

Consistent with our question-based approach, we next investigate different configurations of policy-practice (de)coupling by evaluating the strength of relationships between a variety of policies and practice archetypes. We consider practices to be tightly coupled with policies when the two are positively and statistically significantly correlated in the second stage of our Heckman model.

Column (0) of Table 5 presents the results of the first stage, where the probability of reporting initiatives is based on firm-level characteristics, including policies, financial characteristics, industry, headquarters, and supply chain reporting (the exclusion restriction). Results indicate that many policies of all types (substantive, moderate, and symbolic) correlate with a greater likelihood of reporting initiatives to CDP. Indeed, only one policy is associated with a lower likelihood: assigning junior (rather than senior) managers as the highest level of control over climate change management. Being coerced by a supply chain partner to report to CDP is also negatively correlated with reporting initiatives (b=-0.17, p=0.001), indicating that this exclusion restriction is potentially viable. We also find strong correlations between the errors from stage 1 and each of the five stage-two models, as evidenced by the non-zero rho statistics and significant lambda coefficients. In combination, these factors suggest that sample selection bias is likely in this sample, and that the Heckman model using supply chain reporting as the exclusion restriction is an appropriate and viable solution.

Additionally, firms headquartered in Africa and in the healthcare industry were more likely to report initiatives than the average company, while firms in Central America where less likely to report initiatives. Reporting initiatives was positively correlated with EBITDA and R&D expenses, but negatively correlated with Current Assets (after controlling for missingness in these variables).

Overall, the first stage results indicate that firms that enact climate change management policies are more likely to also report emissions-reduction practices. At a surface level, this represents policy-practice coupling, which is not unexpected given Bromley and Powell's (2012) insight that policy-practice coupling is more likely than decoupling in an environment with many institutional actors attempting to define legitimate and illegitimate actions, as is the case in decarbonization. However, the first stage model only considers whether firms report their initiatives or not. It does not account for variation in the substantiveness of practices.

We next turn to the second stage results to understand this qualitative variation in coupling. Columns 1-5 in Table 5 report the results predicting membership in each practice adoption archetype, contingent on the reporting behavior modeled in Stage 1. Column 1 reports the results for the probability of substantive practice adoption. Two substantive policies—setting science-based targets and offering monetary incentives for senior executives and board members—are strongly *coupled* with this archetype. Somewhat surprisingly, offering non-monetary incentives at all staff levels (generally considered symbolic) is also associated with substantive practice adoption. Unsurprisingly, firms that purchase carbon credits, considered symbolic in this field because they are an ineffective substitute for actual emissions reduction, are less likely to belong in this group.

Column 2 indicates that lacking board-level oversight (substantive policy) and setting non-science-based targets (moderate policy) is associated with "Moderate: Small Scope" practice adoption. Firms in this archetype are also unlikely to engage in symbolic risk evaluation. Thus, they couple moderate practices with moderate policies while avoiding certain substantive and symbolic policies. This indicates *moderate coupling* (between moderate policies and moderate practices), a type of coupling that we identified in our theoretical framework but that is not considered in prior theoretical or empirical work.

In contrast, firms that systematically describe their initiatives using buzzwords (Column 3) and place only moderate importance on achieving emissions reduction employ a mix of substantive, moderate, and symbolic policies. For example, they set science-based targets (substantive), engage in substantive risk evaluations, use internal carbon prices (moderate), and state that climate change is integrated in their strategy (symbolic). Firms in this category take advantage of ambiguity in the institutional environment by implementing a suite of policies—including some substantive policies—while delivering only moderate practices. This archetype's mix of policies and practices is consistent with *full decoupling*.

Firms whose actions are most consistent with the "Symbolic: financialized" archetype (Column 4) stand out for their lack of policies of any type. Indeed, most of the policies associated with a greater likelihood of reporting initiatives, including target setting, incentivizing climate performance, engaging in risk evaluation, and using internal carbon pricing, are associated with a reduced likelihood of belonging in this "financialized" group. This non-adoption of policies, combined with symbolic practices, is an indication of *reverse decoupling*. In other words, this group of firms seems to engage in emissions-reduction initiatives because they seek cost savings—an outcome of the shared task environment that has nothing to do with emissions reduction per se.

Finally, firms whose decarbonization initiatives lack any identifiable pattern ("random" archetype) are less likely to have science-based targets (substantive policy) but more likely to be regulated by emissions tax or cap and trade systems (Column 5). This negative association with science-based targets and positive association with regulatory exposure suggests that carbon taxes and cap and trade systems can induce regulated firm to engage in initiatives but do not guarantee that those initiatives will be substantive. Instead, they seem to trigger noisy or inconsistent patterns, consistent with symbolic compliance (Durand et al., 2019).

DISCUSSION AND CONCLUSION

This study advances understanding of how organizations respond to normative pressure in complex institutional environments—specifically, how firms manage the relationship between decarbonization policies and practices amid growing expectations to reduce emissions (Flammer et al., 2021; Li, 2025; Reid & Toffel, 2009). We make three key contributions to the strategy and institutional literatures (Bromley & Powell, 2012; Crilly et al., 2016; Wijen, 2015). First, we refine decoupling theory by disaggregating policy and practice into analytically distinct components, both of which can be symbolic, moderate or substantive. This distinction allows us to systematically identify and classify varied (de)coupling profiles and introduce overlooked configurations, such as symbolic and moderate coupling and reverse decoupling. These configurations challenge the binary treatment of (de)coupling as either present or absent and offer a more granular understanding of how firms signal conformity to emerging institutional norms and navigate complexity and practice multiplicity in shared task environments. They also expand recent work differentiating means-ends (Wijen, 2014), policy-practice (Bromley & Powell, 2012) even and policy-policy decoupling (Wang et al., 2018).

As we show in this paper, simply implementing a symbolic practice is not enough to establish decoupling. Instead, researchers should identify coupling and decoupling based both on the nature of each organizational policy and practice and on the strength of the relationship between them. Doing so requires a more refined definition of the types of organizational actions that should be thought of as policies versus daily practices. We clarify that policies include formal management and accountability structures, targets, or rules that encourage or monitor the desired practices. In turn, practices are actions that are expected to directly and causally impact the target outcomes.

Many institutional fields develop norms that describe legitimate policies and practices in an effort to make sense of ambiguity and complexity in the underlying causal chain (Wijen, 2014, 2015). However, both policies and practices can be symbolic or substantive relative to the prevailing normative pressure (Durand et al., 2019). The degree of coupling therefore depends on whether substantive policies are linked with substantive practices.

Second, we develop and apply a question-driven configurational analysis (Calic et al., 2025; Nava et al., 2025) that allows researchers to assess the substantiveness of corporate practices not by their surface-level features or labels, but by the tradeoffs they embody. Our novel use of revealed preference modeling (Chambers & Echenique, 2016) and behavioral simulations (Albert & Csaszar, 2023; Dorobantu et al., 2020) identifies which emissions-reduction initiatives prioritized environmental goals over financial or impression-management goals. Accordingly, we provide a more valid and theoretically grounded measure of substantive practice adoption. This approach can be extended to other settings where firms pursue multiple competing goals (e.g., Battilana et al., 2022; Dorobantu et al., 2020; Obloj & Sengul, 2020), offering a new lens for assessing goal alignment in strategic decision-making.

This approach is also crucial to unpacking decoupling. Empirical studies of decoupling often interpret measures of symbolic actions (either policies, practices, or communications) as evidence of decoupling (e.g., Crilly et al., 2012; Delmas & Montes-Sancho, 2010; Kim & Lyon, 2015). In contrast, our approach identifies coupling based on the links between policies and practices, which is more aligned with its theoretical definition. One of the reasons decoupling is difficult to capture in archival research is because it is a multi-part construct where each part is complex and situational. Daily practices are particularly challenging to measure as they require continuous observation of organizations and reporting of their activities (Crilly et al., 2012).

The question- and data-driven nature of our analysis directly contrasts prior studies that assume a specific type of action is a sign of substantive practice (Gaba & Greve, 2019; Smulowitz et al., 2020). Instead, we highlight that the tradeoffs organizations make are only observed in action and are quantified by allowing patterns of behavior to surface through a data-driven process (Heckman & Singer, 2017). This approach produces an empirical measure of the relative importance of different goals (e.g., short- and long-term, financial and non-financial impact) as firms choose practices and prioritize their various goals. Using this approach, future research can avoid assumptions about whether a practice is symbolic or substantive and instead empirically measure this construct. In other words, taking RI weights as an object of empirical scrutiny allows studying heterogeneous and contextualized practices, rather than uniform and assumed ones.

We developed this empirical process using a sample of decarbonization initiatives reported by firms in the annual CDP survey. While we recognize that this self-reported data likely suffers from selection bias (part of which we attempted to address), it has significant strengths due to its broad coverage and extremely granular information on decarbonization practices and policies. CDP is also representative of an emergent institution that is instrumental in designing and disseminating norms about the types of policies and practices that are considered legitimate (Huang et al., 2022; Li, 2025). Nonetheless, we interpret our findings with caution, as they may not be valid for the set of firms that choose not to report to CDP (even though they may in fact lack any actions to report). With this limitation in mind, we observe substantial heterogeneity in the tradeoffs that firms were willing to accept. This is evident in the ways that our observed "Substantive" and "Symbolic: Small Scope" archetypes prioritize very different levels of emissions and financial impact, even while describing their actions using similar messaging.

Finally, we reveal a paradoxical finding important for both theory and practice: some policies with high institutional legitimacy—such as integrated climate risk analysis—are not associated with substantive practices. Conversely, some firms implement emissions-reduction practices without formal policies or while adopting only symbolic policies. These results complicate assumptions about policy signaling, suggesting that legitimate policies may not always translate into real action

(Wijen, 2014, 2015; Wright & Nyberg, 2017). They also underscore the importance of considering institutional complexity, practice multiplicity, outcome interdependence, and tradeoffs in models of firm response to social and environmental pressure (Delmas & Toffel, 2008; Huang et al., 2022).

While achieving decarbonization via effective and efficient policies and practices lessens the threat climate change poses for society, it also helps both managers and their stakeholders to allocate limited resources and attention more effectively. This study identifies policies associated with more substantive adoption of emissions-reduction practices: firms that adopt science-based targets in combination with monetary incentives for top leadership and non-monetary incentives tend to enact practices that achieve larger-scale emissions reduction while also achieving cost savings. These firms achieve synergies between financial and environmental impact of their decarbonization practices, and they do so in part by focusing on the technical details of their emissions-reduction programs as they describe them to CDP. We also identify tight coupling between moderate (non-science-based) target setting—combined with lack of executive or board control—and moderate practices that are lower in environmental impact but also require lower upfront costs.

In an ideal world, institutional pressure would push organizations to couple substantive policy with substantive practice, as in our "Substantive" archetype. However, recent research suggests that firms accrue legitimacy benefits for many types of actions, even those we find to be less tightly coupled. For example, Huang et al. (2022) find that firm exposure to climate-related risks results in more stringent bank loan terms. They also find that a mix of policies, including integrating climate change into strategy (symbolic), implementing board-level governance (substantive), maintaining any kind of risk management processes (variable substantiveness), perceiving climate-related business opportunities, and engaging in public policy advocacy each reduce the stringency of loan terms. If bank loan stringency is a result of the perceived legitimacy of these policies, then banks could target and reward firms with more substantive policy-practice coupling—those that combine science-based targets with financial and non-financial incentives—while ignoring other policies that are decoupled from substantive action. Doing so might help evaluators differentiate substantive policy-practice pairings from decoupled look-alikes. For example, our “Moderate: buzzwords” archetype combines science-based targets and substantive risk evaluations with other symbolic policies but yields only moderate emissions-reduction practices.

While charting interesting avenues for future work, our research can be extended in several ways. First, studying decarbonization tradeoffs over longer periods of time could provide greater insights into the dynamic changes in decoupling over time. Results of recent elections in the U.S. and abroad as well as multilateral agreements on climate change (such as the Paris Accord) can introduce uncertainty to some of these decisions and can change the relative importance of certain decarbonization practices or features. Second, while we studied policy-practice decoupling, our method could also inform research into means-ends decoupling. In the climate change management area, emissions reduction is the ultimate “ends” and emissions-reduction practices and policies are the “means” by which it can be achieved. Third, outside of the context of this study, future research can seek other opportunities to identify tradeoffs using granular action-level data. For example, a similar empirical strategy might be employed to understand the tradeoffs embedded in resource allocation decisions in response to resource windfalls or adverse shocks (Shepherd et al., 2017), or in negotiations among conflicting stakeholders (Odziemkowska, 2022).

Finally, our theory identifies variants of decoupling that exist when we define decoupling more precisely based on links between policies and practices that can each vary in substantiveness. Our tradeoff-based measure of the substantiveness of practices can also serve as a proxy for the importance of various goals that co-occur in a shared task environment. This can provide unique insights into the ways organizations prioritize multiple goals in daily actions (Audia & Greve, 2021; Gaba & Greve, 2019). Future work could extend theory and research on multiple goals by linking our form of analysis with behavioral models of feedback responsiveness, given complex goal interactions and hierarchies. Such a study could use insights from behavioral feedback theories to consider more comprehensively the dynamics and changes in tradeoff behaviors over time.

In sum, our findings advance strategic management research on how firms navigate ambiguity and institutional demands under complexity. We suggest that understanding meaningful actions that address societal challenges—such as climate change—requires attention not only to what firms say or adopt, but how and why they act. In turn, by developing more precise conceptual and empirical tools, this study offers a roadmap for evaluating (de)coupling in domains marked by high institutional turbulence and strategic tradeoffs.

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Figure 1: Configurations of Policy-Practice (De)coupling

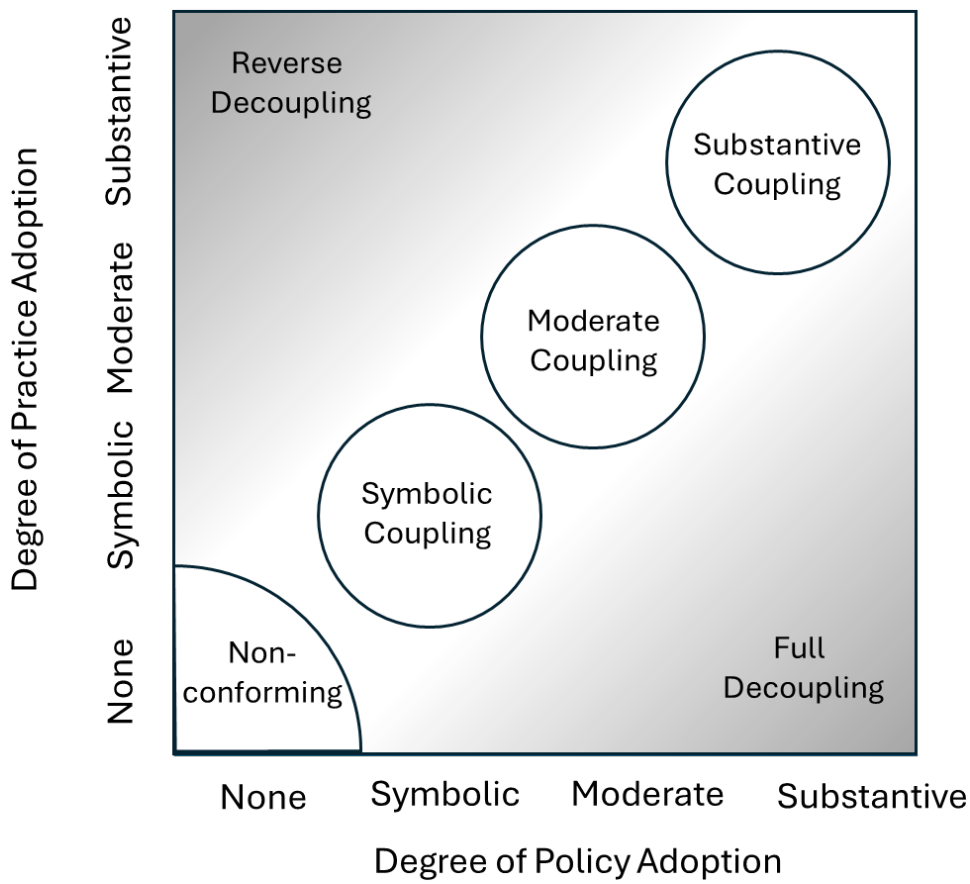


Figure 2: Identifying Tradeoff Archetypes

Data In this study, we analyze 13,400 emissions reduction initiatives reported by 782 firms over 7 years. Initiatives are characterized by their upfront cost, total expected cost savings, total expected emissions reduction, and text description.

Assumptions (1) The observed and reported initiatives are selected from a pool of non-chosen candidates which are not directly reported in the data; (2) Decision-makers observe initiatives taken by their industry peers in prior years, and these initiatives comprise an imputed pool of candidate initiatives; (3) Decision-makers carefully consider only a subset of potential candidates; (4) Choices to select some initiatives (observed) and reject others (imputed candidates) reveal the priorities and tradeoffs across the characteristics of the initiatives; (5) Preferences and tradeoffs are heterogeneous across the population, and distributed discretely, such that there are groups of companies with systematically similar preferences.

Analysis steps

(1) Standardize initiative data, representing each numeric indicator (upfront cost, total savings, total emissions reduction) based on its quintile in its within-industry distribution. This allows for a basic representation of the data without imposing a linear or curvilinear functional form on the tradeoff weights. Classify text descriptions based on LDA topic model.

(2) Impute the set of counterfactual non-chosen alternatives from a pool of candidates.

2.1 For each chosen initiative, identify all initiatives undertaken by industry peers in the prior year. These form the pool of candidates 'at risk' of selection.

2.2 Randomly select a set of initiatives to represent the non-chosen alternatives that the decision-maker carefully considered. We use a sample of 5 initiatives for this analysis.

2.3 Repeat (2.2) several times, to reduce the influence of any single random draw on the data. We repeat the draw 5 times for this analysis.

The resulting data have a nested panel structure, where chosen (*y=1*) and non-chosen (*y=0*) initiatives (*i*) are defined by features Z_i and nested within a choice occasion (j). Multiple choices are nested within a firm (f) and year (t). Choice is a binary outcome variable and initiative features are independent variables.

(3) Identify tradeoff archetypes by comparing chosen and counterfactual alternatives in a latent class logit model. We model 5 classes in our primary analysis, where each class is represented by a set of importance weights that are shared among class members. This maximum-likelihood model identifies importance weights indicating the relative importance placed on each initiative feature (z_{ij}^1) within each class (x), and the probability ($P(x)_{ft}$) that a given firm-year observation belongs in each class based on the choices nested within that firm-year.

$$f\left(y_{ij} \middle| z_{ij}^1, \dots, z_{ij}^n\right) = \sum_{x=1}^{5} P(x)_{ft} f\left(y_{ij} \middle| x, z_{ij}^1, \dots, z_{ij}^n\right)$$

Results The latent class logit model generates two key outputs:

(1) Importance weights associated with each of the 5 classes, which define the relative importance that decision-makers place on each feature.

(2) Probability that each decision-maker's actions are best described by the importance weights associated with each class (tradeoff archetype).

Table 1. Latent Dirichlet Allocation (LDA) Classification and Examples

Classification	Top 20 words	Examples
Buzzwords	Energy*, reduc*, [year], effici*, build, emiss*, initi*, manag*, employ*, environ*, office*, program*, continu*, active*, travel, busi*, implement, consum*, oper*, save	"All of the above cannot be attained without fully incorporating sustainable development goals into our business and delivering on our commitments with respect to the management of the triple-bottom line & the organization's economic, social and environmental risks, obligations and opportunities. Our people represent our most important asset without which we cannot achieve any of our objectives"
Financialized	save, project, estim*, [year], kwh, invest*, reduc*, energi*, cost, annual, emiss*, initi*, base, implement, period, lifetime, monetar*, payback, co, report	"There are various payback periods. Some projects were funded based on the expected rate of return but there may also have been regulatory drivers. The identified cost savings are an estimate. Lifetime of initiative depends on the life expectancy of the building." "Preventive maintenance may extend the life of these investments."
LED Lights	Light, LED, replac*, energi*, effici*, instal*, project, retrofit*, scopetwo, voluntari*, upgrad*, reduc*, store, office, build, emiss*, fixtur*, lamp, implement, [numbers]	"Our buildings across the portfolio use energy efficient lighting. In the 2017-18 financial year, 4 lighting projects were completed in corporate offices whilst the retail branches continued to be refurbished. The project was based on replacing T8 fluorescent lighting with energy efficient LED's." "Installed LED lighting system in on CNC production floor replacing old metal halide system"
Green Energy	[year], energi*, electr*, emiss*, reduc*, renew*, power, purcha*, solar, instal*, fuel, gener*, vehicl*, consumpt*, site, green, sourc*, fleet, car, carbon	"For 2017 we voluntarily purchased primarily wind generated Renewable Energy Certificates (RECs) from four of our regional energy suppliers (equating to approximately 5% [16,897 MWH] of the companywide electricity usage). The CO2 equivalents for this green power totaled 11,549 metric tons and 1,375 metric tons more than used in 2016. Our purchase of RECs qualified [Company] for inclusion in the U.S. EPA's Fortune 500 list of largest green power users."
Systems	system, energy, effici*, air, heat, project, reduc*, install*, replac*, control, build*, equip*, cool*, water*, hvac, improv*, unit, oper*, implement, chiller	"Project was implemented primarily for higher performance; energy reduction was a supplemental benefit. Convert walk-in cold room refrigeration from conventional refrigeration-based systems to a central glycol system. Turned off 7 refrigeration systems; tied into existing glycol system that is cooled by a central plant. Cooling reduction ~40 tons."

Table 2. Initiative-level Summary Statistics*

Initiative Characteristic	Median	Mean	Std. Dev.	(Min; Max)	Correlations (1)	(2)	(3)
(1) Lifetime CO_2 avoided (1,000 tons)	2.5	233.03	6,846.02	(0; 657,694)	1		
(2) Expected lifetime financial savings ($M)	0.435	25.5	852	(0; 75,562)	0.0307	1	
(3) Upfront cost ($M)	0.092	4.79	59	(0; 2,896)	0.1495	0.0189	1

(4) Messaging strategy	N	%
Ambiguous	2,694	22.7
Buzzwords	1,539	12.9
Financialized	1,810	15.2
LED Lights	1,977	16.6
Green energy	1,321	11.1
Systems	2,550	21.4

* The total initiative count is 13,400. Of these, 1,509 were reported in 2013 and were used as the initial pool of counterfactual alternatives for those reported in 2014. Therefore, only those reported in 2014 or later are summarized here (N=11,891). Initiative messaging was classified as "ambiguous" if no messaging category exceeded 50% classification probability.

Table 3. Firm-level Summary Statistics*

Variable	Frequency	Percent
Target		
Science-based target	572	13.3%
Other target	487	11.3%
None (omitted)	3,346	77.6%
Managerial oversight		
Board or Executive	4,055	94%
Junior	831	19.3%
Not reported	170	3.8%
Incentives		
Monetary / Board or executive	1,238	28.7%
Monetary / Junior	1,318	30.6%
Non-Monetary	844	19.6%
None (omitted)	914	21.2%
Risk Evaluation Integration		
Integrated	3,638	84.3%
Siloed	269	6.2%
None (omitted)	407	9.4%
Risk Evaluation Scope		
Substantive	1,320	30.6%
Moderate	2,278	52.8%

Variable	Frequency	Percent	
Symbolic	45	1%	
None (omitted)			
Internal Price on Carbon	625	14.5%	
Climate Integrated in Strategy	3,849	89.2%	
Perceive Climate Change Risks	3,759	87.1%	
Internal Price on Carbon	625	14.5%	
Industry			
Apparel	105	3.1%	
Biotech, Healthcare, & Pharma	501	11.6%	
Hospitality	160	3.7%	
Retail	445	10.3%	
Services	3,076	71.3%	
Region			
Africa	203	4.7%	
Asia, Middle East, & Oceania	835	13.4%	
Central & South America	209	4.8%	
Europe	1,653	38.3%	
North America	1,414	32.8%	
Archetype			
No initiatives reported	1,325	30.7%	
Class 1: Substantive	752	17.4%	
Class 2: Moderate: Small Scope	765	17.7%	
Class 3: Moderate: Buzzwords	557	12.9%	
Class 4: Symbolic: Financialized	596	13.8%	
Class 5: Random	319	7.4%	
Year			
2013	663*		
2014	711	16.5%	
2015	761	17.6%	
2016	765	17.7%	
2017	761	17.6%	
2018	646	15.0%	
2019	670	15.5%	
	Median	Mean	Std. Dev
Current Assets (millions) (n=2,627)	2,513.93	10,903.39	26,809.44
Employees (thousands) (n=2,367)	16.64	57.23	141.6
Research & Development (n=1,977)	0	527.45	1,590.73
EBITDA (n=2,497)	838.42	2,735.31	5,828.69
Return on Assets (n=2,672)	4.66	5.4	6.9
Current Ratio (n=2,604)	1.27	1.7	2.5

* 2013 provides data for the search space for the 2014 actions, hence the data in this table is shown for years 2014-2019 only (N=4,314).

Table 4: Relative Importance (RI) of Initiative Features by Practice Archetype

Archetype (share of the sample)	**Most important (RI)**	**Moderate importance (RI)**	**Unimportant (RI)**
Substantive (15.1%)	Above average emissions reduction (100%) Describes systems (92%), lighting (90%) and green energy (87%)	Above average upfront cost (42%) Above average financial savings (34%) Describes buzzwords (30%)	Describes financial characteristics (0%)
Moderate: Small Scope (15.4%)	Below average emissions reduction (100%) Describes systems (88%) and lighting (84%)	Describes green energy (55%) and buzzwords (47%) Below average lifetime financial savings (43%) Below average upfront cost (25%)	Describes financial characteristics (0%)
Moderate: Buzzwords (11.2%)	Describes buzzwords (100%) and green energy (88%)	Describes lighting (46%) and systems (54%) Above average emissions reduction (23%) Below average lifetime financial savings (11%)	Upfront cost (any) (1%) Describes financial characteristics (0%)
Symbolic: Financialized (12.0%)	Describes financial characteristics (100%)	Describes green energy (71%) and buzzwords (48%)	Describes lighting (9%) and systems (0%) Below average emissions reduction (5%) Above average lifetime financial savings (3%) Below average upfront cost (3%)
Random (6.4%)	None	None	All attributes have importance weight of 0. Selection is essentially random.

Note: % of the sample sums up to 60%; the remaining 40% are firm-years in which firms did not report emissions-reduction initiatives.

Table 5: Regression Estimating Strength of (De)Coupling

	(0) Report initiatives	(1) Substantive	(2) Moderate: Small scope	(3) Moderate: Buzzwords	(4) Symbolic: Financialized	(5) Random
Supply chain reporting (exclusion restriction)	**-0.173**					
	(0.053)					
	[0.001]					
<u>Substantive Policies:</u>						
Science-Based Target	**0.303**	**0.053**	-0.017	*0.042*	-0.038	**-0.040**
	(0.083)	**(0.023)**	(0.024)	*(0.022)*	(0.026)	**(0.016)**
	[0.000]	**[0.020]**	[0.468]	*[0.052]*	[0.146]	**[0.014]**
Executive / Board Control	-0.099	0.025	**-0.151**	0.074	0.058	-0.007
	(0.121)	(0.055)	**(0.056)**	(0.051)	(0.056)	(0.039)
	[0.411]	[0.654]	**[0.007]**	[0.147]	[0.296]	[0.869]
Monetary Incentives for Executives / Board	**0.875**	*0.108*	-0.027	0.065	**-0.128**	-0.017
	(0.076)	*(0.056)*	(0.057)	(0.053)	**(0.060)**	(0.040)
	[0.000]	*[0.054]*	[0.634]	[0.217]	**[0.033]**	[0.662]
Integrated Risk Evaluation	0.045	0.026	0.024	0.034	-0.056	-0.028
	(0.124)	(0.064)	(0.065)	(0.059)	(0.062)	(0.046)
	[0.717]	[0.681]	[0.718]	[0.568]	[0.364]	[0.547]
Substantive Risk Evaluation	**0.943**	0.078	0.029	*0.108*	**-0.223**	0.008
	(0.106)	(0.065)	(0.067)	*(0.061)*	**(0.070)**	(0.047)
	[0.000]	[0.232]	[0.666]	*[0.080]*	**[0.001]**	[0.858]
<u>Moderate Policies:</u>						
Other Target	**0.242**	0.019	**0.056**	0.033	**-0.111**	0.003
	(0.086)	(0.026)	**(0.027)**	(0.025)	**(0.030)**	(0.018)
	[0.005]	[0.469]	**[0.036]**	[0.180]	**[0.000]**	[0.874]
Junior Manager Control	**-0.170**	0.005	0.001	-0.000	0.000	-0.006
	(0.067)	(0.022)	(0.023)	(0.021)	(0.025)	(0.016)
	[0.011]	[0.839]	[0.969]	[0.992]	[0.991]	[0.729]
Monetary Incentives for Non-Executive	**0.720**	0.083	0.061	0.016	**-0.144**	-0.016
	(0.068)	(0.052)	(0.053)	(0.048)	**(0.055)**	(0.037)
	[0.000]	[0.105]	[0.246]	[0.748]	**[0.009]**	[0.668]
Siloed Risk Evaluation	-0.001	-0.059	0.067	0.014	0.014	-0.036
	(0.145)	(0.069)	(0.070)	(0.064)	(0.068)	(0.049)
	[0.992]	[0.390]	[0.340]	[0.825]	[0.833]	[0.467]
Moderate Risk Evaluation	**0.571**	0.043	0.006	*0.094*	**-0.161**	0.018
	(0.095)	(0.055)	(0.056)	*(0.051)*	**(0.058)**	(0.039)
	[0.000]	[0.431]	[0.918]	*[0.068]*	**[0.005]**	[0.647]
Internal Price on Carbon	**0.343**	0.008	-0.003	**0.047**	**-0.062**	0.010
	(0.083)	(0.023)	(0.024)	**(0.022)**	**(0.027)**	(0.017)
	[0.000]	[0.739]	[0.900]	**[0.034]**	**[0.022]**	[0.563]
<u>Symbolic Policies:</u>						
Non-Monetary Incentives	**0.554**	**0.132**	0.015	0.048	**-0.153**	-0.042
	(0.077)	**(0.047)**	(0.049)	(0.044)	**(0.050)**	(0.034)

	(0) Report initiatives	(1) Substantive	(2) Moderate: Small scope	(3) Moderate: Buzzwords	(4) Symbolic: Financialized	(5) Random
	[0.000]	**[0.006]**	[0.765]	[0.278]	**[0.003]**	[0.217]
Symbolic Risk Evaluation	0.348	0.146	*-0.167*	**0.241**	**-0.208**	-0.012
	(0.225)	(0.091)	*(0.094)*	**(0.086)**	**(0.098)**	(0.065)
	[0.123]	[0.109]	*[0.074]*	**[0.005]**	**[0.033]**	[0.858]
CC Integrated Into Strategy	**0.324**	-0.043	0.073	**0.120**	**-0.156**	0.005
	(0.084)	(0.044)	(0.045)	**(0.041)**	**(0.045)**	(0.031)
	[0.000]	[0.327]	[0.100]	**[0.003]**	**[0.001]**	[0.884]
Purchase Carbon Credits	**0.086**	**-0.013**	0.006	0.002	0.006	-0.001
	(0.023)	**(0.005)**	(0.005)	(0.005)	(0.006)	(0.003)
	[0.000]	**[0.007]**	[0.248]	[0.595]	[0.323]	[0.772]
<u>Regulatory & Risk Perception:</u>						
ETS exposure (count)	0.364	-0.007	*-0.132*	-0.069	0.044	**0.164**
	(0.365)	(0.065)	*(0.068)*	(0.063)	(0.079)	**(0.046)**
	[0.319]	[0.910]	*[0.052]*	[0.275]	[0.574]	**[0.000]**
Carbon Tax exposure (count)	0.045	-0.013	-0.023	-0.024	0.017	**0.043**
	(0.089)	(0.023)	(0.024)	(0.022)	(0.027)	**(0.017)**
	[0.614]	[0.583]	[0.347]	[0.277]	[0.526]	**[0.010]**
Perceive Climate Change as Risk	**0.305**	0.063	-0.028	-0.006	-0.051	0.023
	(0.073)	(0.032)	(0.033)	(0.031)	(0.035)	(0.023)
	[0.000]	[0.053]	[0.393]	[0.843]	[0.145]	[0.325]
<u>Controls</u>						
Current Assets	**-0.000**	*-0.000*	0.000	**-0.000**	0.000	**0.000**
	(0.000)	*(0.000)*	(0.000)	**(0.000)**	(0.000)	**(0.000)**
	[0.022]	*[0.092]*	[0.364]	**[0.005]**	[0.741]	**[0.000]**
Employees (logged)	0.005	*0.010*	**-0.026**	*0.010*	0.003	0.003
	(0.018)	*(0.005)*	**(0.006)**	*(0.005)*	(0.006)	(0.004)
	[0.786]	*[0.053]*	**[0.000]**	*[0.053]*	[0.641]	[0.397]
Research and Development Expenses	**0.000**	0.000	-0.000	-0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
	[0.011]	[0.164]	[0.206]	[0.630]	[0.757]	[0.983]
Earnings before Interest, Taxes, Depreciation, and Amortization (EBITDA)	**0.000**	**0.000**	-0.000	-0.000	-0.000	*-0.000*
	(0.000)	**(0.000)**	(0.000)	(0.000)	(0.000)	*(0.000)*
	[0.004]	**[0.000]**	[0.180]	[0.897]	[0.214]	*[0.083]*
Return on Assets (%)	0.003	**0.003**	0.001	0.000	**-0.004**	-0.001
	(0.004)	**(0.001)**	(0.001)	(0.001)	**(0.002)**	(0.001)
	[0.436]	**[0.033]**	[0.445]	[0.725]	**[0.015]**	[0.498]
Current Ratio	0.017	-0.005	0.005	-0.001	0.005	*-0.004*
	(0.016)	(0.004)	(0.004)	(0.003)	(0.004)	*(0.003)*
	[0.277]	[0.155]	[0.138]	[0.831]	[0.264]	*[0.082]*
Current assets is missing	-0.427	0.035	0.090	-0.071	-0.054	-0.001
	(0.455)	(0.099)	(0.103)	(0.096)	(0.118)	(0.071)
	[0.348]	[0.725]	[0.381]	[0.457]	[0.650]	[0.991]
Employees is missing	-0.075	0.065	**-0.243**	0.051	0.088	0.039
	(0.192)	(0.060)	**(0.062)**	(0.057)	(0.068)	(0.043)
	[0.696]	[0.283]	**[0.000]**	[0.373]	[0.197]	[0.364]
R&D Expenses is missing	**0.167**	0.012	-0.026	**0.065**	-0.036	-0.015

	(0) Report initiatives	(1) Substantive	(2) Moderate: Small scope	(3) Moderate: Buzzwords	(4) Symbolic: Financialized	(5) Random
	(0.077)	(0.026)	(0.027)	**(0.024)**	(0.029)	(0.018)
	[0.030]	[0.631]	[0.323]	**[0.008]**	[0.211]	[0.415]
EBITDA is missing	**-0.767**	**-0.161**	-0.060	0.053	0.123	0.045
	(0.153)	**(0.072)**	(0.074)	(0.068)	(0.077)	(0.051)
	[0.000]	**[0.026]**	[0.419]	[0.437]	[0.112]	[0.383]
Return on Assets is missing	0.002	0.034	0.066	0.073	-0.050	**-0.123**
	(0.205)	(0.057)	(0.059)	(0.055)	(0.066)	**(0.041)**
	[0.993]	[0.555]	[0.263]	[0.184]	[0.455]	**[0.002]**
Current Ratio is missing	**1.270**	0.082	-0.032	-0.073	-0.052	0.074
	(0.440)	(0.112)	(0.116)	(0.107)	(0.129)	(0.080)
	[0.004]	[0.467]	[0.784]	[0.498]	[0.690]	[0.351]
Industry: Services	0.014	**0.049**	**-0.055**	0.009	-0.016	0.013
	(0.048)	**(0.016)**	**(0.017)**	(0.015)	(0.018)	(0.012)
	[0.766]	**[0.002]**	**[0.001]**	[0.570]	[0.364]	[0.249]
Industry: Retail	-0.057	0.032	0.039	**-0.049**	-0.014	-0.008
	(0.071)	(0.023)	(0.024)	**(0.022)**	(0.026)	(0.016)
	[0.421]	[0.166]	[0.101]	**[0.025]**	[0.598]	[0.616]
Industry: Hospitality	0.042	-0.025	-0.033	**0.066**	0.012	-0.020
	(0.098)	(0.032)	(0.033)	**(0.030)**	(0.036)	(0.023)
	[0.668]	[0.432]	[0.308]	**[0.029]**	[0.741]	[0.386]
Industry: Health	**0.178**	-0.029	0.041	0.020	-0.045	0.014
	(0.074)	(0.025)	(0.026)	(0.024)	(0.028)	(0.018)
	[0.017]	[0.247]	[0.115]	[0.398]	[0.106]	[0.441]
Region: Asia, Middle East, and Oceania	-0.074	**0.067**	0.017	-0.011	**-0.048**	*-0.026*
	(0.056)	**(0.019)**	(0.020)	(0.018)	**(0.021)**	*(0.014)*
	[0.184]	**[0.000]**	[0.377]	[0.534]	**[0.023]**	*[0.061]*
Region: Central / South America	**-0.476**	**-0.116**	*-0.079*	*0.072*	0.094	0.030
	(0.090)	**(0.045)**	*(0.046)*	*(0.042)*	(0.047)	(0.032)
	[0.000]	**[0.010]**	*[0.084]*	*[0.089]*	[0.048]	[0.357]
Region: Europe	-0.070	**0.093**	-0.011	**-0.053**	-0.016	-0.013
	(0.052)	**(0.017)**	(0.018)	**(0.016)**	(0.019)	(0.012)
	[0.177]	**[0.000]**	[0.548]	**[0.001]**	[0.390]	[0.293]
Region: North America	0.040	**-0.075**	**0.038**	0.019	0.021	-0.003
	(0.048)	**(0.016)**	**(0.016)**	(0.015)	(0.018)	(0.011)
	[0.411]	**[0.000]**	**[0.020]**	[0.194]	[0.238]	[0.798]
Lambda		0.119	0.191	0.222	-0.487	-0.045
		(0.106)	(0.108)	(0.099)	(0.112)	(0.075)
		[0.261]	[0.078]	[0.025]	[0.000]	[0.554]
Constant	**-0.706**	-0.130	**0.513**	**-0.377**	**0.862**	0.132
	(0.243)	(0.176)	**(0.180)**	**(0.165)**	**(0.187)**	(0.126)
	[0.004]	[0.461]	**[0.004]**	**[0.022]**	**[0.000]**	[0.295]
Observations	4,314	4,314	4,314	4,314	4,314	4,314
Rho		0.299	0.461	0.576	-1.000	-0.159
Wald Chi2		271.823	143.457	99.221	84.387	82.088
Wald Chi2 p-value		0.000	0.000	0.000	0.000	0.000

Note: Robust standard errors in parentheses, P-values in square brackets

APPENDIX
List of all variable definitions and sources

Table 0-1: List of All Variable Definitions and Sources

Variable	Definition	Source
Science-based target	Firm-year binary indicator variable (1=yes, 0=no or not reported) in response to the question "Is this a science-based target?" for at least one of the firm's reported targets. *Substantive*	CDP C4.1a
Executive / board control	Firm-year binary indicator (1=yes, 0=no or not reported) if any board or C-suite member is listed as having responsibility for climate-related issues. *Substantive*	CDP C1.1a C1.2
Monetary incentives for executives / board	Firm-year binary indicator (1=yes, 0=no or not reported) if any monetary incentive is reported for any Board member or C-suite executive. *Substantive*	CDP C1.3
Integrated risk evaluation	Firm-year binary indicator (1-yes, 0=no or not reported) if "Integrated into multi-disciplinary company-wide risk identification, assessment, and management processes" is selected in response to question "Select the option that best describes how your organization's processes for identifying, assessing, and managing climate-related issues are integrated into your overall risk management." *Substantive*	CDP C2.2
Substantive risk evaluation	Firm-year binary indicator (1-yes, 0=no or not reported) if integrated or siloed risk evaluation is present, with every-6-months or more frequent monitoring, and planning horizon is more than 6 years. *Substantive*	CDP C2.2a
Other target (not Science-based)	Firm-year binary indicator variable (1=yes, 0=no or not reported) in response to the question "Did you have an emissions target that was active in the reporting year?" and Science-based target=0. *Moderate*	CDP C4.1
Junior manager control	Firm-year binary indicator variable (1=yes, 0=no or not reported) where executive/board control is not present, any non-executive response to the question "Provide the highest management-level position(s) or committee(s) with responsibility for climate related issues". *Moderate*	CDP C1.2
Monetary incentives for non-executives	Firm-year binary indicator (1=yes, 0=no or not reported) if a monetary incentive is reported for any non-board and non-C-suite personnel, and monetary incentives for Board and C-suite are not reported. *Moderate*	CDP C1.3
Siloed risk evaluation	Firm-year binary indicator (1=yes, 0=no or not reported) if "A specific climate change risk identification, assessment, and management process" is selected in response to question "Select the option that best describes how your organization's processes for	CDP C2.2

Variable	Definition	Source
	identifying, assessing, and managing climate-related issues are integrated into your overall risk management." *Moderate*	
Moderate risk evaluation	Firm-year binary indicator (1=yes, 0=no or not reported) if integrated or siloed risk evaluation is present, monitoring is annual or more frequent, and any planning horizon is reported. *Moderate*	CDP C2.2a
Climate integrated into strategy	Firm-year binary indicator (1=yes, 0=no or not reported) in response to the question "Are climate-related issues integrated into your business strategy?" *Symbolic*	CDP C3.1
Internal price on carbon	Firm-year binary indicator (1=yes, 0=no or not reported) in response to question "Does your organization use an internal price on carbon?". *Symbolic*	CDP C11.3
Non-monetary incentives only	Firm-year binary indicator (1=yes, 0=no or not reported) if only non-monetary incentives are reported at all staff levels. *Symbolic*	CDP C1.3
Symbolic risk evaluation	Firm-year binary indicator (1=yes, 0=no or not reported) if any answer is provided for risk evaluation frequency and planning horizon that does not qualify for moderate or substantive category. *Symbolic*	CDP C2.2a
Carbon credit purchases	Firm-year binary indicator (1=yes, 0=no or not reported) in response to the question "Has your organization originated or purchased any project-based carbon credits within the reporting period?" *Symbolic*	CDP C11.2
Number of tax systems	Count of tax systems in which the firm participates	CDP C11.1a
Number of emissions trading systems	Count of ETS systems in which the firm participates	CDP C11.1a
Required reporting	Data is provided in the supply chain data (1=yes, 0=no)	CDP
Perceive climate change risks	Firm-year binary indicator (1=yes, 0=no) in response to the question "Have you identified any inherent climate related risks with the potential to have a substantive financial or strategic impact on your business?"	CDP C2.3
Industry	Company's primary industry. Filtered to include only apparel; biotech, healthcare, and pharma; hospitality; retail; and services.	CDP
HQ Region	Manually-coded regions (North America; South/Central America; Africa; Europe; Asia/Middle East /Oceania) using headquarters country.	CDP
Current assets	Current assets ($ millions). Set to 0 if missing.	BVD
Employees	Natural log of employee count. Set to 0 if missing.	BVD

Variable	Definition	Source
R&D	Research and Development expenses ($ millions). Set to 0 if missing.	BVD
EBITDA	Earnings before interest, taxes, depreciation, and amortization winsorized at 1st and 99th percentile to avoid outliers. Set to 0 if missing.	BVD
ROA	Return on Assets using net income (%); set to zero if missing.	BVD
Current Ratio	Current ratio (current assets / current liabilities); set to zero if missing	BVD
Missingness flags: • Current assets • Employees • R&D • EBITDA • ROA • Current ratio	Binary indicators flagging firm-year observations for which financial data is missing. Financial data is completely unavailable for private companies. Some data is sporadically missing for public companies that are otherwise included in the financial data.	BVD
Reports initiatives	Firm-year binary indicator flagging whether the firm reported full numerical data for at least one initiative in that firm-year, 0 if no initiatives are reported.	CDP
Lifetime CO2 avoided	Initiative-level (Thousands of tons): product of projected lifetime (years) and annual emissions avoided. Modeled using within-industry quintiles.	CDP
Expected lifetime financial savings	Initiative-level ($ millions): product of projected lifetime (years) and annual projected cost savings. Modeled using within-industry quintiles.	CDP
Upfront cost	Initiative-level ($ millions): upfront cost. Modeled using within-industry quintiles.	CDP
Messaging	Initiative-level indicator of messaging strategy based on results of LDA model (See Table 1 in main manuscript) 0 = No topic exceeds 50% likelihood: "ambiguous" 1 = more than 50% likelihood of "buzzwords" 2= more than 50% likelihood of "systems" topic 3= more than 50% likelihood of "LED lights" 4= more than 50% likelihood of "financialized" 5= more than 50% likelihood of "green energy"	Derived from content analysis based on CDP
Practice archetype	Set of five dummy variables identifying the probability that the firm-year's observed initiatives are consistent with that practice archetype. 1 = "Substantive" 2 = "Moderate: Small Scope" 3 = "Moderate: Buzzwords" 4 = "Symbolic: Financialized" 5 = "Random"	Result of latent class logit model

Descriptive Analysis of Decarbonization Initiative Data

Data on emissions-reduction practices is reported in section 4.3 of the CDP survey. Respondents first identify whether the organization had "emissions reduction initiatives that were active within the reporting year", with the note that initiatives can include those in the planning and/or implementation phases. If yes, respondents provide a count of the number of initiatives in each of several phases of implementation including under investigation, to be implemented, commenced, and completed. If the respondent reports any initiatives completed in the reporting year, they then provide specific information about those initiatives. Figure B-1 shows the specifications for the data requested for each initiative. Note that the guidance encourages companies to combine similar projects into one reported initiative. For example, lighting upgrades completed at 7 facilities should be reported as a single initiative with aggregated data rather than as 7 initiatives.

Table B-1 provides examples of several reported initiatives and includes the quantitative data for the items included in this study (upfront cost, long term cost savings, emissions reduction, and full text description) and the initiative description. Additional examples are provided in Table 1 in the main manuscript which reports the LDA classification scheme used to represent the textual descriptions in the archetype models.

Figure B-2 shows the distribution of upfront cost and lifetime emissions reduction for each of the five industries included in the study. Each shaded dot represents an initiative, and the aligned distribution shows the density of data within that industry. Most companies in our sample are categorized in the services industry. The distribution of quantitative initiative data is very consistent across industries. In each plot the distribution quintiles are shown as horizontal lines. In our archetype analysis we "bucket" initiatives into within-industry quintiles. Through this approach we can evaluate relative preferences for high versus low impact in each quantitative dimension without needing to assume that preferences are linear. This also reduces the effect of extreme outliers.

Correlations between upfront cost, long-term financial savings, and lifetime emissions reduction are visualized in Figure B-3. The figure shows all of the initiatives in a scatter plot with expected emissions avoided on the x-axis and upfront costs (a) or expected cost savings (b) on the y-axis. Both axes are log-scaled, and each initiative is plotted with a color and shape based on the archetype assigned for its corresponding firm-year. Recall that the "decision-maker" in this model is the firm-year. Organizations can have heterogeneity in their selections in a given year and select initiatives whose features do not exactly align with the relative importance weights in the assigned archetype. That is, the importance weight presents an average effect within the archetype, around which we should observe some variability. Both upfront cost and long-term financial savings are positively correlated with lifetime emissions impact, and the "Substantive" and "Moderate: Small Scope" archetypes map clearly onto different portions of the distribution of each of these variables. The "Moderate: Buzzwords" and "Symbolic: Financialized" are more broadly distributed. Figure B-4 shows the distribution of lifetime emissions avoided by archetype.

Table 0-1: Example Initiatives

Company	Quantitative data		Text Description
Woolworths Holdings Ltd	Lifetime CO2 avoided Expected savings Upfront cost	6 21.3 0.8	We continue to roll out CO2 refrigeration across our facilities and this has improved efficiency tremendously. For some facilities, we saw energy savings of over 20% in the first months. Financial savings are rounded up and incorporate savings from the first year we started installing this technology. The investment required is an annual estimation.
AstraZeneca	Lifetime CO2 avoided Expected savings Upfront cost	4,470 0 2	149,000tCO2 saving is from the sites moving to 100% renewable power in 2016, total emissions saved including sites already at 100% is 196,000tCO2. This figure is the emissions using the local market electricity factor before considering the purchase of market instruments.
Marriott International, Inc.	Lifetime CO2 avoided Expected savings Upfront cost	196.8 26.8 4.7	Marriott continues to incorporate and integrate building automation systems (BAS) and other automated controls to increase the efficiency of the buildings we manage.
Metro AG	Lifetime CO2 avoided Expected savings Upfront cost	198 35.7 0.1	Each of our sales lines has launched its own energy awareness program designed to motivate employees to use energy efficiently, thereby bringing about a significant reduction in the company's overall consumption.
Telekom Austria AG	Lifetime CO2 avoided Expected savings Upfront cost	0.02 0.03 0.01	Implementation of heat pumps: Annual monetary saving was estimated as follows: Average price of KWh times the energy saving of the new components. The initiative pays into the long-term target to reduce CO2 emissions as well into the short term target. Reducing power demand by 30% per terabyte of transferred data volume.

Company	Quantitative data		Text Description
Koninklijke Philips NV	Lifetime CO2 avoided	7.8	Airfreight accounts for one of our largest operational emissions, which considers our sites (scope 1 + scope 2), business travel and logistics (scope 3). In collaboration with Group Sustainability, Forwarding & Distribution and Integrated Warehouses and Distribution we are ensuring a modal-shift from air to ocean or rail when moving our products from our suppliers and to customers. This will significantly reduce emissions from our logistic movements as ocean freight is up to 75 times less CO2 intensive per tonne-kilometer (one tonne of products shipped over 1 km) compared to air freight.
	Expected savings	0.6	
	Upfront cost	0.03	
Grifols	Lifetime CO2 avoided	0.08	Optimization of the loads in the maritime transport of plasma from USA to Rotterdam. Reduction of 7t CO2e of greenhouse gases emissions. The monetary savings calculation method is explained below: before implementing the initiative, 202 containers were required to transport a given load of plasma. Now, only 184 containers are required to transport the same load of plasma. That is a 9% reduction. Annually, the initiative allows to transport 18 fewer containers. The cost of each container is 20,000 EUR. Therefore, 18*20,000 = 360,000 EUR.
	Expected savings	3.5	
	Upfront cost	0	
Hilton Worldwide, Inc.	Lifetime CO2 avoided	811.3	Lighting: Data is included for 511 lighting upgrade projects, which were reported in Light Stay as implemented (in-process or complete) in 2017 for the owned and managed hotels. The vast majority of projects are new LED installations and retrofit lighting throughout the hotel including lobbies and public areas, guest rooms, ballrooms and meeting space, restaurants, back of house, exterior and parking lighting. Overall, the lighting projects analyzed reflect a 58% ROI and an average payback of 1.7 years. The median project cost was $6,500, with a minimum cost of $1,000 and a maximum cost of $500,000.
	Expected savings	177.4	
	Upfront cost	10.3	

Figure 0-1: Full data requested for each completed initiative

Please complete the following table. The table is displayed over several rows for readability. You are able to add rows by using the "Add Row" button at the bottom of the table.

Activity type	Description of activity	Estimated annual CO2e savings (metric tons CO2e)	Scope	Voluntary/ Mandatory
Select from: • Energy efficiency: Building fabric • Energy efficiency: Building services • Energy efficiency: Processes • Fugitive emissions reductions • Low-carbon energy purchase • Low-carbon energy installation • Process emissions reductions • Other, please specify	Select from drop-down options below	Numerical field [enter a number from 0-999,999,999,999 using a maximum of 2 decimal places and no commas]	Select from: • Scope 1 • Scope 2 (location-based) • Scope 2 (market-based) • Scope 3	Select from: • Voluntary • Mandatory

Annual monetary savings (unit currency, as specified in C0.4)	Investment required (unit currency, as specified in C0.4)	Payback period	Estimated lifetime of the initiative	Comment
Numerical field [enter a number from 0-999,999,999,999,999 using no decimal places, and no commas]	Numerical field [enter a number from 0-999,999,999,999,999 using no decimal places, and no commas]	Select from: • <1 year • 1-3 years • 4-10 years • 11-15 years • 16-20 years • 21-25 years • >25 years	Select from: • <1 year • 1-2 years • 3-5 years • 6-10 years • 11-15 years • 16-20 years • 21-30 years • >30 years • Ongoing	Text field [maximum 1,500 characters]

(Source: CDP Climate Change 2018 Scoring Methodology, pg. 114)

Figure 0-2: Distribution of Emissions Avoided and Upfront Cost by Industry

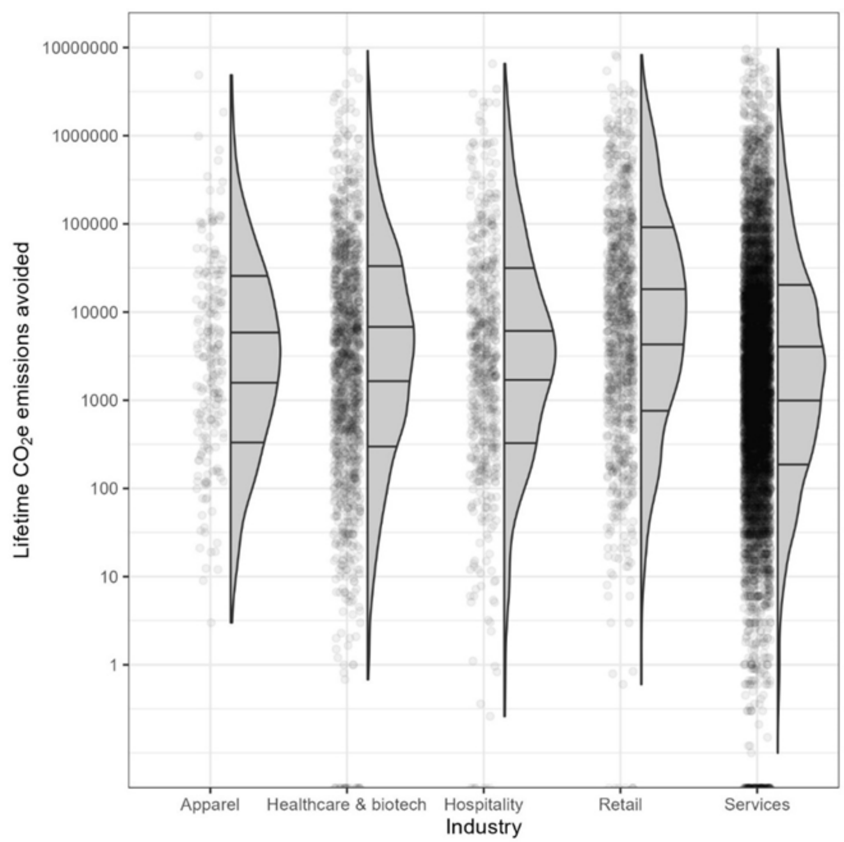


Figure B-2a: Lifetime CO2e emissions avoided

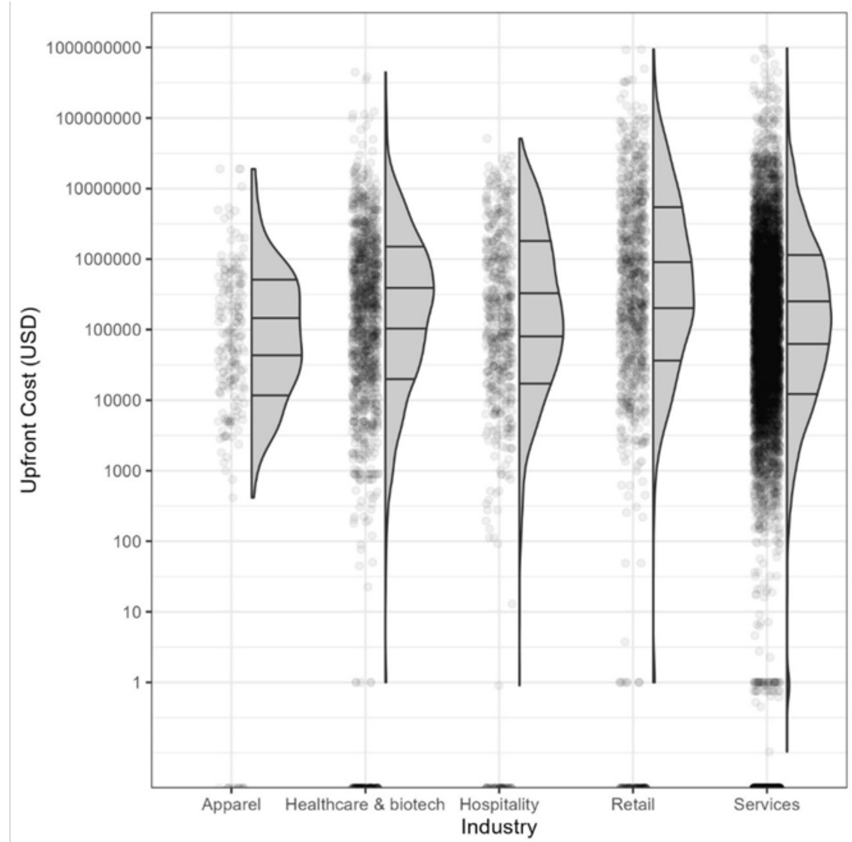


Figure B-2b: Upfront cost

Figure 0-3. Initiative Lifetime Emissions Avoided, Cost and Savings by Archetype

Figure 0-3a: Initiative Lifetime Emissions Avoided and Upfront Cost by Archetype

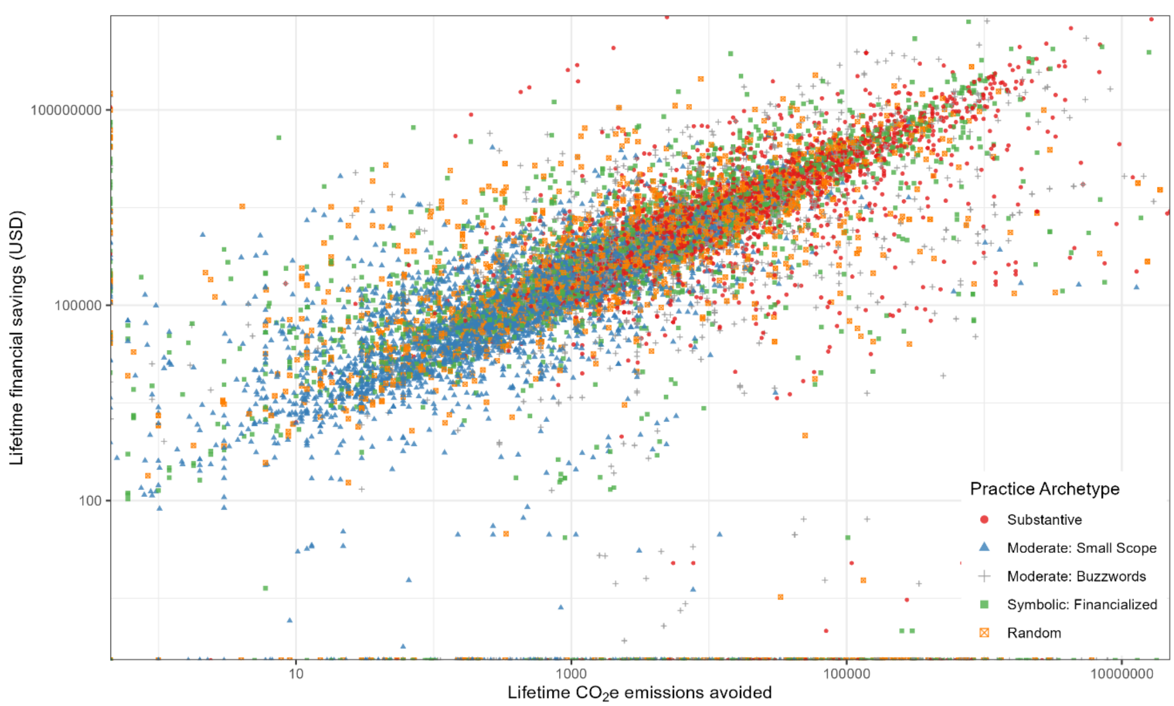
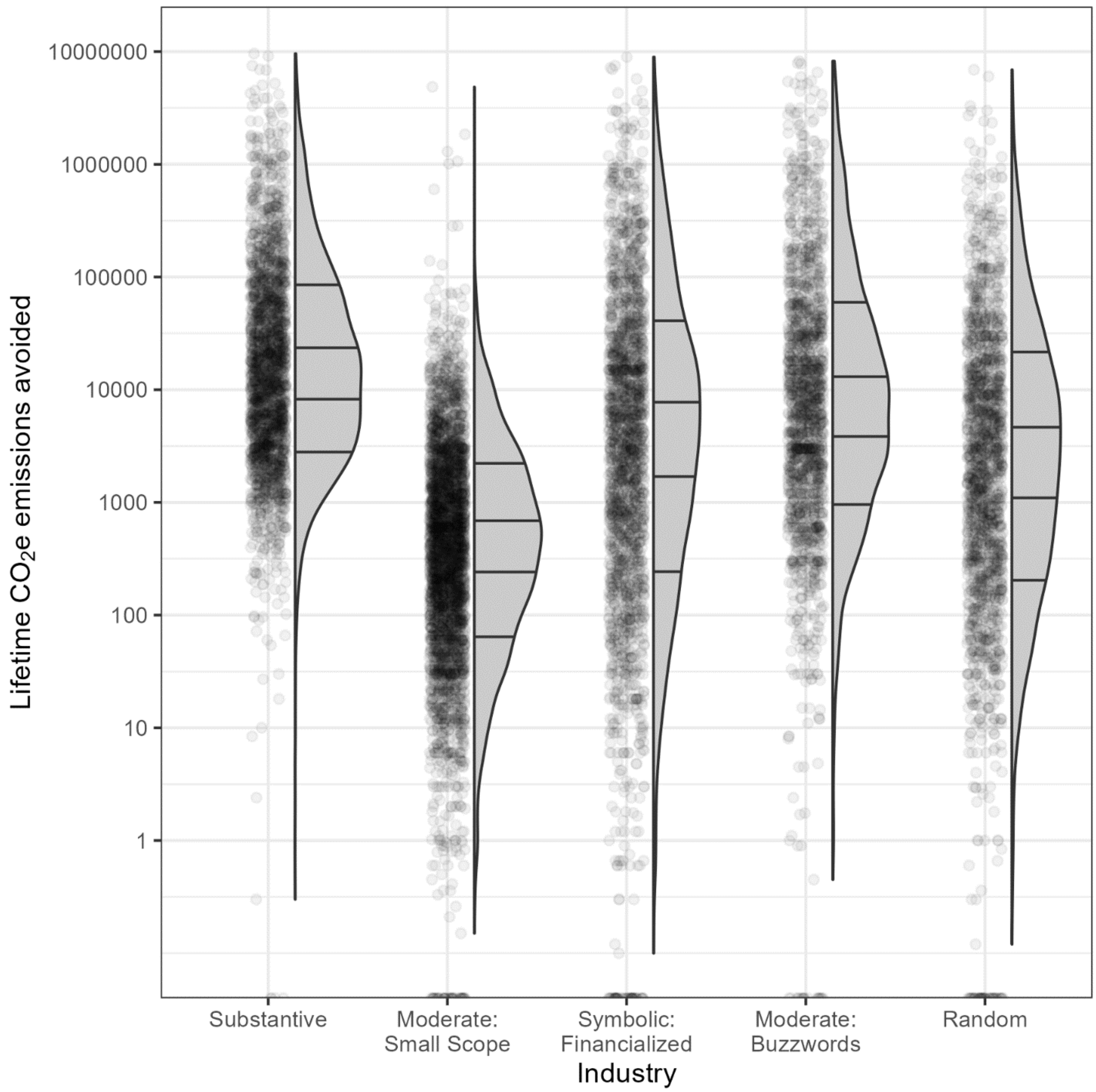


Figure 0-3b: Initiative Lifetime Emissions Avoided and Financial Savings by Archetype

Figure 0-4. Distribution of Lifetime Emissions Avoided by Archetype



Detailed Description of Practice Archetype Derivation

The purpose of this appendix is to describe in greater detail the process for deriving practice archetypes. This includes more information on how we operationalize quantitative variables, clean textual data and conduct the Latent Dirichlet Allocation (LDA) text analysis, implement the latent class logit (LCL) model, conduct robustness tests on the LCL model, and report the relative importance (RI) results.

Operationalizing quantitative variables

Our analysis of initiatives focuses on three core constructs. First, the *expected impact on emissions* is a measure of the total expected emissions avoided, based on the firm's estimates of the initiative's annual emissions avoided, multiplied by the initiative's minimum expected lifespan. Second, the *financial impact of initiatives* is based on (a) the initiative's upfront cost, which is stated directly in the survey and is either zero or positive (in other words, there cannot be up-front cost savings), and (b) the cumulative lifetime cost savings, calculated as the annual expected cost savings multiplied by the minimum expected initiative lifespan. While CDP respondents can report their annual expected cost savings, they are not able to report whether they expect ongoing costs. Therefore, this variable is left-censored: if firms incur ongoing costs these would be truncated at zero. Each of these numeric variables is highly skewed and there are a number of very large outliers which are typically described as large-scale green energy purchases or upgrades to major systems. To capture the diversity of the variables without over-indexing on outliers or imposing unrealistic functional forms that would be required in a linear model, we represent each variable at their quintile values in the within-industry distribution of initiatives. Additionally, when firms report their financial data in a different currency we calculate the equivalent value in United States Dollars using average annual exchange rates published by the US Federal Reserve.

Text analysis of qualitative description

We use LDA topic modeling to analyze the text descriptions of each initiative to identify the messaging strategy employed by the firm (see Table 1 in the main text). We first cleaned the textual descriptions by standardizing capitalization, removing stop words, and stemming words so that variations of a word are represented by its main root (i.e., "electric" represents variants such as "electricity" or "electrical"). We then applied the LDA topic model to identify five groups of similar texts based on the words that co-occur within each text. Each of these groups represents different messaging styles that firms employed in their descriptions. The twenty words most strongly associated with each topic and example text are described in Table 1 in the main manuscript.

Detailed description of Latent Class Logit model

As described in the main text, we view initiative selection as a strategic choice between competing alternatives where each alternative is defined based on theoretically and practically relevant features. Specifically, we focus on (1) emissions impact which addresses the goal of normative pressure to decarbonize; (2) financial impact operationalized as upfront costs and long-term financial savings; and (3) messaging used to describe actions which represents organizational goals to manage impressions among stakeholders who may have preferences over the firm's performance along the first two dimensions (among others). We seek to represent practice archetypes based on the tradeoffs firms accepted among these dimensions.

However, because firms do not report the set of potential actions that they considered but did not pursue in a given year, their search space is unknown (Levinthal, 2021). To overcome this limitation, we identify a set of plausible counterfactuals based on the characteristics of initiatives undertaken by the firm's industry peers in prior years assuming that these were observed by the focal organization—a reasonable assumption given that the CDP data is publicly available (for a fee). This approach to simulating the search space is conceptually similar to the process employed by Dorobantu and colleagues (2020). It is also aligned with behavioral strategy research showing that organization-level aspirations are defined (in part) by peer outcomes and that organizations actively monitor what their peers do (Cao et al., 2019; Flammer, 2015). Recognizing that firms do not deeply evaluate every potential action (Cyert & March, 1963; Dorobantu et al., 2020) we instead randomly select a set of five counterfactual initiatives from the population of those reported by industry peers in the prior year. We repeat this sampling in five iterations to reduce the reliance on a single random draw.

The resulting data set has a nested panel structure in which each row of the data represents an initiative that is either chosen or rejected by the focal firm. Firms face multiple choice occasions in a given year (one for each initiative, repeated 5 times for each of the random draw iterations) and the model treats each firm-year as a distinct 'decision-maker'.

We analyze the set of chosen and plausible counterfactual initiatives in a LCL discrete choice model (Hess, 2014; Sarrias & Daziano, 2017; Train, 2009) in which the choice to pursue or not to pursue an initiative is the dependent variable and the initiative features are the independent variables. We execute this model using the LatentGold software, which is purpose-built for efficient latent class modeling.

The LCL model jointly estimates two important outputs. First, it identifies distinct value weights within a flexible number of classes or archetypes. These weights are interpreted as standard logit coefficients, with higher weights indicating that the feature was more important in choices observed for that class. In this sense, it is conceptually similar to a factor analysis or LDA topic modeling in that it allows the underlying structure of the data to determine the weight placed on each variable within each class. Second, the model categorizes decision-makers (firm-years in this case) based on the probability that their actions are best described by the weights within each archetype. The underlying assumption is that there is heterogeneity across decision-makers, but that groups of decision-makers share systematically similar preferences. Moreover, the heterogeneity is best described as discrete groupings rather than as a continuous distribution of preferences unique to each decision-maker. The number of archetypes and the types of tradeoffs they represent are derived entirely from the data rather than a-priori assumptions.

In more formal terms, the LCL model optimizes the probability of correctly predicting which alternative in a choice occasion will be selected, following the equation:

$$G\left(y_{ij} \middle| z_{ij}^1, \dots, z_{ij}^n\right) = \sum_{x=1}^{5} P(x)_{ft} G\left(y_{ij} \middle| x, z_{ij}^1, \dots, z_{ij}^n\right) \tag{1}$$

where chosen (*y*=1) and non-chosen (*y*=0) initiatives (*i*) are defined by features z_i^n and nested within a choice occasion (*j*), and multiple choices are nested within an organization (*f*) and year (*t*). $P(x)_{ft}$ reflects the probability that a given decision-maker's choices are best represented by the values identified in class (*x)*. Choice is a binary outcome variable and initiative features are independent variables. For this study, the right-hand side of the equation is expressed as:

$$G\left(y_{ij} \middle| x, z_{ij}^1, \dots, z_{ij}^n\right) = \beta_0 + \sum_{c=1}^{C-1} \beta_{IM.c}\, Initiative\ Messaging_c +$$
$$\sum_{c=1}^{C-1} \beta_{EEI.c}\, Expected\ Emissions\ Impact_c + \sum_{c=1}^{C-1} \beta_{UC.c}\, Upfront\ Cost_c +$$
$$\sum_{c=1}^{C-1} \beta_{ELS.c}\, Expected\ Lifetime\ Savings_c + \varepsilon \tag{2}$$

where the equation structure is the same for each class (*x*) but the betas are allowed to differ across classes. Each coefficient is a numerical representation of the relative importance that decision-makers placed on its corresponding feature (variable).

Because the distribution of the numeric variables in the dataset is highly skewed, we model the numeric data as categorical, with categories defined by the quintiles of within-industry distribution. While this approach does not yield exact RI weights for all possible variable values within quintile categories, it allows for general statements about the RI of those categories and makes the results more stable without unnecessarily assuming that value weights follow a pre-defined functional form (e.g., linear, curvilinear). These categorical variables are effects-coded. Within each category, each level (except the omitted level) is coded as 1 if present, -1 if the omitted level is present, and 0 otherwise. Using effects coding, we can recover a distinct weight for the omitted category equal to the negative of the sum of weights for included categories. Additionally, the average of all weights within a category is equal to zero. Therefore, all weights are evaluated relative to the category average and no weight is unidentified or conflated with a zero baseline.

LCL models are known to conflate an arbitrary scale parameter with the underlying true measure of relative importance (Hess, 2014; Hess & Train, 2017). The best practice is to re-scale parameter estimates within each class such that the most important feature always has a consistent scale across classes and all parameter estimates can be interpreted as the relative value placed on the feature compared to the highest value feature (Hess & Train, 2017). This is accomplished by dividing each feature's overall importance by a numerical constant equal to the overall importance of the most preferred feature within the class. Once rescaled, the numerical value is immaterial and only relative magnitude matters; for ease of interpretation, we scale all importance weights between 0%-100%.

LCL models can identify a flexible number of classes, and the best fit model is typically the one that minimizes a parsimony-weighted goodness of fit statistic (Approximate Weight of Evidence (AWE), based on AIC) and minimizes classification error. Our main results center on a model with five classes which balances both an acceptably low AWE and an acceptably low classification error. In this model, the fifth class is constrained such that all parameter estimates are equal to zero to represent a constant scale by which to compare parameter estimates and capture the set of organizations whose actions express null or mixed weights that are not identifiably from zero. Including more or fewer classes forces decision-makers into different groupings. The results of this analysis demonstrate (1) RI weights that describe the relative importance of each feature within each archetype (class), and (2) the probability that a given firm-year is best described by each archetype. These models thus transform the initiative-level data into firm-year variables.

Robustness tests: Alternative LCL Specifications

We conduct several robustness checks, focused on the different variations of the LCL model. In addition to the main 5-class (constrained) model, we estimate 4-class (unconstrained), 4-class (constrained), 5-class (unconstrained), 6 class (constrained), and 6-class (unconstrained) models. Constrained versus unconstrained refers to the decision to constrain the final class to express null importance weights for all attributes, or to allow the RI weights in that class to vary. There are strong theoretical and empirical reasons to constrain the final class to have null RI weights. Theoretically, prior literature on multiple goal attainment suggests a kind of freezing behavior, wherein decision-makers are unable to prioritize across dimensions and therefore aim for actions that will not disrupt the status quo. In this context, we believe the freezing behavior might be reflected in this "random" group where choices do not systematically favor any particular initiative feature. Empirically, a class with RI weights constrained at zero not only captures the set of decision-makers whose choices are exceptionally noisy and unidentifiable, but also creates a scale-free anchor for the other parameter estimates.

For the full set of alternative LCL models, we qualitatively compare the importance weights associated with each class to understand whether they are generally stable. However, the nature of the model is such that RI weights should change somewhat as classes are added or removed. More objectively, we evaluate the AWE and classification error for each of these models to understand the implications of class number on model fit. The robustness tests show that, in general, additional classes improve the information criteria (AWE) but worsen the classification error. Compared to the core constrained 5-class model, relaxing constraints on the 5th class improves the information criteria and does not alter the prediction error, but results in classes that are qualitatively different from models with fewer classes: Previously stable groupings break down and generate archetypes that are less coherent, and this effect worsens for 6-class models. These results are summarized in Table C-1

Reporting and visualizing RI weights

The unscaled and scaled parameter estimates for each practice archetype (latent class) are shown in Table C-2. Results for the fifth (null-value) archetype are not reported, as all RI weights are restricted to zero. Each of the raw parameter estimates (columns 1-4) represents an importance weight, where 0 represents the average importance within each feature (i.e., emissions avoided, upfront cost, long-term savings, messaging). In columns 5-8, the numeric values have been re-scaled, such that the most important within-attribute difference is equal to 1 (interpreted as 100% in the main text) and the least important levels of each attribute are anchored at zero, with the scaling computed separately within each archetype. All other parameters are scaled proportional to the most important within-attribute difference and therefore, have values between 0 and 1. Thus, a rescaled value of 0.2 indicates that the feature is 20% as important as the most important feature.

These results are more readily understood in Figure C-1, which displays the RI weights for the first four archetypes in individual plots. In the figure, the vertical distance between any two points indicates the RI placed on the higher-valued point compared to the lower-valued point. For parsimony, we report the overall importance (i.e., the maximum value for each attribute) in the main text, and that description is not repeated here.

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Table 0-1: Summary of results from alternative LCL models

Model	AWE*	Classification error	Class 1: Substantive	Class 2: Moderate: Small scope	Class 3: Moderate: Buzzwords	Class 4: Symbolic: Financialized	Class 5: Null	Notes
Core model: 5-class (Restricted)	167894	.0607	Yes	Yes	Yes	Yes	Yes	
4-class (Restricted)	173717	.0535	Yes	Yes	No	Yes	Yes	Class 1 (substantive) has higher RI weights for "buzzwords" compared to core model Class 4 (financialized) also has high RI weight on "green energy" messaging
4-class (Open)	169810	.0513	Yes	Yes	Yes	Yes	No	"Green energy" messaging is high in class 3 and 4
5-class (Open)	164592	.0607	No	Yes	Yes	Yes	no	The "substantive" class seems to be split among a high cost/savings + low emissions, and high emissions + indifferent to cost groups. The "yes" classes are present but start to deviate from the core model
6-class (Restricted)	162929	.0687	No	Yes	Yes	Yes	Yes	The "substantive" class seems to be split among a high cost/savings + low emissions, and high emissions + indifferent to cost groups. The "yes" classes are present but start to deviate from the core model
6-class (open)	160731	.0680	No	Yes, but split	Yes	Yes	No	The "substantive" class is again split among other categories. "small scope" is somewhat present, but diluted.

Approximate weight of evidence (AWE) is a goodness of fit statistic specific to LCL models that weights fit (based on log-likelihood), parsimony, and performance of the classification. A lower AWE is generally considered better. For technical details see Vermunt & Magdison (2016) "Technical guide for latent gold 5.1: Basic, Advanced, and Syntax" (https://www.statisticalinnovations.com/wp-content/uploads/LGtechnical.pdf) p. 72

Table 0-2: LCL Parameter Estimates (RI Weights)

	Raw				Scaled			
	(1) Substantive	(2) Moderate: Small scope	(3) Moderate: Buzzwords	(4) Symbolic: Financialized	(1) Substantive	(2) Moderate: Small scope	(3) Moderate: Buzzwords	(4) Symbolic: Financialized
Messaging classification								
Ambiguous (23%)	0.36	1.45	0.31	0.91	**0.76**	**0.82**	**0.68**	**0.65**
Buzzwords (13%)	-0.87	2.70	-0.27	-0.05	0.30	<u>**1.00**</u>	0.47	**0.48**
Financialized (15%)	-1.65	-4.34	-1.60	2.89	0.00	0.00	0.00	<u>**1.00**</u>
LED Lights (17%)	0.72	-1.11	0.76	-2.25	**0.90**	**0.46**	**0.84**	0.09
Green energy (11%)	0.65	1.85	-0.05	1.24	**0.87**	**0.88**	**0.55**	**0.71**
Systems (21%)	0.78	-0.55	0.86	-2.74	**0.92**	**0.54**	**0.88**	0.00
Lifetime financial savings								
1	-0.57	0.38	0.31	-0.09	0.00	0.11	**0.43**	0.00
2	-0.17	0.00	0.32	0.03	0.15	0.05	**0.44**	0.02
3	0.17	0.11	0.26	-0.04	**0.28**	0.07	**0.41**	0.01
4	0.23	-0.12	0.00	0.00	**0.30**	0.04	**0.32**	0.01
5	0.34	-0.38	-0.90	0.10	**0.34**	0.00	0.00	0.03
Upfront cost								
1	-0.41	-0.05	0.28	-0.03	0.04	0.00	**0.25**	0.01
2	-0.52	0.01	0.18	0.10	0.00	0.01	**0.21**	0.03
3	0.02	-0.02	0.05	0.02	**0.20**	0.00	**0.17**	0.02
4	0.32	0.05	-0.09	-0.06	**0.32**	0.01	0.12	0.00
5	0.59	0.01	-0.42	-0.03	**0.42**	0.01	0.00	0.01
Expected Emissions Avoided								
1	-1.69	-1.16	0.96	0.18	0.00	0.00	<u>**1.00**</u>	0.05
2	-0.59	0.11	0.78	-0.03	**0.42**	**0.18**	**0.93**	0.01
3	0.65	0.17	0.34	-0.06	**0.89**	**0.19**	**0.78**	0.01
4	0.69	0.47	-0.25	0.03	**0.90**	**0.23**	**0.57**	0.02
5	0.95	0.41	-1.84	-0.11	**1.00**	**0.22**	0.00	0.00

Figure 0-1: Relative Importance Weights by Archetype