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How stakeholder influence shapes public sector environmental policy choices

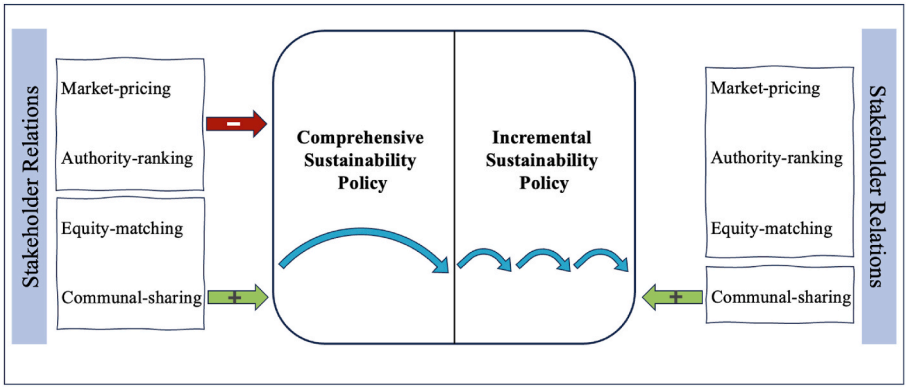
Shirley-Ann Augustin-Behravesh [a,*], Nicole Darnall [b], Won No [c], Stuart Bretschneider [d]

[a] Thunderbird School of Global Management, Arizona State University, Phoenix, USA
[b] Kogod School of Business and School of Public Affairs, American University, 4400 Massachusetts Ave., Washington, DC, 20036, USA
[c] Ministry of Personnel Management, National Human Resources Development Institute, Jincheon, Chungcheongbuk-do, South Korea
[d] School of Public Affairs, Arizona State University, 411 N Central Avenue, Suite 400, Mailcode 3720, Phoenix, AZ, 85004-0687, USA

HIGHLIGHTS

- Stakeholder relations influence cities' adoption of different Environmental policies.
- Survey data were combined with archival data assess policy adoption choices
- Equality and communal-sharing relations support ambitious city Environmental policies
- Market and authority ranking relations resist ambitious Environmental policies
- Local government can leverage supportive stakeholders toward sustainability

GRAPHICAL ABSTRACT



ABSTRACT

The United Nations Paris Agreement calls for a 45 % reduction in global carbon emissions by 2030 and net-zero emissions by 2050. Local governments play a crucial role in meeting these targets by adopting environmental sustainability (ES) policies. However, most research focuses on private-sector organizations, leaving gaps in understanding public sector dynamics. This study examines how stakeholder relations influence public organizations' adoption of comprehensive versus incremental ES policies and the mechanisms through which stakeholders exert influence. Using the relational view of stakeholder engagement, this research suggests that stakeholder relations shape ES policy adoption through four relational types: communal-sharing, authority-ranking, equality-matching, and market-pricing. It draws on quantitative survey data from sustainability managers in 200 U.S. cities and three sources of archival data using seemingly unrelated logistic regression. The findings reveal that equality-matching relations support comprehensive ES policies, while market-pricing and authority-ranking relations discourage them. Communal-sharing relations support both comprehensive and incremental policies. These findings extend the relational view of stakeholder engagement to the public sector, identifying key stakeholder alliances that can enhance comprehensive ES policy adoption. By understanding these dynamics, public organizations can better align with supportive stakeholders to advance climate goals and contribute to the ambitious targets of the Paris Agreement.

* Corresponding author.
E-mail addresses: saugusti@asu.edu (S.-A. Augustin-Behravesh), ndarnall@american.edu (N. Darnall), wonno@korea.kr (W. No).

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1. Introduction

The ambitious goals articulated in the United Nations Paris Agreement call for a 45 percent reduction in global carbon emissions by 2030 and achieving net zero by 2050 (UNFCCC, 2018). To meet these goals, the public sector has established carbon emissions regulations. However, businesses, environmental groups, and other stakeholders have also increasingly pressured public sector organizations to adopt environmental sustainability (ES) policies (Behravesh et al., 2022), in part because this sector accounts for roughly one-fifth of global GDP (World Bank, 2017; Hafsa et al., 2021) and has significant carbon impact. In response, the public sector has implemented a wide range of environmental policies (Ji and Darnall, 2018) and cleaner production practices (Adapa, 2018; Wang et al., 2024; Boom Cárcamo and Peñabaena-Niebles, 2022; Bulkeley and Betsill, 2005) aimed at reducing resource consumption and environmental impacts across municipal operations. Yet much of the existing research, including the cleaner production literature, centers on private-sector efforts, thus minimizing the public sector's substantial role in advancing sustainability (Häggmark and Elofsson, 2022; Cepiku and Vainieri, 2022).

Additionally, public sector ES policies vary significantly in their scope and effectiveness. Comprehensive ES policies address broad issues that deliver long-term collective benefits (Walls and Palmer, 2001; Ji and Darnall, 2018) by tackling systemic issues like greenhouse gas emissions (Stern, 2018; Stern and Valero, 2021). By contrast, incremental ES policies focus on more immediate, operational efficiencies like energy or water conservation (Walls and Palmer, 2001; Ji and Darnall, 2018). While both approaches contribute to environmental sustainability, only comprehensive policies typically generate the transformative outcomes that align with global sustainability targets (Stern, 2018).

In this study, stakeholder influence refers to stakeholders' ability or capacity to affect organizational actions, decisions, and policies through direct or indirect means, such as communication, negotiation, persuasion, or cooperative engagement (Freeman et al., 2010). While several studies have established that stakeholders can influence an organization's decision to adopt an ES policy (Henriques and Sadorsky, 1996; Darnall et al., 2010), two significant gaps in the literature remain. First, little is known about how different stakeholder relations influence an organization's decision to adopt different types of ES policies, particularly those that deliver more comprehensive versus incremental benefits. Relational Models Theory (RMT) suggests stakeholder relationships may influence policy adoption through four interaction models: based on shared concerns (communal-sharing), through ordered hierarchies (authority-ranking), by balancing reciprocal exchanges (equality-matching), and using cost-benefit analyses (market-pricing) (Fiske, 2004). Extending this idea, it is expected that stakeholder relations will shape a public organization's decision to adopt different ES policies. Some stakeholder relations may perceive comprehensive ES policies as being disruptive to their operations, while others may support them because they align with their environmental sustainability objectives. Understanding these variations is important as public organizations seek to adopt ES policies that align with global sustainability goals. However, these nuances between stakeholder relations and organizational responses remain underexplored (Kujala et al., 2022; Johnson-Cramer et al., 2022), particularly in public organizations.

Second, the theoretical examination by which stakeholder relationships influence public organizations' adoption of different ES policies is also largely unexamined. This study focuses on U.S. local governments, which typically have autonomy in certain policy areas (Boyne, 2002). Previous public management scholarship highlights the role of civil society, advocacy groups, and community organizations in shaping public sector decision-making. Of particular interest has been how advocacy organizations use strategic messaging (Gen and Wright, 2018), civil society's influence in renewable energy policies (Madariaga and Allain, 2020), interest groups and commissions (Ritchey and Nicholson-Crotty, 2015), coalitions in marine protected area policymaking (Weible, 2007), and organizational capacity in sustaining local initiatives (Wang et al., 2012). However, less attention has been given to understanding which of these stakeholders influence the adoption of different types of ES policies. As such, knowledge of the broader influence of stakeholder relations on ES policy decisions is incomplete.

This study addresses these gaps by investigating which stakeholder relations influence public organizations' adoption of different ES policies, recognizing that some stakeholder relations may serve key allies in supporting the adoption of ES policies, while others may impede progress. Therefore, the present study addresses the following research question: Which stakeholder relations are associated with public organizations adopting comprehensive or incremental ES policies?

To answer this question, an original survey of environmental and sustainability managers in 200 U.S. cities is analyzed, supplemented by three archival data sources. The methodological approach uses seemingly unrelated logistic regression (SULR) to account for correlated adoption decisions across multiple ES policies. This study makes three unique and important contributions. First, it refines stakeholder theory by showing how distinct relational models - market-pricing, authority-ranking, equality-matching, and communal-sharing - differentiate the adoption of incremental versus comprehensive policies. Second, it extends public management scholarship by highlighting the varied stakeholder influences shaping local governments' environmental sustainability decisions. Third, it provides practical guidance to public officials, clarifying which stakeholder relations are most likely to promote ambitious ES policies that align with the Paris Agreement.

2. Theory

2.1. Environmental sustainability policies

ES policies are formal or informal initiatives aimed at reducing ecological impacts such as emissions and resource use (Ji and Darnall, 2018; Svara et al., 2013). In this study, "environmental sustainability" focuses on reducing ecological impacts (e.g., emissions, resource use), whereas "social sustainability" would address issues like equity or community well-being. While these concepts overlap, this paper primarily emphasizes the environmental dimension of sustainability. These policies vary in scope and focus, ranging from energy and water conservation to green building initiatives and greenhouse gas (GHG) emissions reduction (Svara et al., 2013). Despite their diversity, in general, they can be classified either "comprehensive" or "incremental" (Ji & Darnall's, 2018), differing based on their breadth of impacts.

2.1.1. Comprehensive ES policies

Comprehensive ES policies involve broad systemic organizational transformations, substantial infrastructure changes, and ambitious emissions reductions (Ji and Darnall, 2018). They align closely with the EU Taxonomy's substantial contributions to "Climate Change Mitigation" (European Commission, 2023) and represent cross-sectoral and significant sectoral policies within OECD Climate Actions and Policies Measurement Framework (CAPMF) (OECD, 2022).

Comprehensive policies generally seek to reduce environmental impacts that extend beyond the public organization's operational boundaries, thus benefiting a wide array of external stakeholders (Svara et al., 2013). Given their broader scope, comprehensive policies typically require substantial organizational change, with detailed action plans and measurable indicators to ensure accountability (Byrne et al., 2007). As an example, a city's green building policy may seek to improve energy efficiency, reduce environmental impacts, and enhance community health and employee productivity (Matisoff and Noonan, 2022; USGBC, 2003). Other examples include city-wide emissions reduction targets, green building policies mandating net-zero standards, and transitions to renewable energy sources at the municipal level.

2.1.2. Incremental ES policies

Incremental ES Policies correspond with the EU Taxonomy's moderate, sector-specific activities that lead to immediate improvements, typically through increased efficiency (European Commission, 2023). These actions are equivalent to the OECD's Council Recommendation on the Governance of Critical Activities and Public Mobilization Framework, which are sector-specific market-based and non-market-based instruments that include policies such as energy conservation measures (Svara et al., 2013; ICMA, 2016), water conservation initiatives (Larson et al., 2009), and appliance efficiency standards. They also relate to the EU Taxonomy's focus on specific regulatory or financial incentives designed to optimize current operations without necessarily shifting the entire system or infrastructure (Li et al., 2008; Ji and Darnall, 2018; OECD, 2022).

Incremental ES policies tend to generate immediate benefits through modest internal adjustments, thus delivering cost savings and reduced organizational risk (Li et al., 2008; Ji and Darnall, 2018). While these policies provide clear economic benefits, their narrower focus means they primarily benefit the organization itself. Consequently, relying solely on incremental measures is insufficient to achieve long-term environmental sustainability goals, such as those outlined in the Paris Climate Agreement (Stern and Valero, 2021). Public organizations must balance the influences of various stakeholders when deciding which ES policies to adopt. Some stakeholder relations may support comprehensive ES policies, while others may resist them in favor of incremental approaches.

2.1.3. A Nested Continuum

The comprehensive-incremental policy distinction is particularly useful because it articulates the theoretical underpinnings of both constructs, which vary in their approach and impact. However, in practice, whereas all incremental policies tend to focus exclusively on internal efficiencies and cost savings, comprehensive policies may also include some incremental policies that support their focus on broad systemic transformations, including substantial infrastructure changes, and ambitious emissions. For instance, a municipality's net-zero policy may involve organization-wide systemic organizational transformations, substantial infrastructure changes, and ambitious emissions reductions, which also include some incremental policy actions, such as improved energy conservation, that are nested within it.

Additionally, the relationship between comprehensive-incremental policies may involve time dependencies. That is, organizations rarely pursue comprehensive ES policies without first having adopted incremental policies (Darnall & Kurapatski, 2013). Once their incremental policies have demonstrated a certain level of success, they often pursue more robust commitments that involve adopting comprehensive policies (e.g., climate pledges) that lead to more transformative system-level actions (Ji and Darnall, 2018; Jackson, 1971; Roberts, 2010). As additional comprehensive policies are adopted, the focus on incremental policies becomes lessoned as more broad sweeping approaches are implemented. Thus, incremental and comprehensive environmental sustainability policies should not be viewed as opposing policy approaches, but interrelated, supporting approaches (Darnall & Kurapatski, 2013) that tend to be nested and have time dependencies, as shown in Fig. 1, below.

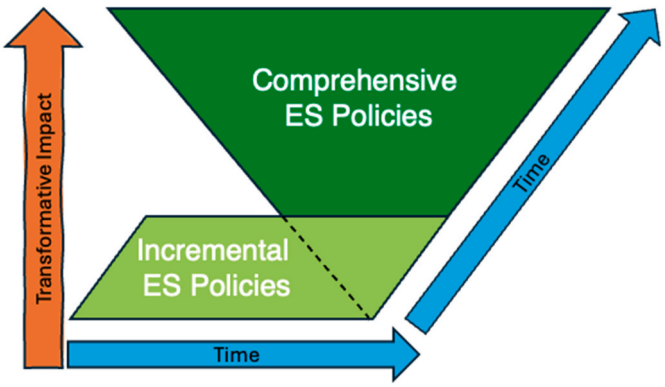

Fig. 1. A nested continuum: Comprehensive & incremental ES policies.

This view extends the relevance of the EU Taxonomy (European Commission, 2023) and the OECD Climate Actions and Policies Measurement Framework (OECD, 2022), where comprehensive policies typically involve large-scale, systemic transformations aimed at substantial mitigation of climate change (e.g., city-wide net-zero targets or extensive renewable energy initiatives). The targeted, sector-specific actions (e.g., energy efficiency improvements, appliance standards) of incremental policies support these larger systemic shifts. Incremental policies, therefore, often operate within and contribute to the broader goals articulated by comprehensive policies rather than involving mutually exclusive activities.

In the following section, we discuss stakeholder influences on policy adoption before then articulating why different stakeholders would influence public organizations to adopt one type of ES policy over another.

2.2. Stakeholder theory and research gaps

Stakeholder theory asserts that organizational decisions are influenced by individuals or groups affected by those decisions (Freeman, 1984). While originally applied to the private sector, stakeholder theory is equally relevant to public organizations (Scholl, 2002; Behravesh et al., 2022), which are responsible for managing externalities that affect diverse stakeholders, including businesses, NGOs, and the public (Boyne, 2002; De Gooyert et al., 2017). Public organizations that respond effectively to stakeholder influences tend to make more legitimate decisions (Renn, 2006). Strategically engaging these stakeholders enables public organizations to better align their policies with broader societal goals (De Gooyert et al., 2017). Since stakeholders vary in their power, legitimacy, and urgency (Mitchell et al., 1997), it is essential for organizations to understand these dynamics when crafting policies to address societal needs (Tashman and Raelin, 2013).

Although prior research has examined stakeholder influences on public organizations' policy adoption (e.g., Best et al., 2019; Gelderman et al., 2017), this scholarship has typically focused on advocacy groups and community demographics. For instance, Gen and Wright (2018) analyze how policy advocacy groups frame issues, and Ritchey and Nicholson-Crotty (2015) investigate how interest groups influence policy changes in different states. Similarly, Lubell et al. (2009) assess how local governments with greater stakeholder influence who have higher socio-economic status tend to adopt ES policies. However, public organizations engage a wide range of diverse stakeholders. In addition to advocacy groups, they must also address business influence, NGOs (Boyne, 2002; De Gooyert et al., 2017), other governments, and influential internal stakeholders. Public organizations that respond effectively to these stakeholder influences tend to make more legitimate decisions (Renn, 2006). This paper draws on and extends the relational view of stakeholder engagement. Stakeholder relations refer to the ways organizations interact with and respond to various stakeholder groups based on shared objectives, hierarchical structures, reciprocity, or market dynamics (Fiske, 2004; Bridoux and Stoelhorst, 2016).

RMT categorizes stakeholder interactions and relationships into four fundamental relational models: market-pricing, authority-ranking, equality-matching, and communal-sharing (Fiske, 1992, 2004). These models help explain complex relationships across all levels of interaction, including interactions between organizations and their stakeholders (Sheppard and Tuchinsky, 1996; Bridoux and Stoelhorst, 2016). Organizations respond to stakeholder influences based on their perceived importance, often prioritizing ethical considerations, repeat engagements, and societal value (Hendry, 2004; Jones et al., 2018). Related to the public sector, public organizations engage with

stakeholders throughout the policy-making process, integrating their preferences and technical advice. Like private firms that adopt cleaner production endeavors, governments need to identify their critical allies as they pursue more ambitious ES policies. Stakeholder relations are likely to influence a public organization's adoption of different types of ES, with some relations being especially important allies as they pursue more robust ES policies. However, the link between stakeholder relations and organizational responses remains underexplored (Kujala et al., 2022; Johnson-Cramer et al., 2022), particularly in the context of public organizations and their adoption of ES policies. It is this critical missing link that is investigated further in the next section.

3. Hypotheses

3.1. Market-pricing relations and ES policy adoption

Market-pricing relations center on economic calculations and proportional exchanges, where interactions are driven by prices and contracts (Deutsch, 1975). These stakeholders prioritize efficiency and financial returns, often favoring policies with immediate economic benefits (Bridoux and Stoelhorst, 2016). Although they may be concerned with broader outcomes, their primary focus is on their economic interests.

Public organizations interact with market-pricing stakeholders whose livelihoods are tied to public policies (Frooman, 2002). For example, vendors that contract with cities and provide goods and services are affected by regulations and policies, particularly those requiring environmental compliance (Oates and Portney, 2003). Business associations similarly represent their members' economic interests, influencing policy through lobbying and providing technical expertise (Feiock et al., 2014).

Given their economic focus, market-pricing stakeholders often view comprehensive ES policies as disruptive due to their broader impacts. Comprehensive policies such as GHG emissions reductions and green building initiatives can require significant changes in business operations, supply chains, and production processes. For many businesses, particularly those lagging in their environmental sustainability efforts (Busch et al., 2018; Sulkowski et al., 2018), these changes represent potential costs and risks (Dryzek, 2013; Levesque et al., 2017). As a result, these stakeholders are likely to object to comprehensive ES policies.

H1a. Market-pricing relation influences decrease the likelihood of public organizations adopting comprehensive ES policies.

On the other hand, incremental ES policies tend to focus on internal efficiency improvements with limited impact on external stakeholders. Energy conservation policies, for instance, typically target the public organization's internal operations (Svara et al., 2013). Since market-pricing stakeholders, such as vendors, are not directly affected by these internal policies, they have little reason to oppose them (Deslatte and Swann, 2016). Consequently, it is anticipated that there is no significant relationship between the influence of stakeholders who embody the market-pricing relational perspective and a public organization's adoption of incremental ES policies.

H1b. Market-pricing relation influences are unrelated to the likelihood of public organizations adopting incremental ES policies.

3.2. Authority-ranking relations and ES policy adoption

Authority-ranking relations are hierarchical, with power and command playing a central role in decision-making (Fiske, 2004). These relationships are based on established hierarchies, where higher-ranked entities exert influence over subordinate organizations (Bridoux and Stoelhorst, 2016). Public organizations often encounter authority-ranking stakeholders in the form of higher-level governments - state and federal bodies that hold power over local governments (Gomes and Gomes, 2009).

Local governments respond to the authority-ranking stakeholders influence to secure resources like grants and technical assistance while avoiding penalties for noncompliance with state and federal laws (Kloot and Martin, 2000). These stakeholders may also influence non-regulatory environmental sustainability policies, such as local environmental initiatives (Hsueh and Darnall, 2017). For example, during the U.S. withdrawal from the Paris Climate Agreement in 2017, higher-level governments discouraged climate action at the local level (NCSL, 2020). Although the U.S. rejoined the Agreement in 2021, during this study, opposition to regulation of climate emissions caused federal and state governments to discourage climate change discussions (NCSL, 2020).

Given this hierarchical dynamic, local governments are likely to consider the expectations of state and federal governments when adopting comprehensive ES policies. If these higher-level authorities are unsupportive, local governments may be reluctant to pursue ambitious environmental policies, fearing political and economic consequences. At the time of this study, federal authorities were less supportive of comprehensive environmental efforts, influencing the policy decisions of public organizations, thus, the research hypothesis reflects this context. However, in a different political environment, where authority-ranking stakeholders support environmental sustainability, their influence could shift positively toward comprehensive policy adoption.

H2a. Authority-ranking relation influences decrease the likelihood of public organizations adopting comprehensive ES policies.

In contrast, incremental ES policies, which focus on internal efficiency improvements like energy or water conservation, typically fall outside the regulatory purview of higher-level governments (Hsueh and Darnall, 2017). These policies often do not attract significant attention from authority-ranking stakeholders and are therefore less likely to be affected by their influence.

H2b. Influences from authority-ranking relations are unrelated to public organizations adopting incremental ES policies.

3.3. Equality-matching relations and ES policy adoption

Equality-matching relations are grounded in reciprocity, fairness, and balance, with interactions characterized by mutual exchange and equivalence over time (Fiske, 2004). These relations view themselves and their relational stakeholders as equals, sharing similar levels of authority and autonomy. Motivated by reciprocity, they seek to maintain the balance in their relationship (Fiske, 2004). In public organizations, these relations are often found among employees, management, and elected officials who share a commitment to advancing the organization's mission and values (Welch and Jackson, 2007).

Although a public organization's employees also exhibit a market-pricing relationship with their employers through their economic interest in job security, compensation, benefits, working conditions, and opportunities for advancement, this relationship is not anchored in their public service motivations (Moynihan and Pandey, 2007; Vandenabeele, 2007), nor is it related to policy adoption. Thus, this study considers the equality-matching relations of employees.

Public sector employees are often driven by a sense of duty, a desire to positively impact society, and a willingness to accept lower financial rewards in exchange for serving the public (Bozeman and Su, 2015). These stakeholders are strongly committed to the common good and are more likely to support comprehensive ES policies that align with broader goals, even if such policies are riskier and require long-term investments (Azhar and Yang, 2019; Stritch and Christensen, 2016). Given their alignment with the public organization's mission and their understanding of organizational capacities, equality-matching stakeholders are likely to promote comprehensive ES policies.

H3a. Influences from equality-matching relations increase the likelihood of public organizations adopting comprehensive ES policies.

Conversely, incremental ES policies offer more immediate and narrower benefits, focusing on internal efficiencies rather than broader impacts. These policies may not align as closely with equality-matching stakeholders' broader public service values (Welch and Jackson, 2007), making them less likely to actively influence their adoption.

H3b. Influences from equality-matching relations are less likely to influence the adoption of incremental ES policies compared to comprehensive policies.

3.4. Communal-sharing relations and ES policy adoption

Communal-sharing relations are based on shared identity, common purpose, and collective well-being, prioritizing societal outcomes over individual gains (Fiske, 2004). These stakeholders are motivated by shared moral values and a sense of belonging, and they tend to advocate for policies that promote the well-being of disadvantaged groups, the environment, or human rights (Frooman, 2002). Examples of communal-sharing stakeholders include community groups, social justice organizations, and environmental advocacy groups.

In the context of public organizations, communal-sharing stakeholders often influence governments to adopt policies that improve community health, enhance environmental protection, or advance social justice (Jänicke et al., 2012). These groups use media campaigns, public awareness initiatives, and lobbying efforts to influence policy adoption.

Because communal-sharing relations prioritize broader impacts that benefit society, which include environmental initiatives, they are likely to support both comprehensive and incremental ES policies, recognizing that all forms of environmental policy contribute to societal improvement. However, given their broader focus, these stakeholders may exert a stronger influence on the adoption of comprehensive policies, which have more significant long-term impacts on societal well-being.

H4. Influences from communal-sharing stakeholders increase the likelihood of public organizations adopting both (a) comprehensive and (b)incremental ES policies, with a stronger influence on comprehensive policies.

Fig. 2 summarizes each of the above hypothesized relationships.

4. Data, measure, and methods

4.1. Data

To examine how stakeholder relations influence public organizations' adoption of different types of ES policies, a survey of U.S. cities with populations over 25,000 was conducted. A quantitative survey design was deemed suitable to capture a broad range of stakeholder influences across diverse local governments. Survey items measured perceived stakeholder influence, while archival data (Sierra Club membership, etc.) from multiple sources provided objective indicators. This multi-source approach allowed us to cross-validate subjective survey responses with objective indicators, thus enhancing measurement validity and robustness.

The survey targeted 1825 directors from finance, public works, and environmental services departments across 791 cities. Before finalizing the survey, a focus group of 14 Phoenix city employees (department directors and purchasing officers) was convened to refine the survey language and ensure content validity. Once a draft survey was created, feedback was solicited from 31 stakeholders working in city government, county government, U.S Environmental Protection Agency, ICMA, the Sustainable Purchasing Leadership Council, U.S. General Services Administration, environmental consulting organizations and academic researchers. After further survey refinements, a pilot survey was sent to 94 department directors. The results of the pilot led to minor revisions prior to the survey's broad distribution.

This study focused on U.S. local governments, which typically have autonomy in certain policy areas (Boyne, 2002). However, local authorities in other nations (e.g., Japan) operate under tighter national directives (Darnall et al., 2018), potentially altering stakeholder relations. As such, the findings may differ in other contexts.

The survey was distributed online via Qualtrics in spring 2017 over a period of eight weeks. City directors received an initial letter informing them of the survey and then an email containing a link to a Qualtrics-based survey several days later. Non-respondents received up to four email reminders, two postcard reminders, and two phone call reminders. The final sample consisted of 616 responses out of 1,825, resulting in a 33.8 % response rate, with 459 cities participating. A post-hoc (*t*-test) analysis, using U.S. Census data from the American Community survey, confirmed that the sample was representative of U.S. cities ($p < 0.05$) across median population size, median income, and geographic distribution. Responses from finance directors were excluded, as they were generally less informed about their city's ES policies and the stakeholder relations influencing their adoption. After removing these responses and accounting for item nonresponse, the final sample included 209

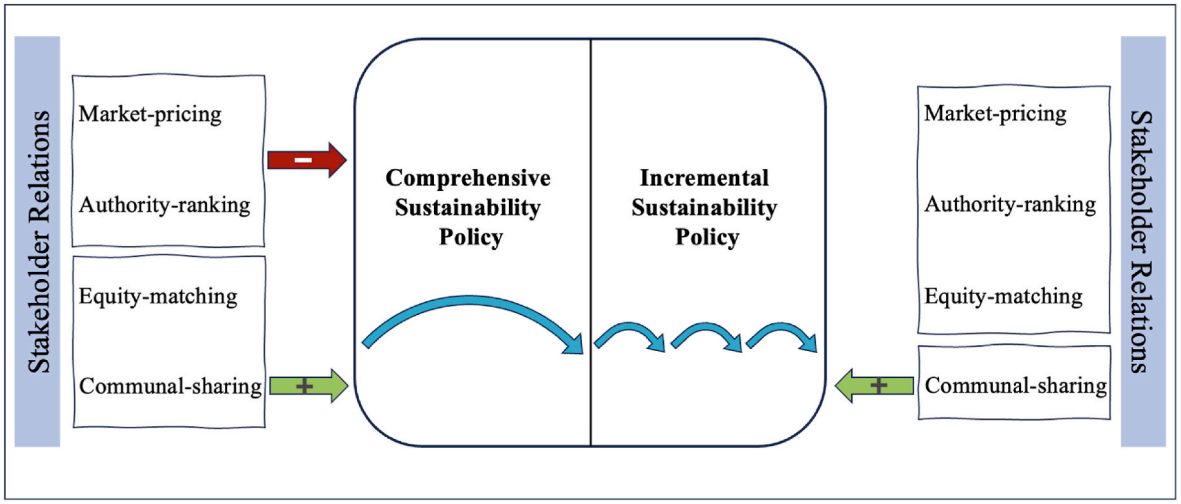

Fig. 2. Stakeholder influences on public sector environmental policies.

responses from 200 cities. To probe possible bias from non-responses, differences in means tests (t-tests) were conducted. The final reduced sample of 209 responses was compared with (1) the full sample of 616 responses, in addition to (2) the sample of 312 responses. The results show that the final sample was statistically similar ($p > 0.05$) to the original dataset and the sample of 312 responses across all 22 variables of interest, except one. Compared to the original dataset, the final sample was slightly more educated (4.82 versus 5.06, where 4 = four-year degree, 5 = some graduate school, and 6 = graduate degree).

The final survey was constructed after initial feedback from a sample group of municipal officials, which helped refine question wording and identify unclear items. Survey data were supplemented with archival data sources, including: (1) cities' public commitments to the 2017 Climate Mayors pledge (Climate Mayors, 2017), (2) state-level Sierra Club membership counts (Sierra Club, 2018), and (3) demographic data from the U.S. Census Bureau's American Community Survey.

Although the data were collected in 2017, U.S. local governments' adoption of ES policies remains highly relevant today, as many cities and municipalities continue to grapple with environmental sustainability goals and face similar stakeholder influences (Hsu and Manya, 2024). At the national level, political and regulatory influences remain similar to 2017 in that during the time of the survey, the U.S. was exiting a liberal presidency, which was replaced with a highly conservative presidency (i.e., the first Trump administration), which promptly withdrew U.S. participation in the Paris Climate Agreement. This conservative national setting was reinstated earlier this year (again following a liberal president) and promptly withdrew from the Paris Climate Agreement. Now, as was the case in 2017, it is critical for local governments to understand which stakeholder relations can serve as critical allies as they adopt more comprehensive ES policies.

Table 1
Overview of environmental sustainability policies.

Environmental Sustainability Policy	Attributes	Examples	Activities
Comprehensive	• Long-term focus • Uncertain outcomes • Benefits are not always visible • More fundamental change • Assists with branding • Involve potentially large environmental benefits	City-wide environmental sustainability policy	Requires the development of a long-term plan for sustainability
		Green building policy	Enhances a building's environmental performance by complying with multiple, externally verified criteria
		GHG emissions policy	Reduces GHGs by setting targets, developing action plans, and pursuing reduction strategies
		Climate Mayors	City-wide pledge to meet the Paris Climate goals and advance sustainable development and climate justice
Incremental	• Involves less uncertainty. • Predictable outcomes • Short-term focus • Involve efficiency improvements	Energy conservation policy	Conduct energy audits, upgrades or building retrofits
		Water conservation policy	Reduce water use, and reuse and reclaim used water

Table 2
Adoption of environmental sustainability policies.

Environmental Sustainability Policy	% adopted	S.D.
Comprehensive policies		
City-wide environmental sustainability policies	33.9	.475
Green building policies	36.8	.484
GHG emissions policies	26.3	.441
Climate Mayors	25.4	.436
Incremental policies		
Energy conservation policies	44.5	.498
Water conservation policies	47.4	.501

4.2. Measures

4.2.1. Dependent variables

Six dependent variables representing comprehensive and incremental ES policies were used. Four variables were derived from a survey question asking respondents whether their city had adopted specific ES policies. Three comprehensive policies included: (1) city-wide ES policy, (2) GHG emissions policy, and (3) green building policy. Two incremental policies included: (1) energy conservation and (2) water conservation policies. The sixth measure captured whether cities had committed to the 2017 Climate Mayors pledge (a comprehensive policy). Responses were binary (1 = yes, 0 = no).

Table 1 provides an overview of the policies, and Table 2 shows the adoption rates, with water conservation being the most adopted (47 %) and the Climate Mayors pledge being the least adopted (25 %).

4.2.2. Independent variables

To measure stakeholder influence, survey respondents were asked: "How influential are each of the following individuals or organizations in promoting ES practices in your department?" Respondents were provided a list of the following stakeholders that included: vendors, business associations, state government, federal government, city employees, other city departments, city executive, city council, and environmental groups. Respondents indicated the degree of influence on a 5-point Likert scale, ranging from "Not Influential (1)" to "Very Influential (5)". Differences in response scales between dependent (binary) and independent (scaled) variables helped mitigate potential common method bias (Podsakoff et al., 2003). Additionally, robustness was enhanced by combining the survey data with archival data.

Stakeholders were aggregated into their relational categories using a factor analysis with varimax rotation. Factor regression coefficients were used to obtain factor scores that are used in the subsequent regression analysis. The results showed three distinct conceptual categories, as shown in Table 3.

The first factor score, *market-pricing relations*, represents vendors and

Table 3
Factor analysis of stakeholder relations.

Stakeholders	Stakeholder Relations		
	Factor 1 *Market-pricing*	Factor 2 *Authority-ranking*	Factor 3 *Equality-matching*
Vendors	**0.75**	.25	.27
Business associations	**0.72**	.32	.24
Federal government	.22	**0.85**	.13
State government	.18	**0.84**	.26
City employees	.41	.07	**0.60**
Other city departments	.34	.29	**0.60**
City executive	.18	.21	**0.86**
City council	.17	.18	**0.89**
Variance	1.50	1.75	2.46
Cronbach's alpha	***0.8593***	***0.9270***	***0.8725***

business associations (**Cronbach's alpha = 0.8593**). It showed strong internal consistency in how these influences are perceived and demonstrates an underlying construct reliability. The second factor score, *authority-ranking relations*, represents city directors' perceived influence from the state government and federal government (**Cronbach's alpha = 0.9270**), demonstrating very high internal consistency for this measurement. The third factor score, *equality-matching relations*, represents city directors' perceived influence from city employees, other city departments, city executives, and city council (**Cronbach's alpha = 0.8725**), also showed strong internal consistency in how these influences are perceived. All items loaded strongly (≥.60) onto their intended factors.

To measure *communal-sharing relations,* survey respondents were asked how influential environmental groups were in promoting environmental practices in their department. Responses ranged from "Not Influential (1)" to "Very Influential (5)." As a second measure for *communal-sharing relations*, the log of *Sierra Club membership totals* for the state in which the city is located was included. Larger state-level Sierra Club membership is generally indicative of greater opportunities/capacities for environmental stakeholders to influence organizations within their states (Hsueh, 2019). As the two measures of *communal--sharing relations* differ, with the first being qualitative and the second being quantitative, they are unsuitable for aggregation in factor analysis and thus were modeled separately.

4.2.3. Control variables

The model also controlled for several organizational and demographic factors. The first organizational controls related to the cities' financial standing were measured on a 5-point scale ranging from "Very Weak" to "Very Strong". Cities with stronger financial standing may be more likely to pursue ambitious sustainability projects because they have greater fiscal capacity to invest in long-term initiatives that may not yield immediate returns (Homsy and Warner, 2014; Kloot and Martin, 2000). Wealthier cities also face lower risks when experimenting with innovative policies, allowing them to adopt cutting-edge environmental practices (Krause, 2011).

It was also important to control for city size (log of population) because larger cities often have greater financial, technical, and human resources, enabling them to design and implement expansive ES policies (Krause, 2011). Larger cities also experience heightened political influence from residents, advocacy groups, and international networks to address environmental challenges visibly and effectively (Betsill and Bulkeley, 2007; Krause et al., 2016). As a result, larger cities are more likely to adopt ambitious sustainability initiatives compared to their smaller counterparts (Lee and Koski, 2012).

Additionally, cities' median family incomes were important to control for since families with higher incomes are more likely to pursue ambitious sustainability policies because wealthier populations often demand stronger environmental action and have greater political influence (Zahran et al., 2008; Saha, 2009). Higher income levels also expand the city's tax base, giving local governments more resources to fund sustainability initiatives (Krause, 2011). Additionally, affluent communities are better positioned to absorb the costs of innovative or experimental environmental programs (Sharp et al., 2011).

The racial and ethnic composition of a city can shape sustainability policy decisions, as cities with higher percentages of Black and Hispanic residents often face competing policy demands centered on immediate economic and social equity concerns (Krause, 2011). Moreover, local governments tend to avoid implementing ambitious ES policies in communities with a large presence of historically underserved communities of color because they tend to have less political capital (Taylor, 2014).

Individual respondent characteristics were also considered, including respondents' education (measured on a 6-point scale). This control accounted for the evidence that higher-educated individuals may be more aware of environmental sustainability issues (Azhar and Yang, 2019). Similarly, higher educational attainment has been linked to greater acceptance of environmental policies and a higher likelihood of supporting sustainability initiatives (Xiao and Dunlap, 2007), which is why we controlled for respondents' highest education completed.

Job tenure was controlled because individuals with longer tenure benefit from greater institutional knowledge and influence on policy adoption decisions (Fernandez and Moldogaziev, 2013). That is, longer-tenured employees are often better positioned to navigate organizational processes and stakeholder influence to build the networks necessary to champion new policies (Meier and O'Toole, 2002). Additionally, we accounted for whether respondents worked in their cities' environmental departments (coded 1; versus public works, coded 0), because individual expertise, organizational role, and embeddedness within relevant departments can significantly shape attitudes toward and implementation of sustainability initiatives (Andrews, Boyne, Meier, O'Toole and Walker, 2012; Feiock & Stream, 2001).

Table 4 shows the correlation matrix and descriptive statistics for the variables.

4.3. Methods

The study employed seemingly unrelated logistic regression (SULR) to assess the relationships between stakeholder relations and the adoption of the six ES policies. Because the dependent variables are dichotomous (policy adopted = 1, not adopted = 0), logistic regression is appropriate (Long, 1997). SULR is useful for examining how stakeholders influence cities' decisions to adopt multiple environmental policy adoptions because it accounts for correlations between policy

Table 4
Correlation and descriptive statistics of independent and control variables.

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Market-pricing relations	1												
2. Authority-ranking relations	.04	1											
3. Equality-matching relations	.10	.11	1										
4. Communal-sharing relations - Environmental stakeholders	.38	.31	.51	1									
5. Communal-sharing relations - Sierra Club membership	.05	.11	−.13	−.04	1								
6. Financial standing	.10	.00	.15	.02	−.10	1							
7. Environment department	.11	−.14	.11	.03	.06	−.10	1						
8. Job tenure	−.17	.02	.07	−.04	−.16	.12	−.11	1					
9. Education	.12	−.19	−.05	.01	.09	−.13	.19	−.13	1				
10. Median family income (log)	.08	−.08	−.11	−.10	.29	.27	−.04	−.09	−.04	1			
11. Total population (log)	.08	−.08	.00	−.00	.06	−.07	.19	−.09	.21	−.03	1		
12. Race (Black, %)	.16	.07	.07	.10	−.17	−.03	.08	−.07	.08	−.29	.05	1	
13. Hispanic origin (%)	−.02	.06	−.10	−.03	.45	−.06	−.07	−.12	.18	−.07	.19	−.15	1
Mean	3.17	2.80	2.23	2.62	31178	3.89	.27	6.33	5.07	10.96	11.16	.11	.15
S.D.	1.09	1.30	1.00	1.18	41573	1.01	.45	5.50	1.09	.37	.75	.12	.15

Table 5
City-wide environmental sustainability policy adoption compared to the adoption of other ES policies.

Other ES Policy Type	Other policy adopted?	City-wide environmental sustainability policy?	
		Yes	No
GHG emission policy	Yes	122 (79.2 %)	16 (29.1 %)
	No	32 (20.8 %)	39 (70.9 %)
Green building policy	Yes	113 (85.6 %)	25 (32.5 %)
	No	19 (14.4 %)	52 (67.5 %)
Climate Mayors policy	Yes	113 (75.3 %)	25 (42.4 %)
	No	37 (24.7 %)	34 (57.6 %)
Energy use conservation policy	Yes	102 (87.9 %)	36 (38.7 %)
	No	14 (12.1 %)	57 (61.3 %)
Water use conservation policy	Yes	90 (81.8 %)	48 (48.5 %)
	No	20 (18.2 %)	51 (51.5 %)

decisions that standard logistic regressions treat as independent (Greene, 2017). Cities facing similar stakeholder influences-such as advocacy groups, businesses, or political actors, may adopt multiple environmental sustainability policies, leading to interdependent decisions (Shipan and Volden, 2012; Krause, 2012). SULR improves estimation efficiency, corrects for correlated errors, and helps determine whether policy adoptions stem from shared influences or if one policy adoption increases the likelihood of another (Zellner and Lee, 1965). This method allowed for estimating the unique influence of stakeholder relations on each type of ES policy adoption (Greene, 2017). As such, this approach provides more accurate inferences about how stakeholder influences shape ES policy adoption. Table 5 highlights adoption patterns across different ES policies.

5. Results

Table 6 reports the results of the seemingly unrelated bivariate logistic analyses demonstrating that stakeholder relations influence cities' adoption of comprehensive versus incremental ES policies.

The results indicate that cities with stronger influences from their market-pricing relations were 44.4 percent less likely (1 - .556) to adopt GHG emissions policies ($p < 0.05$) and about 53 percent less likely (1 - .474) to commit to the Climate Mayors' policy pledge ($p < 0.05$). There was no statistical relationship between stakeholders with market-pricing relations and city-wide ES policies and green building policies (comprehensive policies). By contrast, market-pricing relations influence (i.e., vendors and business associations) is not related statistically ($p > 0.05$) with cities' adoption of either energy conservation or water conservation policies. These findings offer support for H1a and H1b.

Related to H2a and H2b, the results also show that authority-ranking relations influence (i.e., state and federal government stakeholders) is not related statistically to cities' adoption of their city-wide ES policies, their green building policies, and their commitment to the Climate Mayors' policy pledge. However, the research found statistically significant evidence ($p < 0.05$) that cities with increased influence from stakeholders with authority-ranking relations are 41.6 percent less likely (1-.584) to adopt GHG emissions policies. By contrast, authority-ranking relations influence (i.e., state and federal government stakeholders) is not related statistically ($p > 0.05$) with cities' adoption of either energy conservation or water conservation policies. These findings support H2a and H2b.

Stakeholders with stronger influences from equality-matching relations (i.e., city employees, other city departments, city executives, and city council) increase the likelihood of local governments adopting comprehensive ES policies. Moreover, the size effect is notably large in that cities with stronger market-pricing relations influence are 194.4 percent more likely (294.4 - 1) to adopt city-wide ES policies ($p < 0.01$), 122.8 percent more likely (222.8 - 1) to adopt green building policies ($p < 0.05$), and 81.1 percent more likely (181.1 - 1) to adopt GHG emissions policies ($p < 0.01$). By contrast, these relations are not associated statistically ($p > 0.05$) with cities' incremental ES policies (both energy conservation policies and water conservation policies), underscoring the different motivations behind these relational models and offering

Table 6
SULR results assessing the relationship between stakeholder relations and cities' ES policy adoption[a].

Variable	Comprehensive ES Policies				Incremental ES Policies	
	City-wide ES policy	*Green building policy*	*GHG emissions policy*	*Climate Mayors policy*	*Energy conservation policy*	*Water conservation policy*
Market-pricing relations	.743 (.178)	.653 (.184)	**0.556*** (.152)	**0.474*** (.136)	.873 (.204)	1.117 (.236)
Authority-ranking relations	.764 (.159)	.861 (.201)	**0.584*** (.128)	.661 (.155)	1.088 (.215)	.863 (.159)
Equality-matching relations	**2.944**** (.789)	**2.228**** (.555)	**1.811*** (.478)	1.548 (.402)	1.282 (.243)	.903 (.175)
Communal-sharing relations						
Environmental stakeholders	**1.521*** (.289)	1.487 (.346)	**1.933*** (.439)	**1.622*** (.393)	**1.571*** (.278)	1.358 (.225)
Sierra Club membership (log)	**1.453*** (.261)	**2.545**** (.561)	**3.205**** (.817)	**1.812*** (.385)	**1.460*** (.251)	**1.499*** (.274)
Financial standing	.751 (.143)	.903 (.194)	1.083 (.242)	1.199 (.270)	.807 (.139)	.905 (.151)
Environmental department	1.470 (.559)	1.774 (.822)	1.741 (.797)	1.696 (.680)	1.304 (.443)	1.317 (.498)
Job tenure	.998 (.035)	1.022 (.037)	1.049 (.038)	1.008 (.038)	1.026 (.031)	.984 (.031)
Education	1.223 (.250)	1.332 (.284)	.956 (.190)	1.120 (.233)	1.062 (.173)	.937 (.144)
Median household income (log)	3.129 (2.109)	.956 (.623)	.621 (.427)	.309 (.210)	2.071 (1.193)	2.398 (1.248)
Population (log)	1.833* (.440)	2.590* (.759)	2.108* (.579)	3.899** (1.246)	2.197** (.504)	1.470 (.340)
Race (Black, %)	.962 (1.252)	.261 (.414)	.249 (.503)	.820 (1.176)	.510 (.786)	1.347 (1.909)
Hispanic origin (%)	.286 (.476)	.130 (.225)	.128 (.182)	.017* (.032)	.343 (.462)	30.571* (43.143)
_cons	.000* (.000)	.000* (.000)	.000* (.000)	.000 (.000)	.000* (.000)	.000* (.000)
N	209	209	209	209	209	209
Pseudo R^2	.260	.300	.293	.250	.152	.145

**$p < 0.01$, *$p < 0.05$.

[a] SULR refers to "seemingly unrelated logistic regression," is a statistical estimation approach that accounts for correlated error structures related to adoption decisions across the six ES policies, each of which are dichotomous variables (policy adopted = 1, not adopted = 0). Odds ratios are presented. Robust standard errors (clustered by city) in parentheses.

support for H3a and H3b.

Stakeholder influence from communal-sharing relations (i.e., environmental stakeholders and Sierra Club membership) is related statistically to cities' increased likelihood of adopting comprehensive ES policies. Here, too, the results show notably large size effects. Cities with stronger environmental stakeholders influence and states having more Sierra Club members are 52.1 percent (152.1 - 1) and 45.3 percent (1.453 - 1) more likely, respectively, to adopt city-wide ES policies ($p < 0.05$). They are also 93.3 percent (1.933 - 1) and 220.5 percent (3.205 - 1) more likely ($p < 0.01, p < 0.05$), respectively, to adopt GHG emissions policies and 62.2 percent (1.622 - 1) and 81.2 percent (1.812 - 1) more likely to commit to the Climate Mayors' policy pledge ($p < 0.05$). Finally, cities within states that have more Sierra Club members are 154.5 percent (2.545 - 1) more likely to adopt green building policies ($p < 0.01$). These findings are consistent with H4a.

While influence from stakeholders with communal-sharing relations (i.e., environmental stakeholders and Sierra Club membership) are also related statistically with cities' adoptions of incremental ES policies ($p < 0.05$), the size effects tend to be larger for comprehensive policies. Cities that report greater influence from environmental stakeholders and within states having more Sierra Club members are 57.1 percent (1.571 - 1) and 46.0 percent (1.460 - 1) more likely, respectively, to adopt energy conservation policies ($p < 0.05$). Cities within states having more Sierra Club members are also 49.9 percent more likely (1.499 - 1) to adopt water conservation policies ($p < 0.05$).

With respect to the control variables, larger cities are more likely to adopt four types of comprehensive ES policies and incremental ES policies. Additionally, cities with greater numbers of Hispanic residents are more likely to adopt incremental ES policies (i.e., water conservation policies) and commit to the Climate Mayors' policy pledge.

In sum, after controlling for other effects and using a robust methodological approach suited to this complex setting, the findings suggest that influences from stakeholder relations are related statistically to cities' adoption of comprehensive ES policies.

6. Discussion

This research explores which stakeholder relations are associated with public organizations adopting comprehensive or incremental ES policies. While both types of policies contribute to environmental sustainability, comprehensive ES policies are more likely to achieve the goals of the United Nations Paris Agreement (Stern and Valero, 2021). The results show that equality-matching relations positively influence public organizations' adoption of comprehensive ES policies, whereas market-pricing and authority-ranking relations are negatively associated with such policies. Additionally, communal-sharing relations influence the adoption of both comprehensive and incremental ES policies. These results offer two important and unique contributions to theory and one key finding for the practice.

6.1. Theoretical contributions

The study's first theoretical contribution relates to stakeholder theory. Despite the wide use of stakeholder theory to assess organizations' environmental sustainability decisions, (e.g., Berman and Johnson-Cramer, 2019; Sulkowski et al., 2018) and the importance of stakeholder relations (e.g., Bridoux and Stoelhorst, 2016, 2022a, 2022b; Fiske, 1992; 2004, 2012), important nuances between stakeholder relations and organization' sustainability responses remain underexplored (Kujala et al., 2022; Johnson-Cramer et al., 2022). RMT (Fiske, 1992, 2004) and subsequent discussions of stakeholder governance (Bridoux and Stoelhorst, 2022a, 2022b) emphasize that organizations often face multiple, sometimes conflicting, stakeholder influences. By distinguishing among market-pricing, authority-ranking, equality-matching, and communal-sharing relations, organizations can better manage collective action problems (Bridoux and Stoelhorst, 2022b) and align policy adoption with broader societal goals. This gap is especially acute in the context of public organizations. These findings support earlier theoretical suggestions that the relational view of stakeholder engagement can help to predict organizations' decisions and priorities (Bridoux and Stoelhorst, 2016) especially when pursuing policies that have less visible or obvious benefits. Indeed, significant variations exist among public organizations' stakeholder relations and their decisions to adopt comprehensive or incremental ES policies. In general, public organizations are less likely to adopt comprehensive ES policies if they are influenced by market-pricing and authority-ranking relations. These findings support the notion that market-pricing relations tend to champion actions that minimize change and may hurt them economically (Frooman, 2002), especially in the short term (Hawkins et al., 2016). Fearing negative economic repercussions (Dryzek, 2013; Levesque et al., 2017), these relations oppose comprehensive ES policies. Similarly, public organizations are less likely to adopt comprehensive ES policies if they are influenced by authority ranking relations. These relations are anchored in higher-level political factors and regulatory constraints, which cause local governments to yield to political concern for comprehensive ES change (NCSL, 2020). However, in other contexts where there is strong higher-level government support for comprehensive environmental sustainability initiatives, it is suspected that the influence of authority-ranking relations may lead to *more* comprehensive ES policies at the local level. This suggestion highlights the need for more cross-comparative research and research that assesses how stakeholder relations may change over time. The hope is that this research provides the justification for these future studies.

Second, the findings show that public organizations are *more* likely to adopt comprehensive ES policies if they are influenced by equality-matching relations. These findings support the notion that equality-matching relations tend to have a stake in advancing the organization's mission and values (Welch and Jackson, 2007) and its pursuit of its broader long-term societal goals (Azhar and Yang, 2019; Stritch and Christensen, 2016). Employees may support comprehensive ES policies, but actual adoption also depends on factors like leadership priorities, budget constraints, and competing external influences (Behravesh et al., 2022). Thus, even though equality-matching relations exist in all organizations, they may not always successfully champion transformative policies if, for instance, market-pricing or authority-ranking relations strongly resist them, or if political resources are lacking. Similarly, communal-sharing stakeholder relations are more likely to adopt both types of ES policies, which is consistent with the idea that communal-sharing relations are motivated to improve societal outcomes more broadly (Frooman, 2002) and so support all policies designed to improve environmental outcomes (Levesque et al., 2017; Saha, 2009). These stakeholder relations recognize that, like comprehensive ES policies, incremental ES policies help protect the environment, even if they are generally less impactful. Thus, one of the key novelties of this research is the demonstration that equality-matching and communal-sharing relations distinctly encourage comprehensive policy adoption, whereas market-pricing and authority-ranking relations discourage it, offering a more granular perspective on stakeholder influence than prior studies.

This research offers important clarity about which stakeholder relations are associated with public organizations adopting comprehensive or incremental ES policies, recognizing that some stakeholder relations may serve key allies in supporting the adoption of ES policies, while others may impede progress. It builds on prior research showing that policy advocacy groups and coalitions can shape public sector decisions (e.g., Gen and Wright, 2018; Ritchey and Nicholson-Crotty, 2015; Weible, 2007) and that civil society can drive environmental initiatives (e.g., Madariaga and Allain, 2020). These prior studies also underscore community influences on local environmental sustainability adoption (e.g., Krause et al., 2016; Lubell & Feiock, 2009; Svara et al., 2013). The relational view of stakeholder engagement offers a broader

framework to anchor these earlier findings and collectively consider how a wider range of stakeholder relations affect ES policy adoption.

6.2. Practical contributions

Related to practical contributions, the findings offer a critical perspective as comprehensive (rather than incremental) ES policies are more likely to meet global sustainability targets (Stern, 2018; Stern and Valero, 2021). Equality-matching relations and communal-sharing relations, therefore, could serve as critical allies in supporting the adoption of more ambitious ES policies, while other relations are likely to impede such progress.

The results also suggest clear pathways for policymakers seeking to enhance their comprehensive ES policy adoption. Public organizations should leverage equality-matching relations, involving city employees, internal committees, and councils in policy design and advocacy processes, given their intrinsic alignment with comprehensive ES goals. Governments can institutionalize equality-matching relations by establishing permanent internal committees or task forces dedicated to environmental sustainability policy development.

For example, institutionalization may involve convening city sustainability committees composed of representatives from various departments (e.g., public works, planning, transportation) to set goals, monitor progress, and propose policy initiatives. It might also involve implementing structured processes for city employees and elected officials to collaborate on environmental policy formulation. In Portland, Oregon, the establishment of cross-departmental sustainability committees allowed departmental representatives to coordinate sustainability goals more effectively, ultimately facilitating the city's adoption of its comprehensive Climate Action Plan, which includes ambitious greenhouse gas reduction targets. These committees fostered shared ownership and accountability among internal stakeholders, thus operationalizing equality-matching relations into tangible policy outcomes (City of Portland, 2015).

To strengthen communal-sharing relations, local governments can formalize strategic partnerships with community-based organizations, environmental NGOs, and advocacy groups. Policymakers could develop standardized participatory frameworks such as citizen advisory boards, sustainability policy councils, or structured co-design workshops. Additionally, the implementation of stakeholder engagement toolkits can ensure consistent community involvement throughout the policymaking process. For instance, the City of Austin, Texas, implemented its Community Climate Plan through structured co-design workshops and a formalized Community Climate Steering Committee, which provided environmental NGOs and community advocates with clear, recurring opportunities to influence policy development. As a result, the City of Austin was able to adopt more ambitious sustainability targets, reflecting community priorities and enhancing public support for comprehensive ES policies (City of Austin, 2020).

Conversely, policymakers can engage with market-pricing stakeholders by creating economic incentives (such as subsidies, grants, or tax credits) specifically designed to align financial interests with sustainability goals. Regulatory mechanisms that set clear environmental standards can also help prioritize long-term sustainability objectives over short-term economic considerations. For instance, San Francisco successfully promoted comprehensive green building standards by providing tax incentives and streamlined permitting processes for developers who exceeded mandatory environmental benchmarks. This approach effectively shifted market-pricing stakeholder perceptions, reducing resistance and facilitating broad compliance with the city's ambitious environmental sustainability initiatives (Lee and Kim, 2025).

7. Conclusion

This research investigates how stakeholder relations shape public sector organizations' adoption of ES policies, specifically distinguishing between comprehensive and incremental strategies. Drawing on stakeholder theory and RMT, this study clarifies why some public sector organizations pursue one type of ES policy over another. It extends the relational view of stakeholder engagement (Freeman, 1999; Jones and Wicks, 2018; Phillips, 2003; Post et al., 2002) to the public sector and offers a crucial perspective about which stakeholder relationships influence public organizations' adoption of different ES policies.

Overall, these results reveal critical nuances: equality-matching relations (e.g., internal stakeholders committed to organizational values) and communal-sharing relations (e.g., advocacy groups) significantly facilitate the adoption of comprehensive ES policies. Conversely, market-pricing stakeholders (e.g., businesses prioritizing economic interests) and authority-ranking stakeholders (e.g., higher government bodies with hierarchical influence) generally hinder comprehensive policy adoption. Importantly, communal-sharing stakeholders also support incremental policies, underscoring their broad societal commitment.

These findings contribute to the relational view of stakeholder engagement by demonstrating that public organizations do not respond uniformly to stakeholder influences; rather, they navigate a nuanced set of relational expectations. From a practical standpoint, public managers aiming to achieve the transformative sustainability outcomes aligned with global commitments (e.g., Paris Agreement targets) should actively leverage equality-matching relationships through structured internal engagement, such as institutionalized sustainability committees and employee-led initiatives. Similarly, policy implementation can be strengthened by formalizing partnerships with communal-sharing stakeholders, including structured co-design workshops, stakeholder councils, and participatory governance frameworks, thereby integrating external advocacy and environmental groups into decision-making processes.

Engaging market-pricing stakeholders is crucial for successful policy implementation. Policymakers can address these barriers through targeted incentives such as subsidies, economic incentives, or regulatory benefits that align stakeholders' economic interests with broader sustainability goals. Additionally, addressing authority-ranking stakeholder challenges should involve engaging in strategic dialogues with higher-level governmental bodies, ensuring local policy initiatives align with overarching political priorities and regulatory frameworks, thus facilitating smoother policy implementation.

Future research could broaden this line of inquiry by examining stakeholder relations at different hierarchical levels (e.g., state and federal) and across diverse political or cultural contexts. As stakeholder dynamics evolve, longitudinal studies would help clarify how shifts in political leadership or public sentiment affect comprehensive policy uptake. Additionally, incorporating qualitative approaches can enhance the richness and validity of findings.

The empirical evidence draws on data collected from U.S. local governments. As a result, the findings reflect a specific socio-political context (including shifts in federal environmental policy) and may not fully generalize to other locales. Future studies could update these analyses with additional contexts, both within and outside the United States, to capture differences in stakeholder dynamics and broader political settings. Future research may also draw on frameworks like the EU Taxonomy to refine or expand the categories of ES policies further. Additionally, exploring the intersection of multiple stakeholder motives, including agency, salience, and urgency, may further illuminate why certain ES policies thrive in some public organizations but not others. Examining these multifaceted relations promises to deepen our understanding of how best to harness stakeholder support for bold, systemic environmental actions.

CRediT authorship contribution statement

Shirley-Ann Augustin-Behravesh: Writing – review & editing, Writing – original draft, Visualization, Project administration,

Conceptualization. **Nicole Darnall:** Writing – review & editing, Writing – original draft, Visualization, Validation, Supervision, Resources, Project administration, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Won No:** Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Stuart Bretschneider:** Project administration, Conceptualization.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Data availability

The authors do not have permission to share data.

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Shirley-Ann Behravesh is an assistant professor in Global Sustainable Enterprise at Thunderbird School of Global Management and a Senior Global Future scientist with the Global Institute of Sustainability and Innovation. She holds degrees in management, finance, manufacturing engineering, and sustainability. Her work promotes sustainability and innovation in organizations and communities.

Nicole Darnall is a Professor and the Robert and Arlene Kogod Eminent Scholar Chair in Sustainability at American University with appointments in American University's Kogod School of Business and School of Public Affairs. She is also Professor Emeritus of Sustainability at Arizona State University. Her research investigates the factors that encourage organizations' and individuals' sustainability behaviors, especially related to sustainable procurement.

Won No is Deputy Director in the Smart Learning and R&D Division at the National Human Resources Development Institute, Ministry of Personnel Management, South Korea. Dr. No's research focuses on improving organizational performance through increasing stakeholder's participation in the government decision-making process. Stakeholders include individual citizens, nonprofits and civil society, and other levels of government.

Stuart Bretschneider is Emeritus Foundation Professor at Arizona State University's School of Public Affairs. He co-founded ASU's Sustainable Procurement Initiative and directed the Center for Organization Research and Design. Previously, he was a Maxwell Professor and associate dean at the Maxwell School. His research includes public organizations' use of IT, forecasting, sustainable procurement, and science and technology policy, with numerous funded projects and roles such as past president of the International Institute of Forecasters.