

Article

Strategic Planning for Sustainability in Canadian Higher Education

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Abstract: This paper reviews representations of sustainability in the strategic plans of Canadian higher education institutions (HEIs). A content analysis of the strategic plans of 50 HEIs was undertaken to determine the extent to which sustainability is included as a significant policy priority in the plans, including across the five domains of governance, education, campus operations, research, and community outreach. We found 41 strategic plans with some discussion of sustainability, and identified three characteristic types of response: (i) accommodative responses that include sustainability as one of many policy priorities and address only one or two sustainability domains; (ii) reformative responses that involve some alignment of policy priorities with sustainability values in at least a few domains; and (iii) progressive responses that make connections across four or five domains and offer a more detailed discussion of sustainability and sustainability-specific policies. Accommodative responses were dominant. More progressive responses were typically from institutions participating in the Sustainability Tracking, Assessment and Rating System (STARS) of the Association for the Advancement of Sustainability in Higher Education. The paper concludes with consideration of the political and economic contexts contributing to this relative prevalence of accommodative responses to sustainability.

Keywords: sustainability in higher education; policy analysis; strategic planning; sustainability domains (governance; education; campus operations; research; community outreach); third wave sustainability in higher education; Association for the Advancement of Sustainability in Higher Education

1. Introduction

Social and environmental problems such as climate change, poverty, and food and water insecurity demand innovations in sustainability education policy and practice [1–4]. As the United Nations Secretary General’s High-Level Panel on Global Sustainability observes, “the signposts are clear: we need to change dramatically, beginning with how we think about our relationship to each other, to future generations and to the ecosystems that support us” [5] (as cited in Sterling, 2013, p. 1). Higher education institutions (HEIs) have been called upon to catalyze these kinds of changes for over forty years [2–4], yet gaps remain between policy and practice [4,6,7]. Research can help address these gaps, including by encouraging accountability of HEIs to the sustainability commitments they have put forward in signing sustainability declarations and commitments made in other forms of institutional sustainability policy [6].

In this paper we respond to the lack of empirical research on the connections between strategic planning and sustainability in higher education (SHE). Strategic plans help HEIs envision and

communicate their organizational goals and have been studied within the field of higher education research [8,9]. However, with a few exceptions, the field of SHE has been slow to address the connections between strategic planning and sustainability in higher education [10,11]. In response, we focus on the context of the Canadian higher education sector, reporting on a review of the strategic plans of 50 Canadian HEIs and in particular on an analysis of how sustainability is engaged, if at all, across these plans. We also explore whether institutional characteristics, such as institutional memberships in SHE organizations, play a role in strategic planning for sustainability.

'Sustainability' is defined in this review as at minimum including consideration of the natural environment. In other words, environment must be in the mix alongside any social, economic, cultural, or other dimensions discussed in relation to 'sustainability' or other terms used in the strategic plans examined.

We examine the characteristic types of response to sustainability in institutional strategic plans in order to analyze the extent to which they may represent a commitment towards whole institutional change across five domains of sustainability [2,12–14]. These domains include: governance (e.g., mission statements, administration processes), education (e.g., curriculum, pedagogy), campus operations (e.g., food procurement, emissions), research (e.g., research institutes' foci, strategic research priorities) and community outreach (e.g., with off-campus communities). This holistic approach is informed by Sterling's definition of the sustainable university as one that uses all domains of institutional activity to "explore, develop, contribute to, embody and manifest—critically and reflexively—the kinds of values, concepts and ideas, challenges and approaches that are emerging from the growing global sustainability discourse" [2] (p. 23). This holistic approach also aligns with emerging paradigms of SHE that integrate multiple disciplinary perspectives, such as Sterling's (2013) vision of sustainability education and Jabareen's (2012) sustainability education framework [2,15,16]. Through this analysis we seek to respond to calls for more critical and systematic analysis of HEI policy texts [17–19], and to contribute to greater scrutiny of SHE policy texts in particular [4,6].

The paper begins with a brief overview of related existing literature, proceeds to a review of the content analysis methods used, and then outlines findings of the research. We present an analysis of the characteristic types of response to sustainability suggested in the strategic plans, the orientations to sustainability therein, and the extent to which there appears to be integration across the five sustainability domains. The paper ends with a consideration of some of the political and economic factors that may be limiting the institutionalization of sustainability in higher education policy, and implications for policy makers working on sustainability in higher education.

2. Background: Institutional Responses to Sustainability in Higher Education

2.1. Canadian Higher Education

The Canadian higher education sector includes 220 HEIs spread across 13 provinces and territories, with much higher enrollment in the ten provinces than in the three northern territories. The province of Ontario, in the southeast of the country (pop. 13.5 million), has over 760,000 post-secondary students [20] (p. 11). The Yukon, a territory in the northwest of the country (pop. 36,100), has a total enrollment of fewer than 250 students [20] (p. 11). Serving small populations spread across vast distances (e.g., the combined area of the three territories is larger than India), colleges in the territories frequently collaborate with universities in the provinces on curriculum and research projects [20].

The Canadian higher education system is well respected and has one of the highest student participation rates globally, yet there is no national level system for planning or assessing the sector [20]. As Jones observes, "there is no national 'system', no national ministry of higher education, no national higher education policy and no national quality assessment or accreditation mechanisms for institutions of higher education" [20] (p. 1). This decentralized system is largely funded at the provincial and territorial level, and institutions have experienced a high degree of both trust and autonomy from the provincial/territorial governments [20]. Canadian higher education institutions

include public universities, although a few provinces have allowed for private HEIs, and vocational or community colleges, including pre-university colleges called “collèges d’enseignement général et professionnel” (cégeps) in the province of Québec [20]. Although degree-granting status has conventionally distinguished Canadian universities from colleges, there has been an expansion of degree-granting status to the college sector beginning in the 1990s, and an associated renegotiation of institutional identities and boundaries between institutional types [20]. Recent research has highlighted regional differences in higher education policy across the country, such as commercialization trends that are profoundly impacting accountability, research, and other policy areas in varied ways across provinces [21,22].

2.2. Sustainability in Canadian Higher Education

The existing research on sustainability in Canadian higher education has focused predominantly on non-comparative case studies, including studies of unique education programs, facilities management processes, and the United Nations’ Regional Centres of Excellence for Education for Sustainable Development (RCEs) in relation to higher education sustainability initiatives [23–27]. Building on this strength of case study research in the field of SHE, there has been a growing call for greater synthesis via meta-ethnographies of existing qualitative case studies as well as via comparative research [28]. Moving beyond a single case study approach, the Sustainability and Education Policy Network (SEPN) was developed to undertake national and international comparative studies of sustainability in education policy and practice [29]. These studies include document analyses, national surveys, in-depth site analyses, and ongoing knowledge mobilization regarding sustainability policy and practice in kindergarten to grade 12 (K–12) and post-secondary or higher education [14,30–37]. For example, a census of sustainability initiatives across all 220 post-secondary institutions in Canada found a strong co-occurrence of sustainability assessments, sustainability policies, and sustainability offices or officers, which suggests some re-enforcement between these types of sustainability initiatives [32]. In contrast, institutional signing of sustainability declarations was not strongly connected to these other initiatives [32]. In dialogue with these findings, content analysis of sustainability policies of Canadian post-secondary institutions has identified a predominant focus on improving the efficiency of campus operations as opposed to sustainability in other domains such as education or research [14].

Actors involved in sustainability in Canadian higher education include sector organizations such as the Association for the Advancement of Sustainability in Higher Education (AASHE), networks such as the Canadian Alliance of College and University Sustainability Professionals (CUSP), and individual post-secondary institutions. Formed in 2005, AASHE is an American organization that promotes a reporting tool for HEIs to measure their progress on sustainability called the Sustainability Tracking, Assessment and Rating System (STARS) [34,35]. Previous research has suggested that the work involved in conducting the STARS assessment may be associated with increased institutional commitment to sustainability [4,34,35]. Building on this research, the present review includes a focus on the sustainability content of strategic plans belonging to AASHE member institutions.

In addition, prior SEPN policy research has identified regional differences in the uptake of sustainability initiatives in higher education, with Québec and British Columbia having the highest number of institutions that have undergone sustainability assessments, signed sustainability declarations, developed sustainability policies, and instituted sustainability offices or officers [32]. In contrast, the province of Saskatchewan and the three northern territories have the lowest number of institutions with such sustainability initiatives [32]. Building on this research, the current inquiry focuses on higher education policy. In particular, it looks into the role of institutional strategic plans in long term planning for SHE.

2.3. Strategic Planning in Higher Education

Strategic plans of Canadian HEIs tend to include both general (i.e., broad statements on institutional goals) and sustainability-specific mission statements, goals, and objectives. This type of policy can be described as “a document used within and by an organisation to communicate its organisational goals, the actions needed to achieve those goals, and any other critical element developed during the planning exercise” [10] (p. 1160).

Strategic planning has been addressed by studies in higher education but has not been a very strong focus in the subfield of SHE [8,9]. Instead, significantly more attention has been devoted to sustainability-specific institutional policies, for example sustainability policies or plans [14,34,35,37,38]. Typically, in SHE research strategic plans are often only briefly mentioned in a paragraph or two of a larger study [4,6,26,39]. However, exceptions include some significant research on sustainability in strategic plans in Australian as well as Spanish higher education sectors [10,11]. In the Australian context, research suggested the need to analyze whether sustainability content is integrated within vision, mission, and related strategic planning statements in order to discern if sustainability is part of an institution’s strategy for the future [11]. In the Spanish context, analysis has focused on the presence of sustainability in the publicly available strategic plans of Spanish universities [10]. Jorge et al. found in general a scarce presence of a sustainability focus in strategic plans, but also identified relatively greater representation within the plans of larger universities as well as amongst those operating in more progressive regions of the country [10] (pp. 1166–1167). As a whole, they emphasized the preliminary character of these findings and the need for further research on the inclusion of sustainability in strategic planning documents, and on the intersections with other types of policy documents, grey literature, and administrative and governance structures [10]. As they suggested, research on sustainability uptake in strategic planning can help us better understand broad patterns of engagement with sustainability in relation to particular national and institutional contexts [10].

The current paper builds on this emerging body of literature on strategic planning for sustainability in higher education. To further outline our approach to this topic, we now turn towards a discussion of the typology of institutional change that informs our analysis.

2.4. Institutional Change and Sustainability in Higher Education

In the analysis presented in this paper we used a typology that outlines common responses to SHE, including in relation to literature on the patterns, barriers, and drivers of institutional change towards sustainability in higher education [2]. To set the stage for introducing this typology further, it is helpful to appreciate some of the ways in which higher education structures and decision-making processes intersect with ambitions of SHE. The shifting and complex governance structures of higher education have often been cited as a barrier to innovation in SHE, including in relation to both entrenched and emergent aspects of the higher education sector [2,3,31,40].

Prior research has highlighted academic autonomy (i.e., freedom of inquiry of faculties and faculty members) as a significant mediating factor in the uptake of sustainability [40–42]. This significance has been explained in two main ways. First, universities are loosely coupled or decentralized organizations that give a lot of autonomy to faculties and departments to pursue their own objectives, which means these units will not necessarily engage with sustainability unless it fits neatly into their existing identity and related teaching and research objectives [40]. Second, although faculty are often keen to engage with the ideals and objectives of sustainability they can also be uneasy with the perception that a focus on sustainability equates to teaching a particular set of values, or with integrating seemingly unrelated sustainability ideas into their distinct disciplinary foci and related research agendas [40–42].

Contemporary shifts in the governance of higher education should also be taken into consideration in researching the potential of sustainability initiatives [2,43,44]. HEIs are increasingly moving towards corporate governance models that are characterized by an increased centralization of decision-making, entailing less democratic engagement from faculty and students amongst other far reaching changes [43]. At the same time, the increasing number of actors involved in governing

HEIs, such as NGOs and corporations, is resulting in a proliferation of competing educational goals and understandings of decision-making processes [44]. This results in a paradox between centralization and decentralization: a tension between the imperative to streamline HEIs and the heterogeneity of people and ideas with a stake and an opinion about what HEIs should be doing [44]. One possible impact is that sustainability actors and their goals must compete with a variety of other sectors for relevance and consideration in higher education decision-making processes [2,3,31,45–47]. Wals discusses this, suggesting that a variety of educational goals can be seen as competing for priority in higher education change efforts, such as “concurrent educational reforms towards efficiency, accountability, privatization, management and control that are not always conducive for such re-orientation [i.e., towards sustainability]” [3] (p. 14). Indeed, prior research has shown that institutional change involves tensions between sustainability and other educational aims and values [2,3,31,45–47].

To unpack these complex inter-relationships, Sterling has drawn upon relational and systems theory to hypothesize stages of development towards a sustainable university [2]. His definition of the sustainable university underlines the need for critical and reflexive approaches to sustainability across all domains of the university and fits with our definition of sustainability as necessarily including a focus on the natural environment [2]. He has introduced a framework of ideal-types or, in other words, characteristic types of institutional responses: (a) *nil*, wherein sustainability is not engaged by the institution at all in either policy or practice; (b) *accommodative*, wherein sustainability remains marginalized to particular courses or departments in a university, which leaves larger institutional structures and processes unaffected by sustainability goals; (c) *reformative*, wherein some policies and practices align with sustainability values and there is substantive but incomplete institutional change; and (d) *transformative responses*, that involve “a deep questioning of educational paradigms, and therefore also purposes, policies and programmes, and a transformative redesign process that involves learning as change” [2] (p. 36). Transformative or ‘third wave’ sustainability responses have been described as involving deep epistemological changes to teaching and research, as well as systemic change across other institutional domains [2,48]. Such responses follow what can be considered to be a ‘second wave’ of SHE, wherein the primary focus is sustainable campus operations, as well as ‘first wave’ efforts focused on integrating environment into the higher education curriculum beginning in the 1970s [48]. Furthermore, elaborating on Sterling’s typology, we suggest transformative responses to sustainability in higher education should include a strong consideration of Indigenous land and understandings in settler colonial contexts such as Canada [49,50]. For instance, a transformative response might require recognition of territory and treaty rights, as well as a focus on Indigenous knowledge in relation to sustainability engagement [50].

In what follows we outline our research methods that enabled us to develop an analysis of the sustainability ideal-types represented in the strategic plans of 50 Canadian HEIs.

3. Methods

3.1. Research Questions

In this paper we address the research question: ‘which ideal-type responses to sustainability are commonly represented in strategic plans and what does this tell us about the potential for a third wave of sustainability in higher education?’ To enable a response to this we adapted Sterling’s typology, which looks more holistically at policies, practices, and paradigms, to focus specifically on the nuances of strategic planning policy texts. We follow Sterling’s terminology quite faithfully, as previously introduced, with the exception of the addition of the term ‘progressive,’ which we introduce as a stepping stone category between reformative and transformative stages. Thus we examine whether representations of sustainability in the strategic plans of Canadian HEIs are indicative of nil, accommodative, reformative, progressive, or transformative responses to SHE. The addition of the term ‘progressive’ allows for a description of responses that are more substantive

than the reformative responses but still fail to exhibit the paradigm-shifting characteristics of the transformative category.

In Figure 1, we map possible nil, accommodative, reformative, progressive, and transformative responses to sustainability in strategic planning texts: from narrow to holistic engagement with sustainability domains on the horizontal axis and from shallow to deep engagement with sustainability values, goals, and policies on the vertical axis. In Table 1, we describe the types of response to sustainability that were analyzed in the strategic plans, including in relation to different combinations of breadth and depth of engagement with sustainability. We examined institutional responses to sustainability in relation to each of the five interacting domains of governance, education, campus operations, research, and community outreach (Figure 2). These five domains are aligned with the focus of the SHE literature on the need for holistic or whole institution approaches to campus sustainability that address the interconnections between education and campus operations, between governance and research, as well as other interactions that involve more than one domain of activity [2,12,14,37].

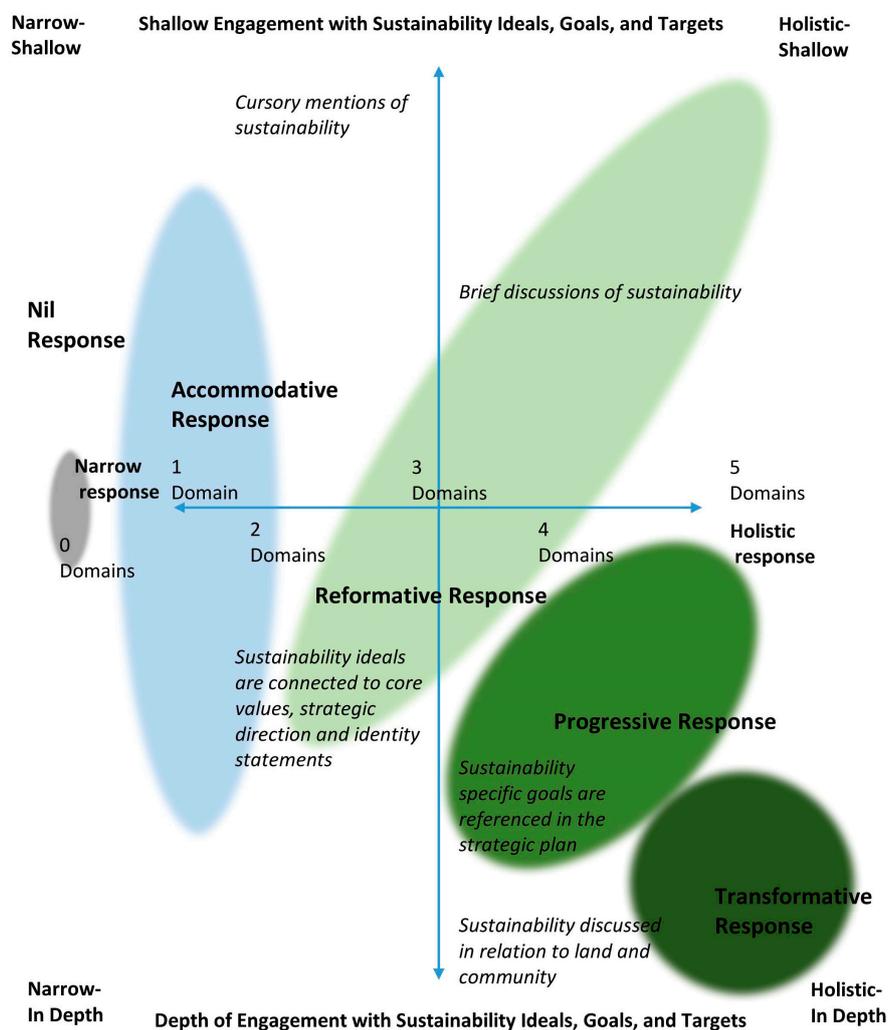


Figure 1. Types of possible responses to sustainability in strategic plans (adapted from Sterling, 2013). Note: The horizontal axis indicates breadth of engagement and the vertical axis indicates depth of engagement. The text in italics is used to indicate some of the characteristics of different depths of engagement with sustainability in the strategic plans. The text in bold indicates the different types of responses. The background colours suggest the range of different responses in relation to depth and breadth.

Table 1. Types of responses in higher education institutions' strategic plans.

Type of Response	Breadth	Depth	Description
<i>Accommodative: narrow scope with a cursory discussion of sustainability</i>	1–2 domains	Shallow depth: cursory mentions of sustainability terminology (e.g., sentence clause or short sentence)	Narrow and shallow accounts of sustainability in strategic plans
<i>Accommodative: narrow scope with a bit more depth in relation to core values, mission and strategic direction statements</i>	1–2 domains	Middle depth: sustainability is connected to vision, mission, or core values statements	Sustainability addressed in relation to 1–2 domains but with slightly more depth of engagement with values than shallow versions of the accommodative response
<i>Accommodative: narrow scope with greater depth in relation to sustainability-specific goals</i>	1–2 domains	Significant depth: discussion in relation to sustainability-specific goals	Sustainability addressed in relation to 1–2 domains but with slightly more depth of engagement with goals than shallow versions of the accommodative response
<i>Reformative: middle of the road response</i>	3 domains	Middle depth: brief discussion of sustainability, with some connection to core values and goals	Sustainability addressed in relation to 3 domains, with some connection to core values and goals but no connection to sustainability-specific policy
<i>Reformative: holistic but shallow discussion of sustainability</i>	3–5 domains	Shallow: cursory mentions of sustainability terminology (e.g., sentence clause or short sentence)	Sustainability addressed in relation to 3–5 domains, but only in cursory terms
<i>Progressive: holistic response with significant depth of discussion</i>	4–5 domains	Significant depth: sustainability addressed in relation to mission or core values statements, and sustainability-specific goals	Sustainability addressed in relation to 4–5 domains, and with significant depth
<i>Progressive: holistic response with detailed discussion of all domains but without a focus on land, community, and alternative paradigms</i>	5 domains	Strong depth: sustainability addressed in relation to mission statements, goals, and sustainability policies. This response also sometimes references assessment. It does not include transformative language around questioning educational paradigms	Sustainability is addressed in relation to 5 domains, and with significant depth in relation to values, goals; policies and sometimes assessment processes. This response is missing transformative qualities, such as re-envisioning educational purposes and paradigms
<i>Transformative: holistic and in-depth response including a detailed discussion of all domains, accounts of land, community, and a questioning of educational paradigms</i>	5 domains	Greatest depth: sustainability addressed in relation to mission statements, goals, sustainability policies, assessments, as well as the relationship of the institution to surrounding land and community	Sustainability is addressed in relation to 5 domains and also includes a rethinking of educational paradigms in relation to place, land, ecology, and community

Note: The term 'domain' refers to the five areas of sustainability that are addressed in this paper including governance, education, campus operations, research and community outreach.

We also investigated the relationships between typical responses to sustainability in strategic plans and the existence of other sustainability initiatives, such as undertaking AASHE STARS assessments, and interactions with sustainability actors, such as AASHE. In particular, given the proliferation of actors now involved in influencing the complex decision-making processes of HEIs, we asked whether institutions affiliated with AASHE are more likely to accommodate, reform, or substantively change their institutions and related strategic plans in alignment with sustainability. Although a variety of other civil society organizations are involved in SHE initiatives, we chose to inquire into AASHE member HEIs because of the primary focus of this organization on the higher education sector and because of their significant North American and, to a somewhat lesser extent, international presence in SHE initiatives and discourses [34,35].

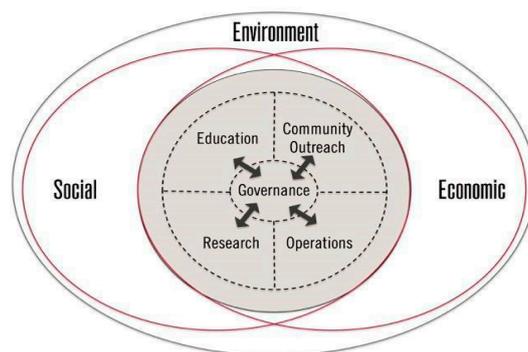


Figure 2. Sustainability and Education Policy Network (SEPN)'s working conceptualization of sustainability (University of Saskatchewan, 2011).

We were also interested in how various factors might influence strategic planning for sustainability. In particular, we were curious about how institution type (i.e., college, cégep, university, research intensive university), membership to sustainability groups (i.e., AASHE member), or sustainability policy initiatives (i.e., assessment, declaration, policy, office) might relate to types of response to sustainability in strategic plans. Drawing on the results of a Canada-wide census of sustainability policy initiatives that categorized sustainability initiative (SI) leaders as having all four types of initiative (i.e., assessment, declaration, policy, office,) and laggards as having none of these types of initiatives [32], we were keen to identify correspondences with our analysis of strategic planning for sustainability. Similarly, we were interested in how membership to AASHE and institution type might relate to strategic planning for sustainability.

3.2. Sample Selection

The sample of HEIs selected for this analysis was informed by a quantitative census of sustainability policy initiatives across all 220 Canadian HEIs accredited by either Universities Canada or the Association of Canadian Community Colleges (ACCC) as of October 2012 [32]. Based on this census, a smaller sample of 50 institutions was selected for the qualitative analysis of both sustainability-specific policies and strategic plans based on a number of criteria, as further outlined in a paper by Vaughter et al. [14]. A list of institutions whose policies underwent content analysis can be seen in Table 2.

Table 2. List of institutions by province/territory included in sample.

Province	School
Alberta	King's University College
	University of Calgary
	University of Alberta
	NorQuest College
	Northern Alberta Institute of Technology
British Columbia	Royal Roads University
	Simon Fraser University
	Thompson Rivers University
	University of British Columbia—Vancouver
	University of Northern British Columbia
	Capilano University
Manitoba	Okanagan College
	University of Manitoba
	University of Winnipeg
	Red River College
	University College of the North

Table 2. Cont.

Province	School
New Brunswick	Mount Allison University St. Thomas University University of New Brunswick
Newfoundland and Labrador	Memorial University of Newfoundland College of the North Atlantic (CNA)
Northwest Territories	Aurora College
Nova Scotia	Dalhousie University Saint Mary's University Nova Scotia Community College (NSCC)
Nunavut	Nunavut Arctic College
Ontario	Lakehead University Queen's University University of Ottawa University of Toronto University of Western Ontario Wilfred Laurier University York University Durham College of Applied Arts and Technology Sheridan College Institute of Technology and Advanced Learning
Prince Edward Island	University of Prince Edward Island
Québec	Bishop's University Concordia University McGill University Université de Montréal Université du Québec à Montréal Université du Québec à Rimouski Université Laval Collège Ahuntsic Cégep de Matane
Saskatchewan	First Nations University of Canada University of Regina University of Saskatchewan Saskatchewan Institute of Applied Science and Technology
Yukon	Yukon College

Note: This table is reproduced from Vaughter et al. [14].

3.3. Data Collection

For the current analysis, we collected the single highest-level general policy text that was publicly available for each of the 50 institutions in our sample. This involved searching institutional websites for such documents, which were almost always referred to as 'strategic plans' although the terms 'institutional plan,' 'strategic direction,' and 'strategic focus' were also used. These types of plans are typically given approval by a Board of Governors (BOG), with the Board chair signature appearing at the end of the document. If a strategic plan was unavailable (3/50 HEIs), we looked for the document with the greatest depth and breadth across the five policy domains (i.e., academic or research strategic plans were included in lieu). We use the shorthand 'strategic plan' or simply 'plan' to refer to all these documents. We also make reference to data collected from a census of sustainability initiatives, as well as research on sustainability-specific policies that were collected via the same search methods from the sample of 50 institutions, and which have been previously published by Beveridge et al. and Vaughter et al. [14,32]. The data collection period extended from October 2012 to October 2013.

3.4. Data Analysis

A collaborative thematic coding process was used to analyze the content of the plans, including the creation of a common codebook and intercoder reliability checks [14]. Coding was undertaken by three members of the SEPN research team using networked Nvivo 10 qualitative data management software. Codes were developed inductively and then organized under the five thematic domains of governance, curriculum, campus operations, research, and community outreach. Frequency counts were produced for all codes, which quantified both the breadth of representation of particular codes across institutions or sources, and the total frequency of codes [51]. We conducted a matrix-coding query to determine the presence or absence of sustainability codes under each of the five domains for each of the 50 institutions in our sample. This query was used to analyze the breadth of response to sustainability in strategic plans.

In order to analyze depth of engagement, we conducted an in-depth textual analysis of coding references for each institution in the sample. For each strategic plan we analyzed coding references across all domains in terms of sustainability terminology, inclusion of sustainability in mission statements, references to sustainability-specific policies and assessments, and inclusion of specific sustainability goals. This in-depth textual analysis of coding references and their context within specific strategic plans was undertaken via composition of analytic memos for each institution in the sample. Using the results from our matrix query and analytic memos, we created a summary table to illustrate whether or not sustainability was discussed under each of the five domains and the depth of sustainability content with regards to the abovementioned components. We used this summary table to categorize the ideal-type response to sustainability within each of the 50 institutions' strategic plans, with reference to Figures 1 and 2, as well as the criteria outlined in Table 1. As articulated in Table 1, we broke down accommodative, reformative, progressive, and transformative responses into subcategories based on different combinations of breadth and depth of content.

4. Strategic Planning for Sustainability: Findings

Overall, we found 41 HEI strategic plans with some discussion of sustainability, and 9 plans exhibiting a nil response (i.e., no discussion of sustainability). Of the 41 plans addressing sustainability in some capacity, 20 plans suggested an accommodative type of response; 8 plans a reformative response; and 13 plans a progressive response. We were unable to find any plans exhibiting a transformative response. Both the vast majority of reformative responses (87%) and progressive responses (92%) were from university strategic plans, whereas the accommodative type of response included a well-rounded mix of all institution types. Over half (55%) of the nil responses were found in college strategic plans.

Looking across these types of response, we found some common definitions and orientations to sustainability. There were 30 plans that included more or less explicit definitions of sustainability or related terms, with some of these plans utilizing multiple definitions to suit specific contexts. A three-pillars definition of sustainability was the most widespread, with representation across 17 plans; or, in other words, in defining their institutional focus on sustainability, these plans emphasized a relationship between the environment, society, and economy [31]. Environment-specific definitions of sustainability focusing on the health of ecosystems or the planet were present in 13 plans. 'Brundtland definitions,' which emphasized responsibility for future generations as described in the Brundtland Report [52], were present in 3 plans, and definitions that underlined the need for a sustainable response to climate change specifically were present in 2 plans.

The strategic plans sometimes discussed the roles of the institutions in relation to sustainability (26% of plans). This was often framed in terms of the HEI taking on responsibility for sustainability challenges, helping to solve sustainability problems, being ethical or moral stewards of the environment, and/or aspiring to take care of place or land.

We also found that strategic plans with sustainability content addressed anywhere from one to five of the sustainability domains and offered anywhere from cursory to detailed accounts of

sustainability-specific values, goals, and policies in relation to each of the domains. Interrogating these issues of breadth and depth of sustainability content in strategic plans, the paper now turns to a more in-depth discussion of accommodative, reformative, and progressive ideal-type responses to sustainability indicated within the institutional strategic planning documents. We begin this discussion with an examination of the most common type—an accommodative response.

4.1. Accommodative Responses

We found an accommodative response to sustainability within 20 strategic plans, or 40%. As a whole, as illustrated in Table 3, there is significant variation between institutions with an accommodative response to sustainability in their strategic plans: from institutions with narrow and cursory discussions of sustainability and without any sustainability-specific policy, to institutions with narrow but in-depth discussions of sustainability goals and with accompanying sustainability-specific policies (see examples in Table 4). We found six accommodative responses that include only brief references to sustainability in one or two domains. These discussions were typically umbrella statements concerning a general commitment to sustainability and lacked details on how this commitment would translate in terms of strategic directions, goals, or specific policy actions. Five strategic plans included statements on sustainability within sections of the policy document focused on strategic directions, mission or core values statements. These accommodative responses included greater detail on how a commitment to sustainability in one or two domains was connected to the strategic direction and core values of the institution. Finally, we found nine accommodative responses that addressed sustainability in only one or two domains but mention specific sustainability goals; for example, Cégep de Matane's goal of pursuing Cégep Vert certification [53].

A total of 80% of the institutions with an accommodative response were not members of AASHE, and 80% had developed one or more sustainability-specific policies. Moreover, 35% had previously been classified as sustainability initiative (SI) leaders based on policy initiatives, in that they had engaged with all of the following policy initiatives: undergone a sustainability assessment, signed one or more sustainability declarations, developed one or more sustainability-specific policies, and had sustainability staff and/or an office of sustainability on campus [32]. Amongst these SI leaders, there appears to be a gap between the level of engagement with sustainability at the strategic planning level and via other sustainability policy initiatives, in that various sustainability policy initiatives are well underway at the institutions but this activity is not reflected in sustainability being a focus in their strategic plans. Interestingly, 20% of institutions found to have an accommodative response to sustainability in their strategic plans had demonstrated little engagement with sustainability via other policy initiatives or, in other words, were policy laggards (i.e., no assessment, declaration, policy, or staff/office).

Looking at the 16 institutions that had an accommodative response but also had a sustainability-specific policy, we found much more detail on specific sustainability goals and procedures within sustainability-specific documents. For instance, Laval University lists sustainable governance, following the definition of sustainable development, in an opening page from the rector in its strategic plan, and then lays out specific timelines, responsibilities, and goals for major sustainability issues in its sustainability plan [54,55]. In this manner, many institutions that accommodate cursory language on sustainability within strategic plans have more detailed goals within sustainability-specific documents. In contrast, reformative responses in strategic plans tend to offer either significantly more breadth or depth of engagement with sustainability also at the strategic planning level.

Table 3. Institutions with an accommodative response to sustainability indicated in their strategic plans.

Institution	Number of Domains	Sustainability-Specific Policy	Accommodative: Narrow and Cursory Discussion of Sustainability in Strategic Plan	Accommodative: Narrow, with Depth on Sustainability Values in Strategic Plan	Accommodative: Narrow, with Depth on Sustainability Goals in Strategic Plan
1. Aurora College	2	×		1	
2. Bishops University	2	✓			1
3. Capilano University	1	✓		1	
4. Cégep de Matane	2	✓			1
5. College Ahuntsic	1	✓			1
6. Dalhousie University	2	✓			1
7. Durham College of Applied Arts and Technology	1	✓		1	
8. First Nations University of Canada	2	×	1		
9. Lakehead University	1	✓			1
10. Mount Allison University	2	✓			1
11. Northern Alberta Institute of Technology	1	✓	1		
12. Nunavut Arctic College	1	×	1		
13. Queens University	1	✓		1	
14. Red River College	2	✓			1
15. Université de Montréal	1	✓			1
16. Université du Québec a Montréal	2	✓			1
17. Université du Québec a Rimouski	1	✓		1	
18. Université Laval	1	✓	1		
19. University College of the North	1	×	1		
20. York University	1	✓	1		
Totals per column	n/a	16	6	5	9

Table 4. Accommodative responses with varying levels of depth on sustainability in strategic plans.

Institution and Characteristics	Type of Accommodative Response in Strategic Plan	Sustainability Domains within Strategic Plan	Sustainability-Specific Policy or Plan	Quote about Sustainability	Summary
First Nations University of Canada (FNUC) University Small Regina, Saskatchewan	Narrow scope with a cursory discussion of sustainability	Governance Education	N/A	"New programs in the areas of technology, science, engineering and management in the energy and mining sectors based on Indigenous principles of environmental sustainability are being developed"	- Cursory reference to sustainability in the introduction and in a section on 'history,' which includes reference to new programs based on environmental sustainability - Cursory reference to the term 'sustainable development' in a section on sustainable growth - No sustainability policy
Capilano University University Medium size North Vancouver British Columbia	Narrow scope with more depth in relation to core values	Governance	Policy	"Commit to environmental integrity and sustainable development"	- Sustainability is one of the strategic directions that is supposed to inform institutional priorities and actions - Sustainability policy
Cégep de Matane Cégep college Small Matane, Québec	Narrow scope with greater depth in relation to sustainability specific goals	Governance Research	Policy	"Mettre en place les elements du developpement durable nous permettant de devenir Cégep Vert"	- Cégep green certification is identified as a target in a section on continuing education - The environment is mentioned in relation to the goal of becoming a regional center of excellence in research - Sustainability policy

4.2. Reformative Responses

Eight institutions were found to demonstrate a reformative response to sustainability in their strategic plans. As illustrated in Table 5, reformative responses stand halfway between the limited sustainability content evident in accommodative responses and the greater depth of engagement typical of those categorized as demonstrating progressive responses. We found two main variants of the reformative response to sustainability in the strategic plans. In the first variation, sustainability is addressed in a fairly broad manner but in cursory terms. Within the 5 plans expressing this first form of reformative response, there are sections of policy text that make connections between sustainability and multiple domains, but without much depth of discussion. For instance, as illustrated in Table 6, the University of Winnipeg includes a quote from their university president that connects sustainability to all five domains, but with only three or four words devoted to each domain and without much subsequent elaboration of how this mandate is connected to specific policy targets [56]. In the second variation of the reformative response, as seen in 3 plans, sustainability is addressed in relation to only three domains but with significant depth in relation to core values and/or sustainability-specific goals. An example of this variation is seen in Table 6 in the University of Northern British Columbia's strategic plan, which identifies sustainability research goals as well as significant discussion of sustainability education and governance, but lacks any content on sustainability in relation to campus operations or community outreach [57].

Institutions with a reformative response in their strategic plans were also typically taking action with other sustainability policy initiatives. Half of these institutions had previously been classified as SI leaders based on high-level policy initiatives and the other half had intermediary SI scores of between one and three sustainability policy initiatives [32]. All eight institutions had a sustainability-specific policy. The majority of institutions with a reformative response were AASHE members (62%).

Table 5. Institutions with a reformative response to sustainability indicated in their strategic plans.

Institution	# of Domains	Reformative: Holistic (3–5 Domains) but Shallow Discussion	Reformative: 3 Domains with Depth in Relation to Values and Goals
1. Royal Roads University	4	1	
2. Sheridan College Institute of Technology and Advanced Learning	3	1	
3. Simon Fraser University	5	1	
4. University of Manitoba	3		1
5. University of Northern British Columbia	3		1
6. University of Prince Edward Island	3		1
7. University of Winnipeg	5	1	
8. Wilfred Laurier University	3	1	
Totals per column	n/a	5	3

Table 6. Reformative responses with varying levels of depth on sustainability in strategic plans.

Institution and Characteristics	Type of Reformative Response in Strategic Plan	Sustainability Domains within Strategic Plan	Sustainability-Specific Policy or Plan?	Quote about Sustainability	Summary
University of Winnipeg University of Northern British Columbia University of Prince Edward Island	Holistic but cursory discussion of sustainability	5 Domains Governance Education Facilities Research Community Engagement	Policy Plan	“All four dimensions of sustainability (ecological, economic, social, and cultural) must be central to The University of Winnipeg. Sustainability must define the way we operate, the way we educate, the way we conduct research”	- A quote on sustainability from university President Axworthy is included in a section on mission and values. The quote is holistic, with reference to all domains, but brief and w/o reference to specific goals - Sustainability policy and plan
Royal Roads University University of Northern British Columbia Small Victoria British Columbia	Holistic but cursory discussion of sustainability	4 Domains Education Facilities Governance Research	Policy Plan	“Our Canada Research Chairs focus their research in the areas of Sustainable Communities, Livelihoods and the Environment and Innovative Learning”	- Sustainability is identified as a core institutional value, and there is discussion of 4 sustainability domains. The document is holistic but lacking in detail with regards to specific targets - Sustainability policy and plan
University of Northern British Columbia (UNBC) University of Prince George Small Prince George British Columbia	Middle-of-the-road sustainability in relation to core values and goals but only in a few domains	3 Domains Education Governance Research	Policy Plan	“Over the next half-decade, UNBC envisages research growth in the following sub-areas (and in the disciplinary areas that support these): Bioenergy and Other Clean Energy; Climate Change; Contaminants and Environmental Remediation . . . Ecosystem Services; Environmental History”	- The plan offers significant depth in relation to education and research, but lacks breadth in relation to facilities and community outreach - Sustainability policy and plan

We also examined relationships between strategic plans with reformative responses and the content of these same institutions' sustainability-specific policies. For institutions with holistic but cursory discussions of sustainability in strategic plans, their sustainability policies tended to offer much more detailed discussion. However, if we look at the second variation of the reformative response,

where only three sustainability domains were engaged in strategic plans, the strategic planning documents sometimes offer equal or even greater detail as can be found in sustainability-specific policies with regards to the domains of education and research. For example, the University of Northern British Columbia has a strategic research plan that includes extensive discussion of sustainability research in relation to the region it serves, and specific plans for research growth in areas like climate change and clean energy [57]. However, its sustainability policy has only a short section on research that is aligned in its regional focus on northern British Columbia, and does not go into as much depth in this area as the strategic plan [57]. In the domain of campus operations, the sustainability policies of these type two reformative institutions offer much more detail than what can be seen within strategic plans [14].

4.3. Progressive Responses

As listed in Table 7, there were 13 institutions found to have a progressive engagement with strategic planning for sustainability, with two variations on this. In one version of progressive uptake, sustainability is addressed in relation to four or five domains and with significant sustainability content on core values and goals. In one example illustrated in Table 8, Memorial University not only states an overarching aim of furthering sustainability but also expresses specific sustainability goals such as a university-wide environmental education campaign [58]. However, this plan does not extend sustainability efforts to broader community outreach or engagement. We found this kind of engaged, yet somewhat narrowed, progressive response within 8 plans. Within 5 plans, we identified holistic responses that address sustainability in relation to all five domains and with meaningful discussion of core values, goals, and sustainability-specific policies. For instance, as seen in Table 8, McGill University includes sustainability as one of the three cross-cutting themes of the entire strategic plan, addresses sustainability in relation to all five domains, and includes direct references to its sustainability policy [59]. Similarly, as illustrated in Table 8, Thompson Rivers University addresses all five domains, integrates sustainability into its core values statements, and articulates specific sustainability education and research goals [60].

Table 7. Institutions with a progressive response to sustainability in strategic plans.

Institution	Number of Domains	Progressive: Holistic with Significant Depth on Values and Goals	Progressive: Holistic with Greatest Depth on Values, Goals, and Sustainability-Specific Policy
1. Concordia University	5	1	
2. King's University College	4	1	
3. McGill University	5		1
4. Memorial	4	1	
5. Okanagan College	4	1	
6. Saint Mary's University	4	1	
7. Thompson Rivers University	5		1
8. University of Alberta	5		1
9. University of British Columbia Vancouver	5	1	
10. University of Calgary	5		1
11. University of Ottawa	5	1	
12. University of Regina	5	1	
13. University of Saskatchewan	5		1
Totals for column		8	5

A total of 77% of these institutions were members of AASHE, and the same percentage had leading SI scores or, in other words, had undertaken many or all of sustainability policy initiatives of assessments, declarations, policies, and offices. All of the progressive responses were from institutions with one or more sustainability-specific policy.

Table 8. Progressive responses with varying levels of depth on sustainability in strategic plans

Institution and Characteristics	Type of Progressive Response in Strategic Plan	Sustainability Domains within Strategic Plan	Sustainability-Specific Policy or Plan?	Quote about Sustainability	Short Summary of Sustainability in Strategic Plan
Memorial University of Newfoundland Medium, St. John's, Newfoundland	Holistic response with significant depth of discussion	4 domains Education Governance Facilities Research	Policy	"It is important that the university ensure that its practices, policies and procedures are friendly to the environment. Memorial will: Establish an environmental policy review and revision process; Develop and promote a university-wide environmental education campaign and support initiatives arising from it"	- The plan is detailed in its discussion of specific goals and quite holistic, with reference to sustainability in all domains except community outreach
McGill University University; Large; Montréal, Québec. AASHE member, silver STARS assessment rating	Excellent, holistic response with detailed, in-depth discussion	All 5 domains	Policy Plan	"We have furthered sustainability through teaching, research, and through creating a sense of shared responsibility"	- The plan has three cross cutting themes, which are internationalization, sustainability, and innovation - The plan is holistic and references sustainability specific policy
Thompson Rivers University (TRU) University; Medium, Kamloops, British Columbia. AASHE member, silver STARS assessment rating	Excellent, holistic response with detailed, in-depth discussion	All 5 domains	Plan	"Develop and expand programming and associated research activities in the areas of environmentally sustainable technologies, policy development, and environmentally and socially responsible economic development"	- The plan integrates sustainability into core values statements and includes specific sustainability goals - Sustainability is address across 5 domains

Progressive responses addressed each of the five domains with varying but significant depth in relation to specific goals and sustainability-specific policies. As such, it is necessary to look across strategic plans and sustainability-specific policies to identify how institutions with a progressive response variously address each domain in policy. Within the area of sustainability research, Thompson Rivers University identifies specific research goals in its strategic plan but does not include research within its sustainability plan [60,61]. In contrast, McGill's strategic plan includes only brief reference to sustainability research but identifies specific sustainability research goals in its sustainability plan [59,62].

Progressive responses include the most stimulating discussions of sustainability education, or curriculum, which is otherwise a fairly minor topic in strategic plans. Discussions of curriculum in the plans include some attention to the development of new certificates and graduate schools in sustainability, as well as co-curricular programming. This includes discussion of the expected approval of a new sustainability certificate in the University of Alberta plan, and of co-curricular (i.e., student groups) programming in both the University of Alberta and Calgary plans [63,64]. There are also a few tentative discussions of reforming the existing curriculum to be in greater alignment with sustainability principles. An example is seen in Concordia University's plan, which indicates an aim to "integrate sustainability and community engagement into the curriculum where appropriate" [65] (p. 25). Although the conditional clause in this sentence leaves plenty of leeway in the adoption of this goal, it is a notable attempt to address sustainability in relation to the curriculum at the strategic planning level.

Progressive responses also include more detailed accounts of sustainable campus operations. In particular, three members of AASHE discuss more tangible sustainability assessments and targets connected to infrastructure initiatives: (i) The University of Calgary puts forward the 2015 target of

“a 45 percent reduction in GHG emissions” [64] (p. 64); (ii) The University of Alberta discusses the work of its sustainability office in coordinating sustainability facilities management [63]; and (iii) The University of Ottawa discusses its transportation and recycling initiatives [66]. The more specific targets and actions in these AASHE member plans indicate the beginning of reform within strategic planning for sustainable campus operations, and align with the strong focus on sustainable campus operations within AASHE member sustainability policies [34,35]. In general, sustainability-specific policies of Canadian HEIs tend to have a strong focus on campus operations and recognize the need to move forward on waste reduction, sustainable energy, and transportation [14].

Progressive responses offer much more breadth and depth of sustainability content in relation to each of the five domains. However, while mentioned in many plans, sustainability in community outreach receives relatively less attention even amongst these plans.

5. Strategic Planning for Sustainability in Higher Education

Our findings show a stronger engagement with sustainability in the strategic plans of institutions belonging to the Association for the Advancement of Sustainability in Higher Education (AASHE), as well as amongst institutions that are also taking the lead with other sustainability policy initiatives such as sustainability assessments, sustainability declarations, sustainability-specific policies, and sustainability offices and staff. However, we also found that a selection of the institutions that are taking the lead with these kinds of initiatives are only accommodating sustainability in their strategic plans, which indicates some possible gaps between strategic planning and other spheres of campus engagement with sustainability policy and practice. Even amongst those institutions with the most breadth and depth of sustainability content in their strategic plans, we failed to find the kinds of paradigm-shifting visions that Sterling describes as characteristic of transformative responses to sustainability in higher education [2]. In particular, one notices a relative lack of engagement with sustainability in relation to community outreach, where the domain may be mentioned but without much depth of discussion. As such, we used the term ‘progressive’ to describe relatively more holistic and in-depth discussions of sustainability in strategic planning, in distinction from the more paradigm- and epistemology-shifting connotations of terms like ‘transformative’ or ‘third wave’ [2,48]. Following Sterling, the shift to a transformative response often involves significant personal, institutional, and political resistance because it entails real challenges to existing paradigms and purposes of higher education (p. 34) [2]. Building on Bateson’s theory of levels of learning, Sterling explains that transformative responses are characterized by higher-order organizational learning about sustainability: questioning worldviews in relation to sustainability, reorienting educational purposes and paradigms in alignment with sustainability values, and practicing sustainable forms of community engagement (pp. 32–36) [2]. In settler colonial contexts, we suggest that higher-order organizational learning about sustainability should include consideration of Indigenous knowledge and forms of community engagement that acknowledge histories of settlement, land, and territory in the regions of the higher education institutions (HEI) [67].

The need for stronger attention to sustainability at the strategic planning level in the Canadian higher education sector is indicated by the nil response seen in 18% of plans, the predominance of accommodative responses amongst those institutions with inclusion of sustainability at the strategic planning level, and the seeming gaps between engagement with sustainability at the strategic planning level and via other kinds of policy initiatives amongst 35% of the institutions with an accommodative response. Although these findings give little basis for hope for an immediate nationwide turn towards third wave sustainability in higher education, we remain optimistic given the engagement of 13 plans (26% of institutions in the sample) that have more holistic and in-depth sustainability content pertaining to values and specific goals in their strategic plans. In particular, the finding that participation in the AASHE network is widespread amongst those institutions with progressive responses is intriguing and points to the need for research on the ways in which assessment practices may inform strategic planning processes.

The limited attention to sustainability at the strategic planning level of Canadian universities aligns with findings on the Spanish education sector [10]. However, the respective findings highlight different factors as possibly influencing engagement with sustainability in strategic plans. Whereas Jorge et al. identify stronger engagement with strategic planning for sustainability amongst larger institutions and those operating in more progressive regions, our findings indicate that institutional membership to AASHE may be a significant factor in progressive engagements with sustainability at the strategic planning level [10]. Further research is needed to address the ways in which size, political ideology, institutional membership, and other factors may variously influence strategic planning for sustainability in higher education.

We add the caveat also that our findings here are based on the analytic focus on policy, rather than examining sustainability practices which is a focus of a subsequent stage of Sustainability and Education Policy Network (SEPN) research with a smaller number of institutions. Given the possible gaps between visions in strategic plans and the actual enactment of sustainability-related governance, education, operations, research, and community outreach priorities, further comparative research on policy enactment is needed to develop a more holistic sense of current stages of uptake of sustainability across Canadian post-secondary institutions. Since different parts of higher education institutions may be at distinct stages of learning about, and uptake of, sustainability, our findings on accommodative, reformative, progressive, and transformative responses should be understood as a heuristic for examining uptake at the strategic planning level rather than as definitive categorizations or as pertaining to all facets of the institutions under study.

Further research might also examine the reasons behind the dominant accommodative response to sustainability within institutional level strategic plans. Speculatively, the accommodation of visions of sustainability alongside other priorities in strategic plans may be explained in terms of the need to maintain already established and publicly legitimated institutional identities while making nods to calls for sustainability from particular stakeholders such as students, faculty, or provincial or territorial governments. As previous research has emphasized, the use of academic autonomy as an excuse for not engaging with sustainability, including in relation to long-established institutional identities, can be a significant barrier to innovation in SHE [1,40]. Another way of interpreting the accommodation of sustainability as a sectoral interest of environmental organizations rather than a higher-level institutional priority is to look at the marginalization of environmental issues by the global economic shifts associated with neoliberalization [68,69], which are also continuing to reshape schooling and higher education around the world [22,70–74]. In this context, HEIs are understood as competing with each other in the global economy, and as conducting research and training for this economy [72]. As an emerging body of literature shows, there is no easy answer to the question of whether the politics and practice of sustainability can be accommodated within the dominant norms of the corporate university or whether these ideals require a more fundamental transformation [2,31,45–47]. In the context of these larger political economic shifts, it is important to both recognize the small success stories within current systems of higher education and to continue to fight for paradigmatic shifts away from dominant, neoliberal models, and towards more holistic institutional change for sustainable futures [31,45]. This includes moving away from narrow forms of neoliberal accountability focused on economic priorities, and towards recognizing the relational accountability of HEIs to the communities, lands, and places that support them [50,67].

This research has implications for policy makers and sustainability actors in Canadian higher education, as well as globally. For instance, the disconnect between strategic planning and other kinds of sustainability policy initiatives within 35% of the institutions with an accommodative response points to the need for sustainability actors to work across multiple spheres of policymaking and push for sustainability content at the highest level of institutional strategic planning. The weak language and lack of specific sustainability goals within many accommodative and reformative plans points to the need to work towards not only more integrative and holistic but also more concrete policy targets at the strategic planning level. If specific targets are articulated within strategic plans and in relation to

particular domains, rather than vague mentions of the general importance of sustainability, it may be easier to hold institutions accountable to their commitments. Finally, this review points to the need for further research on the role of strategic planning policy texts and associated practices in mediating difficult transitions to higher order, transformative organizational learning about sustainability in higher education. This may help us develop a better understanding of the specific policy barriers and possible catalysts for sustainability transformations in higher education that involve “learning as change throughout the educational community” (p. 36) [2].

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