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The state of sustainability reporting at Canadian universities

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Abstract

Purpose – The purpose of this paper is to describe the state of sustainability reporting in Canada's higher education sector, while understanding who is reporting on sustainability performance, how is information being reported, and what is being reported.

Design/methodology/approach – A framework with ten categories and 56 indicators based on the Global Reporting Initiative (GRI) guidelines and campus sustainability assessment tools was developed to analyse the contents of a cross-sectional sample of sustainability reports published by Canada's largest 25 universities (by student enrolment). Each author analysed two to three reports. Evidences were checked for accuracy by a different author and finally discussed in a focus group.

Findings – The analysis has shown that sustainability reporting is an uncommon and diverse practice at Canadian universities. Primarily under the coordination of sustainability offices or students, seven universities published sustainability reports in the analyzed period (2006-2008). While all reports shared a non-integrated indicators framework, a variety of approaches were used in the selection of indicators. Reports generally had limited scopes emphasizing eco-efficiency. The potential value of current documents as a tool to inform sustainability-oriented decisions is limited.

Practical implications – Findings are particularly relevant to university administrators and sustainability offices planning to publish or enhance sustainability reports. The paper also explores the challenges of applying the GRI guidelines to the higher education sector.

Originality/value – Most descriptive studies on sustainability reporting have addressed large multinational corporations. This paper is one of the first to address the incipient practices of higher education institutions.

Keywords Sustainable development, Higher education, Canada

Paper type General review



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1. Introduction

In response to society's growing expectations of accountability, organizations are increasingly disclosing social, environmental, economic, safety, and health performance. The process of assessing and making periodic public disclosures of such information is becoming known as "sustainability reporting". Companies are shifting from the 1990s social and environmental types of reports to sustainability ones. This trend has been corroborated by the dissemination of the Global Reporting Initiative (GRI) guidelines, a reporting standard that encourages the use of the term sustainability to describe

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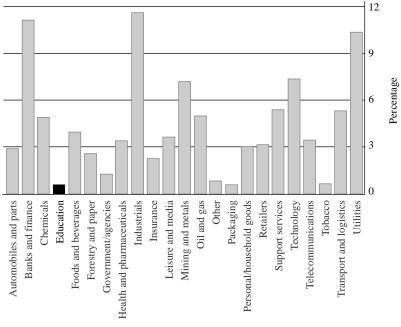
triple-bottom line disclosures, that is, comprehensive disclosures of environmental, social, and economic issues (Elkington, 1997). Conceived in 1997, the GRI guidelines have become the leader among voluntary sustainability reporting standards (Brown *et al.*, 2009).

According to CorporateRegister (2009), more than 3,000 sustainability reports were published in 2008, in contrast with only 26 in 1992. Reporting is now the norm, not the exception, among the world's 250 largest companies (KPMG, 2008). Industrial, financial, utility, mining, and technology companies are taking the lead in sustainability reporting. Among the laggards are educational organizations (CorporateRegister.com, 2008b). Along with packaging, the education sector accounted for less than 0.75 per cent of 2007's global reporting output (Figure 1).

While numerous scholars have been scrutinizing sustainability reporting (Thomson, 2007), few studies are addressing the perspectives of the education sector, let alone its higher education fraction. Among the few examples in the literature are publications that either highlight the relevance of sustainability reporting for higher education or discuss pioneering experiences (Johnston *et al.*, 2003; Newport *et al.*, 2003; Walton, 2000; Walton *et al.*, 1997, 2000). Numerous questions about this practice, which are particularly relevant to higher education administrators, remain unanswered.

The objective of this paper is to explore three questions in the context of Canada's largest 25 universities:

- (1) Who is reporting sustainability performance?
- (2) How is information being reported?
- (3) What is being reported?



Source: Adapted from CorporateRegister.com (2008b, p. 10)

State of sustainability reporting

Figure 1. Sustainability reports output across global sectors in 2007 Findings to these questions will underpin discussions about the issues that need to be addressed in the promotion of more frequent and significant sustainability disclosures.

Canada's higher education sector is a growing \$26 billion enterprise that employs more than 150,000 people and serves about 1.5 million students (AUCC, 2007, 2008b). Since at least the early 1990s, Canadian universities have been incorporating sustainability into their fabrics. There has been a significant growth in the number of environmental management systems, environmental declarations, sustainability offices, sustainability assessments, green buildings, and student-led initiatives at universities across Canada (Clarke, 2006; Conway *et al.*, 2008; Helferty and Clarke, 2009; NRTEE, 1992; Richardson and Lynes, 2007; Wright, 2002). Most importantly, sustainability has been gradually infiltrating curriculum and research centres (Beringer *et al.*, 2008). Nonetheless, the extent to which the effectiveness of these efforts is being communicated to stakeholders remains unexplored. This paper addresses this gap and sets the ground for future inquiries.

The paper proceeds in four sections. The following describes the role of higher education in sustainable development, emphasizing recent pressures for sustainability accountability. The methodology is explained in Section 3. Section 4 presents the results and implications of the content analysis, and Section 5 finally draws conclusions and future research directions.

2. Progress towards sustainability in higher education

Sustainable development[1] has become one of the dominant global discourses of ecological concern (Dryzek, 1996, p. 123). Embracing it is now a tacit or explicit norm for governments and several sectors of the economy, including higher education. Colleges and universities can play critical roles in driving the world towards sustainability. As Orr (1992, p. 4) has put it, "the crisis of the biosphere is symptomatic of a prior crisis of mind, perception, and heart. It is not so much a problem *in* education but a problem *of* education".

Orr highlights that many of the decisions that are putting ecosystems in jeopardy are coming from highly educated people, and that it is time to question the educational model that is shaping those minds: a model that often emphasizes fragmented teaching and research, and individual learning and competition. A model, adds Cortese (2003), that tends not to ask students to challenge common "unsustainable" assumptions of modern society, such as the notion that humans are the dominant species and that technology will solve most of the world's problems.

Political declarations are one of the forms through which the moral responsibility to "green" education has been manifested. In the 1970s, international environmental education declarations, such as The Belgrade Charter (UNESCO-UNEP, 1975) and the Tbilisi Declaration (UNESCO-UNEP, 1977), emphasized the role of education in promoting sustainability. But declarations specifically created to the higher education sector only started to emerge in the early 1990s (Wright, 2004). Accompanying the rise of political commitment has been the creation of educational organizations, partnerships, academic programs, research centres, and student initiatives promoting campus sustainability. Recently, thousands of colleges and universities, notably in Northern countries (Filho *et al.*, 2007), are addressing sustainability concerns. The latest report of the Higher Education Associations Promoting Sustainability – highlighted numerous examples of such efforts worldwide (HEASC, 2008).

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Despite this apparent progress, there remains substantial doubt as to whether these initiatives have been effective. A study examining the implementation of the Halifax Declaration at Canadian universities found that it had been largely ineffective in influencing signatory institutions to create changes in environmental practices and policies (Wright, 2002). Similar results were found in a study that examined the Talloires Declaration (Walton *et al.*, 2000). How well the higher education sector is progressing towards sustainability remains a conundrum.

In this context, sustainability indicators and assessment tools have been highlighted as a priority for the sector (Clugston, 1999; Shriberg, 2002). Universities need to understand whether they are effectively contributing to sustainability. Numerous sustainability assessment tools are being created and applied globally in response to this priority. These tools vary in scope and purpose. Some focus on environmental aspects and eco-efficiency; whereas others consider the embedment of sustainability in curriculum and research. In light of such diversity, Shriberg (2004) raised the need to discuss a "universal" sustainability assessment tool for the sector.

Another major issue that needs to be addressed is the development of accountability mechanisms, that is, tools that help not only to assess but to report on sustainability. As Shriberg (2004, p. 74) puts it:

[...] assessment tools must be comprehensible to a broad range of stakeholders. Without this accessibility and communicability, assessments will have little impact. Therefore, analysts must develop mechanisms for reporting that are verifiable and lucid.

Frequently, the assessments that take place on campuses are used in internal decision making. Making such information largely accessible is not yet common. In the eyes of several stakeholders, the sustainability of colleges and universities appears as a mystery.

To overcome the lack of information on campus sustainability, some organizations are now promoting alternative university ranking and reporting systems (Table I). As in the case of assessment tools, these systems diverge in scope and purpose. The indicators covered by the College Sustainability Report Card, for example, surround operational and administrative issues, whereas the American College & University Presidents Climate Change Commitment focuses on greenhouse gases emissions and climate change (ACUPCC, 2010).

Among the most comprehensive systems in Table I is the Sustainability Tracking, Assessment, & Rating System (STARS), whose pilot project counted the participation of almost 70 North American colleges and universities, from which five were Canadian (AASHE, 2009). STARS' reporting framework includes not only environmental indicators, but a variety of social, economic, administration, curriculum, and research ones (AASHE, 2010). Its first overall report is expected to be published in STARS' web site in January 2011. It is important to note that not all ranked institutions publicize their performance on the systems above. Rates are usually made accessible by promoting organizations and by the universities that achieve high rankings. These alternative systems are in a sense "pressuring" for sustainability accountability, rather than "presenting" it. Periodic self-written reports of sustainability performance are still uncommon among colleges and universities. Having a diagnosis of the higher education sector's incipient voluntary sustainability reports is, therefore, a fundamental step towards enhancing this practice.

IJSHE 12,1	Ranks	Foci	Web sites ^a
	The College Sustainability Report Card	Colleges and universities with the 300 largest endowments in the USA and Canada	www.greenreportcard.org
26	Sustainability Tracking, Assessment, and Rating System	American and Canadian colleges	http://stars.aashe.org/
	Beyond Grey Pinstripes	World's business schools and MBA programs	www.beyondgreypinstripes.org
	Knight School Guide to Sustainable Education	Canadian MBA and undergraduate programs in business, law, engineering, architecture, planning, public policy and journalism	www.corporateknights.ca/specia -reports/68-knight-school-guide. html
Table I.	Grist's Top 15 Green Colleges and Universities Sierra Club's Top 10 Green Schools	World's colleges and universities American colleges and universities	http://grist.org/news/maindish/ 2007/08/10/colleges www.sierraclub.org/sierra/ 200711/coolschools
Higher education sustainability-related reporting and ranking	American College & University Presidents Climate Commitment	American colleges and	www.presidentsclimatecommit ment.org
systems	Note: ^a Retrieved on 26 February	7 2010	

3. Methodology

Scholars have been debating approaches to analyze contents of sustainability reports for at least a decade (Daub, 2007; Hammond and Miles, 2004; Jones and Alabaster, 1999; Kolk, 1999; Milne and Adler, 1999; Morhardt et al., 2002). These studies show that an ideal method does not exist. Analyzes need to take into account the peculiarities imposed by the research's context and objectives.

This paper has adopted a tick-box framework inspired by the GRI G3 guidelines (GRI, 2006), as well as by campus sustainability assessment tools. This framework, summarized in Table II and further described in Table IV, has ten categories covering 56 indicators. The paper considered whether a cross-sectional sample of reports disclosed information related to those 56 indicators. The adoption of tick-box, instead of more

	Categories	Indicators	Sources
	Organization profile and governance	5	G3 GRI guidelines ^a
	Reporting approach	4	5
	Economic performance	3	
	Environmental performance	8	
	Social performance	5	
	Human rights issues	6	
	Society issues	5	
	Research	7	Campus sustainability assessment tools ^b
(T) 1 1 II	Curriculum and teaching	7	
Table II.	Green buildings and procurement	6	
Content analysis framework	Notes: Based on ^a GRI (2006); ^b several	references cited i	in the text below

sophisticated rating systems, is explained by the exploratory nature of this study. The purpose here is to obtain an initial description of current practice, so that future studies may eventually refine or elaborate on the findings. Tick-boxes also allow for greater objectivity.

The inspiration for using the GRI G3 guidelines is justified on two grounds. First, in comparison with other reporting guidelines, the GRI has a much richer background of experimentation. Its newest version (G3) has been updated to include the key issues deemed relevant in sustainability disclosures. The GRI guidelines have become the world's leading guidelines and are currently the "standard" in several sectors. In this context, the analysis of higher education's reporting against the GRI can reveal relevant gaps and support comparative studies with other sectors. Second, the GRI has been raised as a potential tool to harmonize the many approaches to sustainability assessment and reporting taking place in higher education (Adkins *et al.*, 2003; Lozano, 2006; Newport *et al.*, 2003). By assessing the extent to which Canadian universities are meeting the key GRI requirements, this study helps to understand the feasibility of applying those guidelines to higher education.

A limitation of the GRI guidelines is that it does not cover indicators related to the incorporation of sustainability in research and curriculum, as well as with green buildings, food services, among other issues relevant to colleges and universities. To fill this gap, the content analysis framework included 20 indicators drawn from campus sustainability assessment tools (AASHE, 2010; Beyond Grey Pinstripes, 2008; CCEE, 2008; Cole, 2003; College Sustainability Report Card, 2008; Corporate Knights, 2008; CSAP, 2003; Johnston *et al.*, 2003; Lozano, 2006; Shriberg, 2002; ULSF, 2001; Velazquez *et al.*, 2006; Venetoulis, 2001).

The approach to select the cross-sectional sample of reports mirrored those frequently adopted in surveys on the state of sustainability reporting among business corporations. This approach selects the largest companies from particular sectors (Jenkins and Yakovleva, 2006), nations or regions (Kolk, 2003; KPMG, 2008) by criteria such as revenue or market capitalization. Because of their superior financial resources, large organizations' reports are believed to indicate best practices and trends within their group. In light of the intricate financial nature of higher education organizations (AUCC, 2008b), this paper surveyed the largest 25 Canadian universities by student enrolment. Enrolment provides an indirect indication of campus area, endowment funds, and intensity of teaching and research. The student data were drawn from the Association of Universities and Colleges of Canada (AUCC. 2008a), which represents 94 Canadian public and private not-for-profit universities and colleges. All graduates, undergraduates, part- and full-time students, including those enrolled in affiliated colleges, were taken into account. The resulting largest 25 universities were found to have enrolment rates ranging from about 17,000 to 75,000, and accounted for more than 50 per cent of Canada's 1.5 million students in higher education (AUCC, 2008a).

The searches were undertaken between November 2008 and January 2009 in the web sites of sampled universities. Only the latest reports published in 2006-2008 were taken into consideration. The searches focused on internal search engines as well as on web menus related to university administration, governance, accountability, ethics policies, finance, and sustainability offices/projects[2]. Each author analysed two to three reports. Evidences were then checked for accuracy by a different author and

IJSHEfurther discussed in a three-hour focus group. During the focus group, the authors12,1agreed on the most relevant issues to be discussed in the paper.

4. Results and discussions

4.1 Who is reporting sustainability performance?

Seven universities (Table III) published sustainability reports in the analyzed period. This low rate (less than 30 per cent of the largest 25 universities) corroborates previous surveys that found that the education sector has not been actively engaged in voluntary reporting.

The searches also revealed that some universities (e.g. University of Saskatchewan, University of Ottawa, and Université du Quebéc à Montreal) have had previous experiences with sustainability reporting. Unfortunately, the reasons for delaying or discontinuing this practice were not disclosed.

4.2 How is sustainability performance being reported?

The analyzed reports (Table III) ranged from 20 to 305 pages and were made available as pdf documents. All seven reports explicitly claimed to be addressing "sustainability" performance. The conflicting terminology between disclosures of "responsibility" and "sustainability", pointed out in the context of business corporations (Ebner and Baumgartner, 2006; Gray and Milne, 2002), is not present in the sample.

The analyzed reports were not responding to specific political declarations (as urged by Walton, 2000), but conveying the results of campus sustainability assessments. Three reports were prepared under the coordination of sustainability offices.

University	Students in 2008	Report title	Pages	Standard	Coordination
University of	75,100	Annual Sustainability	36		Sustainability
Toronto		Report 2008			Office
The University of	46,130	The UBC Sustainability	74		Sustainability
British Columbia		Report 2006-2007			Office
McGill University	32,920	Student Society of McGill	118		Student Society of
		University 2008			McGill University
		Sustainability Assessment			
Concordia	31,870	Blueprint for Change:	305	CSAF ^a	Sustainable
University		Concordia Sustainability			Concordia
		Assessment 2007			
University of	28,060	University of Calgary 2007	139 ^b		Office of
Calgary		Campus Sustainability			Sustainability
		Assessment			
McMaster	26,740	The 2008 McMaster	150	CSAF	Volunteer Students
University		Sustainability Assessment			
University of	18,490	Sustainability Report 2006	20		Facilities
Victoria					Management

Table III.

Canadian universities' sustainability reports

Notes: ^aCampus Sustainability Assessment Framework (Cole, 2003); ^bThe University of Calgary published 11 separate reports on specific sustainability issues, which altogether accounted for 139 pages

The University of Victoria, McGill University, and McMaster University were coordinated, respectively, by the Facilities Management department, a student society, and group of volunteer students. These findings corroborate the relevance of sustainability offices (Gudz, 2004, p. 158) and student activism (Helferty and Clarke, 2009; Wright, 2003) not only to the promotion of greener campus activities, but also to broader institutional accountability.

In contrast with business sustainability reports, which are commonly made available along with other financial information in institutional webpages related to accountability, the reports analyzed here were posted mainly in webpages related to sustainability offices or projects. For example, the web sites of the University of Toronto and the University of British Columbia (UBC), although having specific accountability webpages to disclose financial and non-financial performance (UBC, 2009; University of Toronto, 2009), did not include their sustainability reports.

The reduced publicity given to sustainability reports on the web sites of these universities hints at an interesting aspect of this practice: that the administration is not necessarily "enthusiastic" about their sustainability disclosures. Just one report included a letter of the president endorsing "a step forward in tracking our commitment to the integration of sustainability values into the University's operations and programs [...]" (UBC, 2008, p. 3). President's statements, which are commonly found in corporate GRI-based reports, are the exception in higher education. This finding suggests that, while presidents tend to be mindful of sustainability (Wright, 2010), they do not seem to be actively engaged in its promotion.

What seems to be driving the incipient reporting practices at Canadian universities is a growing recognition by sustainability offices and students that their institutions should understand and communicate sustainability performance. The reports addressed here did not seem to contend threats to organizational legitimacy, but rather to push for improvements in social and environmental performance. McGill's report (written by students) even criticized senior administrators, including the president, who was claimed to not:

[...] take a more active hand in minimizing his portfolio's impact. Notably, he could have done much to reduce paper consumption, in his own meetings, at SSMU Council, and with the GAs (Man and Chow-Fraser, 2008, p. 13).

The seven reports shared the issues-based, non-integrated indicators structure of the GRI and STARS frameworks. Nevertheless, various approaches were used in the selection of indicators and processes for aggregating and organizing data. Concordia University and McMaster were the exception, as they adopted a reporting guideline, namely the Campus Sustainability Assessment Framework (CSAF). However, both institutions adapted this framework to their particular needs (McMaster University, 2008, p. ix; Sustainable Concordia, 2007, p. 5).

The CSAF, the outcome of Lindsey Cole's (2003) Master's dissertation, became particularly influential in Canadian campuses after it was endorsed by the Sustainable Campus Project of the Sierra Youth Coalition (Beringer, 2006; Scahill, 2002). The web site of this NGO indicates a number of universities that have reported or are working towards reporting based on the CSAF (SYC, 2009). Our analysis revealed, however, some scepticism about the value of the CSAF. Five of the seven reporting universities decided to adopt a unique framework. One of the reports explained why:

IJSHE 12,1	We set out to do this assessment, relying not on an established framework, but our own common sense and years working in McGill's environmental movement. The only standardised assessment tool with any currency around here seems to be the CSAF. We decided that the CSAF was too broad and inapplicable for assessing a student union. We also found its methodology to be a little counter-productive (Man and Chow-Fraser, 2008, p. 6).
30	 UBC is looking forward to participating in international dialogues to establish university reporting standards. "These will enable greater rigor and transparency in campus sustainability performance target setting and reporting" (UBC, 2008, p. 19). The diversity of contents and reporting rationales found in this study corroborates UBC's call.

4.3 What is being reported?

The extent to which the seven reports met the 56 indicators is presented in Table IV. The report from UBC was found to be the most comprehensive according to this paper's framework. It disclosed information in connection with 30 of the 56 analyzed indicators. The University of Victoria had the narrowest scope, covering only nine. The average number of reported indicators in the sample was 20. Overall, these numbers suggest that the current practice of voluntary sustainability reporting is marked by limited scope.

Among the most comprehensive reports are the ones from McMaster and Concordia, which were both based on the CSAF. This framework and its 170 indicators (Cole, 2003) are probably contributing to wider scopes in campus sustainability assessments. It is important to emphasize, however, that a very significant portion of the CSAF's indicators were not disclosed by these institutions. Concordia's report justified these gaps on the grounds of lack of processes in place to generate data, or simply as "unfeasible" (Sustainable Concordia, 2007).

The ten evaluated sustainability categories were not evenly addressed in the sample (Figure 2). Among the most commonly disclosed indicators are those in connection with emissions, effluents, wastes, energy, recycled paper, green buildings, green spaces, transportation, and water (Table IV). There was a tendency in all seven universities to disclose indicators related to the "green architecture and procurement" and "environmental performance" categories. The GRI indicators related to human rights, society, and economic issues were among the least addressed. None of the reports included a third-party assurance statement, which has been deemed one of the key quality elements of business sustainability reports (CorporateRegister.com, 2008a). Overall, less than 25 per cent of the indicators related to the incorporation of sustainability into research and teaching were found in the sample.

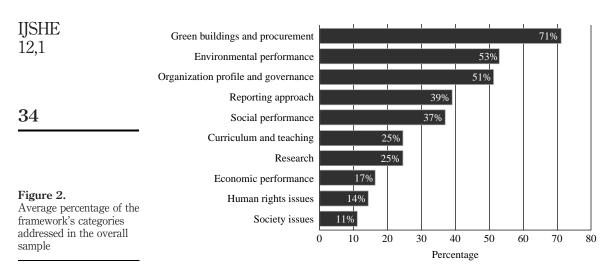
These findings suggest that the sustainability assessments in Canadian campuses are emphasizing particular sustainability requirements, namely eco-efficiency. As such, their reports should be carefully considered by decision makers. As Paul Hawken and others explain:

[Eco-efficiency] is only one small part of a richer and more complex web of ideas and solutions. Without a fundamental rethinking of the structure and the reward system of commerce, narrowly focused eco-efficiency could be a disaster for the environment by overwhelming resource savings with even larger growth in the production of the wrong products, produced by the wrong processes, from the wrong materials, in the wrong place, at the wrong scale, and delivered using the wrong business models (Hawken *et al.*, 1999, at the Preface).

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The significant quantity of disclosures on green buildings, green spaces and renovations shows, however, that Canadian campuses are moving beyond eco-efficiency. The consideration of elements of green architecture is particularly important because of their pedagogical role in the life of students, staff, and faculty. As Orr emphasized:

[...] the design of buildings and landscape is thought to have little or nothing to do with the process of learning or the quality of scholarship that occurs in a particular place. But in fact, buildings and landscape reflect a hidden curriculum that powerfully influences the learning process (Orr, 2002, pp. 127-8).

Nonetheless, in the context of higher education, it is the "visible" curriculum and research that have a significant impact on the world. The study has shown that attempts to measure progress towards the incorporation of sustainability into educational services were restricted and elusive. Two reports provided none or very limited performance information related to those issues. The others adopted a "highlight" approach. The Universities of Calgary and British Columbia emphasized, amongst others, accomplishments and novelties in connection with their sustainability-related programs, courses, and research centres.

Another relevant issue found in the analysis of the indicators on curriculum and research was the lack of comparability among disclosures. Even the reports of Concordia and McMaster, which followed the same CSAF framework, did not present very comparable results. This was arguably a result of the lack of appropriate processes to generate data on CSAF's indicators. Concordia's report corroborates this argument while acknowledging that 14 out of its 15 indicators on research and curriculum were either "not tracked" or "not feasible" (Sustainable Concordia, 2007, pp. 93-4).

The analyses have finally shown that, for the purpose of using the GRI guidelines in higher education, significant changes would be necessary in campus sustainability assessments. Many of the GRI indicators related to human rights, society, and economy are virtually absent from current reports. Although filling these gaps may be achieved by setting up new policies and programs, it is yet to be understood the cost-benefit of implementing these changes. There are arguably more urgent gaps to be filled in the context of higher education, such as the development of indicators that allow for a more systematic evaluation of how research and teaching can contribute to sustainability. On the one hand, this paper offers no conclusive support for Newport *et al.*'s (2003) call for GRI-based university sustainability reports, but on the other hand it shows that some GRI indicators could be easily incorporated into higher education's reporting systems.

5. Conclusions

This paper sought to understand the state of sustainability reporting in higher education, a sector that has been highlighted as a laggard in this field, despite its relevant role in sustainable development. A framework was developed to help analyze the contents of a sample of sustainability reports published by Canada's largest 25 universities by enrolment.

The analysis showed that sustainability reporting is the exception in Canada's higher education. Less than 30 per cent of the analyzed universities disclosed sustainability performance under a significantly different rationale from the ones observed in more profit-oriented organizations. Bottom-up processes stemming from sustainability offices and student groups are clear drivers of this uncommon and diverse practice. The content analysis revealed that campus sustainability assessments are emphasizing eco-efficiency and green architecture. None of the universities sought external assurance and just one included a letter from the president in its report. Disclosures of how sustainability is being incorporated into research and teaching were found to be restricted and elusive. Current reports have limited value and are potentially misleading as a tool to inform sustainability-oriented decisions.

A number of futures studies are needed to promote more frequent and meaningful sustainability reports. An understanding of the factors that may help to sensitize university administration to the value of assessing and reporting sustainability is fundamental. Without top-down policies to complement the efforts from students and sustainability offices, reports are likely to convey limited and weak information. In-depth, semi-structured interviews with the presidents of universities may reveal interesting insights. For this and other purposes, more studies on the state of, and trends in, sustainability reporting in higher education are needed. Comparative analysis among different geographical, economic, and political contexts may also uncover some of the drivers of reporting. Moreover, future studies should continue to investigate the indicators and data-generating methodologies used in guidelines and frameworks. A clear barrier to more frequent and reliable sustainability reports is the existence of limited and inconclusive knowledge on how to assess the contribution of higher education to sustainability.

Notes

- Sustainable development has been influentially defined as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (WCED, 1987). This paper uses the term "sustainability" interchangeably with "sustainable development" as there has not been a semantic consensus over their differences.
- 2. The key terms applied in those searches were "sustainability", "sustainability report", "sustainability performance", "sustainability assessment", "sustainability office", "sustainable campus", "environment", "environmental audit", "environmental report", "environmental

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assessment", "health and safety", and "green campus". Analogous French terms were used in the web sites of French-speaking universities.

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Further reading

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