Journal of Cleaner Production 185 (2018) 941–958

Contents lists available at ScienceDirect

Journal of Cleaner Production

journal homepage: www.elsevier.com/locate/jclepro

Review

Can the implications of the GHG Protocol's scope 3 standard be realized?

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ARTICLE INFO

Article history:
Received 23 December 2016
Received in revised form
1 March 2018
Accepted 1 March 2018

Keywords:
GHG protocol scope 3
CDP
Transaction costs
Power, measurement and management

ABSTRACT

The GHG Protocol has become the standard for corporate reporting of greenhouse gases, adopted by governments for regulations, NGOs for accountability and corporations for compliance. The GHG Protocol's scope 1 and 2 have largely succeeded in gaining compliance from large firms to report their internal GHG emissions and those from electricity purchases. Achieving Scope 3's intent of a full audit of value chain emissions GHG, however, is a much more complicated affair and according to the CDP, scope 3 is much less successful. This lack of success challenges the premise and purpose of the standard, especially, the expectation that the power of MNCs can be used to leverage reporting and reductions through the value chain. This paper constructs a heuristic framework to explain why success has been limited.

The paper discusses six interdependent factors that inhibit scope 3's ambition of promoting the measurement and management of GHG emissions throughout the value chain. These factors are transaction costs, power, responsibility allocation, uncertainty, location contingency and production costs. The impact of these factors on likelihood of compliance to the scope 3 are revealed by an examination of what the sustainable supply chain management, the supply chain management and other literature tell us about value chain interactions on environmental performance. The weight of these factors cast doubt on scope 3's ambition to compel firms to report a full audit of their scope 3 emissions. Moreover, the pursuit of that ambition diverts corporate efforts from more efficient and effective environmental efforts. The paper concludes with a discussion of options for harnessing the power of the lifecycle approach to reforming the value chain.

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https://doi.org/10.1016/j.jclepro.2018.03.003
0959-6526/

1. Introduction

The Greenhouse Gas (GHG) Protocol has become the global standard for multi-national corporations (MNCs), national and regional governments and other institutions to assess their carbon footprint (Green, 2010, 2014). It was developed through the leadership of the World Resources Institute (WRI) and World Business Council on Sustainable Development (WBCSD) in collaboration with several of the world's largest corporations and in the lacunae of UNFCCC leadership and capacity. In turn the two organizations convinced authorities such as the US EPA and ISO to adopt the standard and it rapidly became the template for organizations to evaluate their GHG emissions. The WRI and WBCSD also worked closely with the CDP (formerly the Carbon Disclosure Project, a non-profit registry of corporate GHG emissions) to establish a corporate reporting registry. The GHG Protocol and CDP registry are now the pillars of climate governance of MNCs. Essentially, the GHG Protocol asks companies to assess their responsibility for GHG emissions from their internal operations, energy bought from external sources and used internally (principally electricity), and the emissions their products incur upstream and downstream in the value chain (Fig. 1). These responsibilities are termed scopes 1, 2 and 3 respectively.

Until 2010 the GHG protocol focused on encouraging companies to report scope 1 and 2 emissions. That was a relatively easy task because the audit concerned internal activities and an accounting of electricity purchases. In the last few years, attention has switched to scope 3. A separate standard, the Corporate Value Chain Accounting and Reporting Standard (hereafter GHGP3), has been provided to guide firms in this more complex and demanding task. Attention has been refocused on Scope 3 because the largest proportion of GHG emissions, from MNCs in particular, accrues upstream and downstream in the value chain. The ambition of Scope 3 is to use the power and leverage of MNCs to drive emissions measurement and management throughout the value chain (WRI/WBCSD, 2011). If the coupled ambitions of measuring and management can be realized, even with just the top 500 MNCs, then a large proportion of the world's GHG emissions could be radically reduced (UNCTAD, 2011).

Requiring firms to measure their scope 3 emissions, essentially a value chain emissions audit, is the most direct goal of the GHGP3 standard. To do so, corporations must measure emissions from upstream and downstream vendors, requiring them to obtain information from other firms, institutions, and consumers that are outside of a reporting company's control. That is a complex and demanding task requiring substantial resources and is the crucial issue that this paper deals with. Can corporations elicit an emissions audit of their value chains? If not, why not?

The answer to the first question seems to be no. According to the most powerful survey of firms striving to fulfill the Scope 3 Protocol, compliance to emission data requests has been limited. Thus, we turn to the second question. However, without the benefit of being able to answer the question empirically, we must seek other means to explain why value chain firms have not reported their emissions to focal firms. We do so by reviewing the sustainable supply chain management (SSCM) literature to examine the challenges to reporting.

Our objective is to critically connect two parallel but distinct literature. The SSCM literature despite its growing size and relevance does not directly address the GHGP3 despite it becoming a primary driver for reconsideration of how value chains should be assessed and configured. On the other hand, while the GHGP3 has been constructed using precepts of SSCM, that construction seems to have extended the understanding of interfirm relations well beyond SSCM's primary focus on the dyad and not to have recognized the many challenges and limitations to building sustainability into value chains revealed by SSCM. Given the growing awareness of the importance of embodied value chain emissions and the reliance on the GHGP3 in emissions governance, a critical examination of the GHGP3 through SSCM should be of value to all academics, policy makers and corporate managers interested in sustainability issues.

We begin our argument by overviewing the results of the CDP survey in Section 2 below. With that disappointment as background, the essay deductively examines the viability of Scope 3's ambitions. We build a framework of interdependent challenges comprised of: transaction costs, value chain power, uncertainty and competition, responsibility allocation, location contingency and economic performance (Fig. 2). We discuss these sequentially using theories and findings from the SSCM and conventional supply chain (SCM) and other literature to examine whether Scope 3 is likely to result in MNCs (or focal/reporting firms more generally) can successfully measure and manage GHG through their value chains. The essay is a deductive argument, drawing on a structured literature review of sustainable supply chain management and related studies, and designed to initiate debate and new research directions.

2. Reality check: the CDP's 2016 scope 3 report

The CDP asks firms to self-report emissions according to the GHG Protocol. It then sells detailed reports to institutional investors interested in the GHG liabilities of corporations. These institutional investors represent US $100 trillion in investment, providing the CDP with leverage to encourage corporations to report. The CDP, working with another NGO called BSR, has been assessing the