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THE FOREST, PAPER AND PACKAGING INDUSTRY AND SUSTAINABILITY

Peter Jones and Daphne Comfort

Abstract

The aim of this paper is to offer an exploratory review of the sustainability agendas and achievements reported by the leading global companies within the forest, paper and packaging industry. The paper begins with brief outlines of corporate sustainability and the growing interest in sustainability reporting and the empirical material for the paper is drawn from the most recent sustainability reports posted on the leading forest, paper and packaging companies' corporate websites. The findings reveal while the leading companies within the industry recognised the impacts their businesses have on the environment, on society and to a lesser extent on the economy, there are variations in the character, extent and detail of the sustainability reporting process. That said the sustainability reports included details of a wide range of environmental, social and economic issues but more generally the reports had a number of weaknesses that, at least partly, undermine their transparency and credibility. The authors also argue that the selected companies' definitions of, and commitments to, sustainability are principally driven by business imperatives as by any fundamental concern to maintain the viability and integrity of natural and social capital. More critically the authors argue that this approach is couched within existing business models centred on continuing growth and consumption. The paper provides an accessible review of current approaches to sustainability in the global forest, paper and packaging industry and as such it will interest professionals working in the industry and its supply chain as well as academics and students interested in business strategy and sustainability.

Keywords – forest, paper and packaging industry: corporate sustainability; sustainability reporting; environment; society; assurance; materiality.

Introduction

The forest, paper and packaging industry provides an important illustration of the principal and controversial elements in the consumer supply chains which underpin modern consumption, in that it links primary production, manufacturing and retailing. While packaging encompasses a wide range of materials including paper and paper board, plastic, metal, glass and wood, in 2015 paper and paper board packaging had the largest (31%) share of the global packaging market (All Pack 2017). While there is no precise differentiation between paper and paperboard, though the latter is generally thicker than the former, but both are ultimately produced from virgin sources, principally wood. As such paper and paper board packaging make major demands on natural timber resources and their disposal has a direct impact on the environment and widespread concerns have been expressed about the environmental impact of such packaging materials. In outlining the

environmental impact of paper based packaging, for example, Michael Warner, a Senior Resource Campaigner at Friends of the Earth, argued that *'each stage of production – forestry, pulping, processing and printing – has associated environmental and human impacts'* (Raconteur 2013, webpage). The environmental pressure group the World Wildlife Fund (2017), for example, argued that *'the forest practices associated with some pulp and paper operations have had devastating impacts on some of the world's most ecologically important plants and species.'* More specifically Michael Warner argued that *'the production process takes its toll'* in that *'transforming wood from trees into thin uniform paper products requires the intensive use of wood, energy and chemicals'* and that *'clearing forests for packaging also worsens climate change'* (Raconteur 2013, webpage). The World Wildlife Fund (2017) also claimed that pulp and paper operations have contributed to *'human rights and social conflicts'* and the Environmental Association for the Universities and Colleges (2010) suggested that the *'potential impacts on poor people of forestry activity include 'dangerous and poorly paid work', 'damage to people already dependent on forests for food' and 'fuel', and 'pollution impacts on local communities and livelihoods.'* The World Wildlife Fund (2017) also claimed that *'making pulp and paper requires vast amounts of water'*, that *'the pulp and paper industry is the single largest consumer of water used in industrial activities in developed countries'* and that *'paper mills may also discharge many pollutants in surrounding water bodies, which causes damage to aquatic ecosystems and threatens the health of people that live near the mill.'*

On the other hand Jane Bickerstaffe, Director of the Industry Council for Research on Packaging and the Environment, claimed that the packaging industry *'performs a major role in protecting far more resources than it uses and preventing far more waste than it generates'* and in a similar vein European (2011), the European Organisation for Packaging and the Environment, argued that the packaging industry has claimed that *'packaging clearly contributes to sustainability by limiting product waste and over production.'* At the same time the forest, paper and packaging industry is an important source of employment. The American Forest and Paper Association (2014), for example, claimed that in the US the forest products industry accounted for 4% of total Manufacturing GDP, that it employs over 900, 000 people, which is more than those employed in the automotive, chemical and plastics industries, and that the industry is among the top ten manufacturing sector employees in 47 states. Contrasting and in many ways contested views on packaging throws the issue of sustainability into sharp relief. Mikkila and Toppinen (2008), for example, argued that *'forest based industry has a crucial role in global sustainable development because of its unique raw material base and its increasing globalisation'* while more generally PricewaterhouseCoopers (2010, p. 18) argued that *'unless the industry becomes more proactive in the debate about the definition and role of sustainable packaging, it runs the risk of packaging continuing to receive disproportionate attention for its environmental impact'* but more recently Bouw (2014) claimed that *'sustainability is a top priority among the world's forest, paper and packaging companies.'* With this in mind the aim of this paper is to offer an exploratory review of the sustainability agendas and achievements reported by the leading companies within the global forest, paper and packaging industry. The paper begins with brief outlines of corporate sustainability and the growing interest in

sustainability reporting. This is followed by a review of the most recently published sustainability reports from the leading global forest, paper and packaging companies and the paper concludes by offering some reflections on current approaches to sustainability within the industry.

Corporate Sustainability and Sustainability Reporting

As investors, consumers, governments, interests groups and the media have become more acutely aware about the environmental, social and economic impacts of business activities so corporate sustainability initiatives have assumed ever increasing importance. KPMG (2012, webpage), for example, suggested that *'the evidence that sustainability is becoming a core consideration for successful businesses around the world grows stronger every day.'* While there is broad agreement that corporate sustainability is concerned with environmental, social and economic issues and with governance, there is little consensus in defining the term and a number of meanings can be identified. There are definitions which seem to emphasise business continuity. Dyllick and Hockerts (2002, p13), for example, define corporate sustainability as *'meeting the needs of a firm's direct and indirect shareholders..... without compromising its ability to meet the needs of future stakeholders as well.'* There are also definitions that look to include environmental and social goals and to formally incorporate these goals into corporate strategy. van Marrewijk and Werre (2002, p. 107), for example, argued that *'corporate sustainability refers to a company's activities – voluntary by definition – demonstrating the inclusion of social and environmental concerns.'* In some ways Amini and Bienstock (2014, p.13) combined both approaches and argued that corporate sustainability *'embraces the idea that an organization, in order to remain fundamentally sustainable in the long term, must consider all of the contexts in which it is embedded: economic, social and environmental.'*

More generally corporate sustainability is increasingly seen to incorporate the related concepts of sustainable development and the creation of shared value. Sustainable development, most commonly defined as *'development that meets the needs of the present without compromising the ability of future generations to meet their own needs'* (World Commission on Environment and Development 1987, p. 43). The more recently developed concept of creating shared value has been *'defined as policies and practices that enhance the competitiveness of a company while simultaneously addressing the economic and social conditions in the communities in which it operates'* (Porter and Kramer 2011, p. 78). In many ways all three concepts share a common, if competing, set of theoretical underpinnings. Garriga and Mele (2004, p. 51), identified four groups of theories namely instrumental theories, political theories, integrative theories and ethical theories, based on *'ethical responsibilities of corporations to society.'* Further Garriga and Mele (2004) suggested that in practice, each theory presents four dimensions related to profits, political performance, social demands and ethical values. More recently Lozano et al. (2015) have reviewed how a wide range of theories of the firm have contributed to corporate sustainability but suggested that each of these theories is limited in that they each address specific dimensions of sustainability. The authors concluded by proposing a new theory which, they argued, provides corporations, and their stakeholders, with a more complete vision of their obligations, opportunities, relations and processes in *'helping to make societies more equitable and sustainable in the short and long term'* (Lozano 2015, p. 430).

The growing interest in and commitment to corporate sustainability has seen the emergence of sustainability reporting across a wide range of companies and organisations. In essence sustainability reporting is a general term used to describe how a company, or an organisation, publicly reports on its environmental, social and economic impacts and performance. For the Global Reporting Initiative (2011, webpage) *'sustainability reporting is the practice of measuring, disclosing, and being accountable to internal and external stakeholders for organizational performance towards the goal of sustainable development.'* van Wensen et. al. (2011, p.14) argued that *'sustainability reporting is the provision of environmental, social and governance information within documents such as annual reports and sustainability reports.'*

In some ways sustainability reporting has become an 'industry' in itself and a number of private companies and voluntary organisations offer sustainability reporting services and frameworks. The United Nations Environment Programme (2013, p.21), for example, identified a number of *'reporting frameworks and protocols, reporting systems, standards and guidelines'* but argued that the Global Reporting Initiative *'has become the leading global framework for sustainability reporting'* and cited its comprehensive scope, its commitment to continuous improvement and its consensus approach as being important in contributing to its pre-eminence in the field. Originally founded in 1997 the Global Reporting Initiative reporting framework has progressively evolved from the original G1 Guidelines launched in 2000 into the current G4 Guidelines introduced in 2013. Within the current G4 Guidelines materiality and external assurance are seen to be of central importance. Materiality is concerned with who is involved in identifying the environmental, social and economic issues that matter most to a company and its stakeholders and how this process is undertaken. External assurance is a procedure employed to provide confidence in both the accuracy and the reliability of the reporting process.

More generally the growth in corporate sustainability reporting and an increasing focus on materiality and external assurance in the reporting process all reflect calls for greater transparency within sustainability reporting. Sustainability (2014, p.10) defined *'effective corporate transparency'* as being *'when a company provides or makes available appropriate and timely information to all relevant stakeholders with the intention of optimizing decision making that leads to more sustainable decisions.'* In many ways transparency can be seen as the key to sustainability in that *'once a company makes a commitment to transparency, the rest must follow'* (CSR Reporting 2011, webpage). Looking to the future greater transparency can be seen to be crucial in creating the momentum within companies to actively address environmental and social impacts and challenges and more generally in driving corporate performance.

Frame of Reference and Method of Enquiry

In an attempt to obtain an exploratory review of how the forest, paper and packaging industry is publicly addressing and reporting on their sustainability strategies and achievements the top ten global companies, (as measured by 2015 sales and as listed by PricewaterhouseCoopers 2016)), namely International Paper, Kimberley-Clark, Svenska-Cellulosa (SCA), Oji Paper, Westrock, UPM-Kymmene, Stora Enso, Smurfit Kappa, Sumitomo Forestry, Nippon Paper Group, were selected for study. As the leading players within the

industry the selected companies might be seen to reflect contemporary approaches to sustainability within the sector and be keen to publicise their sustainability initiatives to a wide audience. Increasingly large companies employ the Internet to report on their sustainability strategies and achievements. This led the authors to conduct a digital Internet search for information, using the key phrase 'sustainability report' and the name of each of the selected packaging companies. This search was undertaken in May 2017, employing Google as the search engine, and the most recent report for each of the selected companies obtained via this search formed the empirical material for this paper.

More specifically the authors took the decision to tease out the key themes and narratives by a close reading and review of the sustainability reports. The aim is not to offer a systematic and detailed comparative analysis and evaluation of the selected companies' approaches to sustainability and the specific examples and quotations are employed primarily for illustrative rather than comparative purposes, with the focus being on conducting an exploratory examination of the current sustainability issues being addressed by the leading companies within the forest, paper and packaging industry rather than on providing a systematic analysis and comparative evaluation of sustainability policies and achievements of these companies. Unless specifically cited all quotations are drawn from the selected companies' sustainability reports (Table 1). The paper is based on information that is in the public domain and the authors took the considered view that they did not need to contact the selected companies to obtain formal permission prior to conducting their research.

When outlining the issues of reliability and validity in relation to information on the Internet, Saunders et.al. (2009) emphasised the importance of the authority and reputation of the source and the citation of a specific contact individual who can be approached for additional information. In reviewing the sustainability reports the authors felt that the two conditions were met. At the same time the authors recognise that the approach chosen has its limitations in that there are issues in the extent to which a company's public statements fulsomely, and in detail, reflect strategic corporate thinking and whether or not such pronouncements might be considered little more than carefully constructed public relation exercises. However the authors believe that their approach offers a suitable approach for the current exploratory study.

Findings

The findings revealed that nine of the selected companies, namely International Paper, Kimberley-Clark, Svenska-Cellulosa (SCA), Oji Paper, Westrock, UPM-Kymmene, Smurfit Kappa, Sumitomo Forestry, Nippon Paper Group, within the forest, paper and packaging industry had published dedicated sustainability reports while Stora Enso produced a sustainability report as part of its annual report. The reports were variously described as a company's sustainability report, sustainability review, sustainable development report and corporate social responsibility report, and in the case of UPM-Kymmene, a corporate environmental statement. Some of these reports were subtitled, seemingly to capture the company's positive commitment to sustainability, for example as '*Sustainability in Every Fibre*' (Smurfit Kappa), '*In Our Nature*' (International Paper), '*Responsibility to Results*' (Westrock), '*Shaping the Future with Trees*' (Nippon Paper Group) and '*Sustainability for a Better Life*' (Kimberley-Clark). Two sets of themes, namely the

environmental, social and economic issues on which the selected packaging companies report on sustainability and the nature of the reporting process, merit attention.

Firstly the majority of the selected companies emphasised their corporate concern for, and commitment to, sustainability. The International Paper Group, for example, emphasised its *'commitment to the highest ethical and sustainability standards is guided by a basic principle: do the right things for the right reasons. This affects everything we do - from employee and community engagement, to our use of natural resources and our commitment to forest stewardship, to our impact on the planet.'* In a similar vein Stora Enso, reported that its *'sustainability strategy is incorporated into the wider company business strategy, that 'sustainability is a key element of Stora Enso's corporate governance' and that 'the Chief Executive Officer carries the ultimate responsibility for the successful implementation of our sustainability strategy.'* In *'A Message from Our Chief Executive Officer'*, Tom Falk claimed that *'sustainability has been central to Kimberley-Clark since we began operation more than 140 years ago'* and that *'throughout our history, we've continuously improved how we operate and embed sustainable practices into our business.'* UPM-Kymmene stressed that the company *'is committed to sustainable development'* and that *'responsibility and a holistic approach to environmental issues are key building blocks of' the company's 'safe and responsible business operations and product development.'*

Some of the selected companies explicitly identified a number of strategic priorities. Within its sustainability strategy International Paper, for example, identified *'six strategic focus areas'* namely safety; stakeholder engagement; ethics and compliance; forest stewardship; greenhouse gas emissions; and water use. The company stressed its belief that *'a sharp focus' on these areas 'will help us continue to move in the right direction on some of the most critical issues for our company and the communities in which we operate.'* The company stressed, for example, that *'ethical behaviour and personal integrity are at the core of our culture'* and that *'these values extend beyond our employees to our suppliers, who are required to maintain the same level of ethics and integrity in their dealings with us.'* In a similar vein Smurfit Kappa identified *'five strategic sustainability priorities'* namely forest management; climate change; water management; waste management; and people. Some of the selected companies also stressed their commitment to the *'circular economy'* which looks to keep resources in use for as long as possible and to recover and regenerate products and materials at the end of each service life. UPM-Kymmene, for example, emphasised its *'commitment to be the frontrunner in sustainability and circular economy in our industry'* while Smurfit Kappa stressed its commitment to *'designing our operations around a circular economy model'* in which *'the productivity of the resources we use is maximised and waste, including carbon dioxide emissions, is minimised.'*

More generally the selected packaging companies evidenced their strategic commitment to sustainability across a wide range of environmental, social and economic agendas. A number of environmental issues were addressed including climate change and greenhouse gas emissions, energy efficiency, sustainable forest management, preserving biodiversity, water management and waste management and recycling. Under the banner *'Climate change Initiatives'*, the Nippon Paper Group, for example, reported on *'reducing carbon dioxide emissions at every stage of our business activities'* and more specifically on *'actively using biomass and waste fuels to reduce fossil energy use'*, on *'working to promote*

green logistics' and on *'sequestering atmospheric carbon dioxide in forests and food products.'* Smurfit Kappa recognised that *'the production and use of fossil energy is one of the major contributors to greenhouse gas emissions and climate change globally'*, that *'paper production is energy intensive'* and that *'our industry's challenge is to reduce the energy intensity of production.'* More specifically the company reported a reduction of 22.6 % in its relative fossil carbon dioxide emissions from its paper and board mills between 2005 and 2015 and a 10% improvement in the energy usage per tonne of paper produced at its mills during the same time period. Westrock reported that *'a key element in our strategy to reduce greenhouse gases is leveraging what we do best – using biomass.'* More specifically the company reported that its integrated kraft paper mills, which are its most energy intensive manufacturing facilities, burn renewable biomass to generate 60% of their energy needs. Westrock also reported having established a goal to reduce greenhouse gas emissions from its manufacturing facilities by 20% in the ten years up to 2025.

Forest and plantation management is an important theme within many of the selected sustainability reports. Sumitomo Forestry, for example, recognised that *'forests perform a variety of functions for the public good, such as storing and purifying water, preventing floods and landslides, absorbing and retaining carbon dioxide, which is linked to global warming, and preserving biodiversity'* and claimed that the company *'advances sustainable forest management both in Japan and overseas to ensure that timber resources will be available in perpetuity while preserving the public functions of forests.'* Stora Enso, emphasised that *'sustainable forest management is in our immediate and long term interest, as it keeps forests healthy and productive, and thus helps secure the long-term availability of the renewable resources we use.'* The company claimed that its *'policy on wood and fibre sourcing covers the entire cycle of forest and plantation management'* and that *'compliance with national legislation is only the starting point for our work'* which also includes supporting and implementing *'voluntary forest conservation and restoration measures'* *'tree breeding'*, designed, for example, to improve the productivity and quality of eucalyptus trees grown on company plantations and participation in *'numerous local and global forestry associations, networks and programmes.'*

Smurfit Kappa reported on its approach to sustainably sourcing fibres at its plantations and forestry operations. The company argued that *'we believe forests can supply sufficient quantities of sustainable, renewable sources of fibre when managed well'* and claimed that *'everything we do is subject to strict principles of sustainability and the highest standards of practice to ensure sustainable forest management.'* That said the company recognised that globally forest areas are decreasing and that continuing deforestation is a growing concern for stakeholders and that wood fibres cannot be endlessly recycled but suggested that research was required to extend the lifespan of fibres. The Nippon Paper Group reported on the establishment, in 2016, of its *'Policy on the Preservation of Biodiversity'* which, inter alia, recognised *'the protection of biodiversity as a critical social issue'* and looked to *'promote the development of technologies, products and services that contribute to preservation of biodiversity and the sustainable use of ecosystem services.'*

Water management is an important issue for many of the selected packaging companies. Stora Enso, for example, recognised that water played a central role in the

company's production, heating, cooling and cleaning processes and in the generation of hydroelectricity. While the majority of the company's production plants are located in areas where water is relatively abundant there is a clear recognition that *'global water scarcity may still impact our operations in the long term through our supply chains, and as controls on pollution, recycling and water pricing are toughened.'* In a similar vein International Paper emphasised that *'water is essential to our manufacturing processes, so it is crucial that we actively seek ways to use water effectively and in harmony with local communities and ecosystem needs'* and the company reported on its achievements in reducing freshwater consumption at three manufacturing plants in Florida, California and Pennsylvania in the US and at a paper mill at Saillat sur Vienne in west central France. Svenska-Cellulosa reported that it had been evaluating water risks at its own production facilities since 2011 but that it had begun conducting such assessments at all of its 54 pulp suppliers and this assessment is to be updated regularly.

Waste management is seen to be an important element in many of the selected packaging companies sustainability plans and programmes. UPM-Kymmene claimed that *'reducing the amount of solid waste and increasing reuse are key objectives at all UPM mills.'* More specifically the company reported that the emphasis is sorting waste at source, that a large part of the process waste is used either as raw material or in energy production and that the majority of solid waste sent to landfill sites has been reduced significantly in recent years due to efficiency gains in the production process. At the same time while the company recognised that landfill sites used to deposit solid waste account for the most significant environmental impact in waste management it claimed to be monitoring this impact in line with the relevant statutory regulations. Kimberley-Clark outlined its *'zero-waste mindset'* and suggested it was *'about recognizing the value of materials that go into our products and packaging'* and that *'whenever we can find ways to reduce, reuse and recycle these materials'* thus *'keeping them in circulation-and out of the landfills.'* Sumitomo Forestry reported on initiatives to achieve zero emissions and to reduce industrial waste, to raise employee awareness and on the collection of wood waste generated through its manufacturing processes and its subsequent reuse as fuel.

In reviewing the social dimensions of sustainability being addressed by the selected packaging companies a number of themes can be identified including, the importance of employees, the health, employee training and development, wellbeing and safety of employees, human rights and labour practices, diversity and equality of opportunity, employee representation and association, links with local communities and charitable donations. Oji Paper, for example, claimed *'our people are what differentiates us from our competitors- they bring their great thinking , judgement and commitment to work every day'* and *'when our people grow, our business grows, together we work to find the right development support for the individual and the sustained success of our business.'* Further Oji Paper reported working with Competenz, an industry training organisation, in New Zealand to develop skills and to promote nationally recognised qualifications within the company. Westrock reported that it *'provides employees with opportunities to enhance their knowledge and skills'* and argued that by *'providing training and career development*

programmes we improve employee engagement at work resulting in greater job satisfaction for our co-workers and better results for the company and our stakeholders.'

Svenska-Cellulosa emphasised that *'the working environment and safety of its employees is of paramount importance to SCA and the company wants everyone to feel safe at work'* and that *'this relates not only to the physical work environment, but also to promoting a culture where safety always comes first.'* Company policies and management systems on health safety, follow and control and extensive training are seen to be central in raising safety ambitions. Oji Paper recognised that *'our worksites are high-hazard work environments where the highest level of industry safety performance is critical '*, stressed that *'we are committed to the safety, health and wellbeing of every person who works with us'* and that *'we believe that people perform at their best when their individual health and wellbeing is supported.'* More specifically Oji Paper reported on its *'Wellbeing Challenge'* and *'Fit4Work'* programmes which include health monitoring, and initiatives to promote weight and to encourage employees to make better lifestyle choices and to reduce absenteeism.

Sumitomo Forestry stated its *'Basic Policy on Respect for Human Rights'* namely *'that everyone belonging to the Group shall respect people in terms of diversity such as gender, age, nationality, race, religion and disability and acknowledge that everyone is equal and that no discrimination whatsoever will be tolerated.'* The company also reported on measures taken to verify efforts to ensure human rights, on the prevention of sexual harassment and bullying in the workplace and on human rights training. In focusing on *'Human Rights, Employment and Labor Responsibility'* the Nippon Paper Group reported that its *'basic stance'* was on *'the optimal application of diverse human resources whilst ensuring safety and disaster prevention.'* More specifically the Nippon Paper Group reported meetings with Amnesty international to *'deepen our understanding of global trends in human rights issues'* and that it *'considers the culture and traditions of residents in each region of its overseas afforestation operations.'* Stora Enso reported on working with BSR, a global not-for-profit organisation, to define and calculate living in Brazil, India, China, Pakistan, Russia, Laos and Uruguay. In this exercise a living wage was defined a level of earnings that best corresponds to the actual costs of acquiring the goods and services that are necessary for a basis standard of living and at the start of 2016 Stora Enso reported its current minimum salary levels exceeded the living wage estimates in all seven countries.

A number of the selected companies reported on their commitment to, and links with, local communities and on their charitable donations. In reporting on its approach to *'Community Relations'* Svenska-Cellulosa claimed the wanted to *'help solve social challenges'*, and reported that the company *'prioritizes social initiatives with a clear link to the company's values, expertise, operations and geographic presence'*, that *'many initiatives are in hygiene and health, often related to women and children'* and that *'these projects strengthen SCA's position in the community and build loyalty and goodwill.'* By way of an illustration of its work Svenska-Cellulosa provides outline details of its support for adolescent girls in Mexico, sick and their parents in Hungary and more generally its help for communities struck by natural disasters. Under the banner *'Giving Back is in Our Nature'*, International Paper reported on a number of global projects it supported either through donations or employee volunteering programmes. These projects included employee volunteering at a dam construction site in Tantikonda, near one of the company's paper

mills in India, and providing food to children in need in Nairobi through the 'World Food Program USA' and empowering low income young students in Tres Lagoas in Brazil.

Economic issues generally received more limited explicit coverage in the sustainability reports and information posted by the selected packaging companies. Many companies report on economic issues indirectly mentioning the creation of employment opportunities and supplier relationships, for example, as part of wider commentaries on sustainability. That said one of the selected companies, Stora Enso, reported on the economic impacts of their business operations. Stora Enso *'Economic Agenda'* embraced three sets of issues namely, customers, supplier and investors. In prefacing its commentary on customers, for example, the company argued that *'increasing global consumer demand for sustainability is encouraging companies and brand owners to provide smart and safe solutions to meet everyday needs.'* The company claimed to be *'developing our expertise in renewable materials to meet customers' needs through products with high sustainability performance'*, to *'work actively together with our customers to improve the material efficiency and environmental impact of our products and related production processes'* and to *'regularly measure customer satisfaction.'* In addressing the issue of investors Stora Enso recognised the tensions between the growth in the number of socially responsible investors and shareholder demands for financial profits from their investments and outlined how it looked to manage the challenges posed by such tensions and stressed the importance of timely and transparent communication with shareholders on environmental, social and governance issues.

Secondly there are marked variations in the nature of the reporting process. There was little or no uniformity in the character and style of the sustainability reports published by the leading companies in the forest, paper and packaging industry and the reports varied considerably in length. At one end of the spectrum the Sumitomo Forestry report ran to 327 pages and while the Smurfit Kappa, Svenska-Cellulosa, Stora Enso and Nippon Paper Group report were 100, 76, 75 and 70 pages respectively, at the other end the Oji Paper and Kimberley-Clark reports were 28 and 24 pages respectively. Some of the sustainability reports provided detailed structured narratives others offered a lighter and less detailed commentary. While all the selected companies included some data on environmental and social issues within their sustainability reports the scope and time scale and geographical coverage varied considerably. Thus while the Kimberley-Clarke report included very limited statistical soundbites to illustrate some targets and achievements the Stora Enso report included data on fossil carbon dioxide emissions, process water discharges, chemical oxygen demands and processed waste to landfill across a number of countries and plants in Northern and Western Europe. The selected companies often looked to illustrative general narrative in their sustainability reports with cameo 'case studies' and with graphs, diagrams and photographic images.

All the leading companies within the forest, paper and packaging industry made reference to external reporting guidelines. Westrock, Smurfit Kappa, Svenska-Cellulosa, Sumitomo Forestry, Nippon Paper Group, International paper Kimberley-Clarke, UPM-Kymmene and Stora Enso stated that their reports had been prepared in accordance with GRI G4 Core reporting option while Oji Paper reported that it had *'referred to the GRI Sustainability Reporting Guidelines for guidance only in the production of this report.'*

Sumitomo Forestry also reported that it had been included in a number of Socially Responsible Investment indices including the FTSE4Good and the Morningstar Socially Responsible Index. More generally by way of external accreditation for its approach to sustainability Westrock highlighted that in 2016 the company had won the American Forest and Paper Association Sustainability Award for Leadership in Sustainability Safety

While, as noted earlier in this paper, materiality and external assurance are seen to be central to the GRI G4 the leading companies in the forest, paper and packaging industry varied in their integration of these issues within the sustainability reporting process. The majority of the selected companies, namely International Paper, Svenska-Cellulosa, Kimberley-Clark, UPM-Kymmene, Smurfit Kappa, Stora Enso, Nippon Paper Group looked to introduce the concept of materiality into their sustainability reporting process but here was some variation in the mechanics of how materiality was determined. In constructing its materiality matrix Smurfit Kappa followed the approach recommended by the GRI in that the matrix axes focused on *'significance of economic, environmental and social impacts'* and *'influence on stakeholder's assessments and decisions'* (Global Reporting Initiative 2011, p.8). Kimberley-Clark reported engaging Corporate Citizenship, a management consultancy, to conduct a materiality assessment to help develop *'a comprehensive perspective on the future of the business'*, which enabled the company *'to focus on the core economic, environmental and social topics that are integral to supporting and growing our company.'* This assessment embraced seven sets of international stakeholder groups, namely suppliers, customers, distributors, employees, investors, labour/trade organisations and non-governmental organisations. These stakeholder groups were asked to determine both the importance of each material issue and the impact they considered each would have on the business and these two sets of responses formed the axes for the sustainability materiality matrix. The materiality exercise conducted by International Paper focused on *'a consideration of economic, environmental, social and governance matters that affect the ability to create or erode value for shareholders'* and as such might be effectively seen to ignore consideration of wider environmental, social or economic issues.

Five of the selected companies, namely Kimberley-Clark, Svenska-Cellulosa, Stora Enso, Smurfit Kappa, Sumitomo Forestry commissioned independent external assurance while the Nippon Paper Group included some *'Third Party Comments'* in its sustainability report and International Paper stated that it would be commissioning a limited external assurance exercise for its next report. The assurance assessments were limited either in the percentage of the issues on which the companies reported or more technically in terms of the nature of the assurance process. On the one hand the assurance exercise conducted for Stora Enso by Deloitte & Touche, for example, covered only the company's direct and indirect fossil carbon dioxide emissions and here Deloitte & Touche offered the limited assurance concluded that *'nothing has come to our attention that causes us to believe that information subject to the assurance engagement is not prepared in all material aspects, in accordance with the Sustainability Reporting guidelines G4.'* On the other hand Smurfit Kappa, commissioned KPMG *'to provide limited assurance on the data and text'* of its sustainability report and the auditors came to exactly the same conclusion. The third party comments on the Nippon Paper Group's sustainability report commended the company for preparing its report in accordance with the G4 guidelines and for approach to preserving

biodiversity but also suggested that the company should look to keep its occupational accident rate and its employment rate for people with disabilities under review.

Discussion

While the findings revealed that while the majority of the leading packaging companies publicly recognised the impacts their businesses have on the environment, on society, and to a lesser extent, on the economy, there are variations in the character, extent and detail of the reporting process. The packaging companies' generally idiosyncratic approach to reporting on sustainability makes it difficult to make any meaningful comparisons between companies or to attempt any evaluation of the contribution the leading players within the industry are making towards the achievement of sustainability targets at national or international levels. This is not a problem per se, in that companies have no statutory obligation to report on sustainability, but in reviewing the leading packaging companies' current approach to sustainability four sets of issues merit discussion and reflection.

Firstly while the majority of the leading packaging companies emphasised their commitment to sustainability they can be seen, individually and collectively, to have constructed a specific definition of the concept. This definition is primarily built around business efficiency and cost savings and is driven more by business imperatives than by any concern with sustainability. Thus while many of the environmental agendas addressed by the selected companies are designed to reduce greenhouse gas emissions, energy, water consumption and waste, for example, they also serve to reduce costs. In a similar vein the packaging companies' commitments to their employees focusing for example, upon good working conditions, health and safety at work and training all help to promote stability, security, loyalty and efficiency within the workforce.

The leading packaging companies might thus be seen to have constructed sustainability agendas, which are driven primarily, though not necessarily exclusively, by their own commercial interests. The accent being on efficiency gains across a wide range of economic, social and environmental issues rather than on maintaining the viability of natural ecosystems and reducing demands on finite natural resources. More generally Aras and Crowther (2009, p.279) argued that corporate sustainability reporting has the effect of obscuring *'the effect of corporate activity upon the external environment and the consequent implications for the future'* and that *'one of the effects of persuading that corporate activity is sustainable is that the cost of capital for the firm is reduced as investors are misled into thinking that the level of risk involved in their investment is lower than it actually is.'* In a similar vein Banerjee (2008, p.51) has argued that *'despite their emancipatory rhetoric, discourses of corporate citizenship, social responsibility and sustainability are defined by narrow business interests and serve to curtail the interests of external stakeholders.'*

Earlier in this paper the authors suggested that corporate sustainability was also increasingly seen to incorporate the concept of the creation of shared value. While the leading packaging companies do not explicitly employ the term shared value in their sustainability reports a number of their sustainability commitments, to employees and communities, to investing in social welfare and to environmental stewardship, are

expressed within the idiom of shared value. However Crane et al. (2014) identified a number of weaknesses and shortcomings in the creation of the shared value model. More specifically Crane et al. (2014, p.131) argued that the model *'ignores the tensions between social and economic goals'* that it is *'naïve about the challenges of business compliance'* and that it is *'based on a shallow conception of the corporation's role in society.'* In examining the first of these concerns, for example, Crane et al. (2014, p.136) suggested that *'many corporate decisions related to social and environmental problems, however creative the decision-maker may be, do not present themselves as potential win-wins, but rather manifest themselves in terms of dilemmas.'* As such Crane et al. (2014, p. 136) suggested that such dilemmas are effectively *'continuous struggles between corporations and their stakeholders over limited resources and recognition.'* In justifying their assertion that creating shared value is based on a shallow reading of the corporation's role in society Crane et al. (2014, p. 140) argued that the model seeks to *'rethink the purpose of the corporation without questioning the sanctity of corporate self-interest.'*

Secondly materiality and assurance received limited attention from the leading packaging companies. Generally there was only limited reference, for example, as to how material issues were identified by the companies or to the role of a range of stakeholders in the identification process. As such the sustainability reports and information posted by the selected packaging might be seen to represent the executive management's approach to sustainability rather than the potentially wider sustainability agendas and concerns of the company's stakeholders. The approach to the construction of materiality matrices employed by some of the leading companies within the forest, paper and packaging industry might be seen to favour corporate business continuity goals, rather than more general environmental, social and economic concerns. McElroy (2011, webpage), for example, claimed that this approach *'essentially cuts out consideration of what are arguably the most material issues'* namely *'the broad social, economic and environmental impacts of an organisation regardless of how they relate to a particular business plan or strategy.'* More specifically this corporate privileging of sustainability goals might be seen to be reflected in the relatively lower status attached to animal welfare, freedom of association and collective bargaining, biodiversity and responsible remuneration in the materiality matrix in the Kimberley-Clark sustainability report.

At the same time the independent external assurance of can be seen to be problematic. While some of the leading companies in the forest, paper and packaging industry did commission external assurance the scope of the assurance exercises was limited as noted earlier others did not report on commissioning such assurance exercises. This can be seen to reduce the credibility, integrity and reliability of the sustainability reporting process undertaken by the leading in the forest, paper and packaging industry That said the selected companies are large, complex and dynamic organisations and capturing and storing comprehensive information and data throughout the supply chain in a variety of geographical locations and then providing access to allow external assurance is a challenging and a potentially costly venture. Thus while data on a company's carbon emissions may be systematically collected, collated and audited as part of the company's environmental commitments, information on their impact on local communities and levels of staff satisfaction may be more difficult to measure, collate, interpret and assure.

Currently some of the leading companies within the forest, paper and packaging industry choose not to publicly pursue such an exercise.

Thirdly with an eye to the future while the sustainability reports posted by a number of the leading companies within the forest, paper and packaging industry are couched within the idiom of continuing growth and business expansion there are tensions between continuing growth, and sustainability. These packaging companies' commitments to growth are evidenced in a number of ways. Smurfit Kappa, for example, stressed its approach to sustainable development *'has delivered consistent growth.'* In his *'Message'* at the start of the sustainability report, Fumio Manoshiro, President of the Nippon Paper Group, stressed the company's commitment *'to grow our business over the long term'* and that it would *'make the best of growth opportunities'* and more generally the company reported that it was *'striving to achieve sustainable growth and increases in corporate value.'* However, with the exception of little more than a genuflection to the circular economic model mentioned earlier, selected sustainability reports make little attempt to define sustainable growth and in many ways the term is used to refer to continuing economic growth. That said there are fundamental questions about whether continuing economic growth is compatible with sustainable development. On the one hand some critics would suggest that continuing economic growth and consumption, dependent as it is, on the seemingly ever increasing depletion of the earth's natural resources is fundamentally incompatible with sustainability. Higgins (2013, webpage), for example argued *'the economic growth we know today is diametrically opposed to the sustainability of our planet.'*

On the other hand the dominant corporate argument is that continuing economic growth will inevitably be accompanied by the more efficient use of resources. This trend which is seen as either relative or absolute decoupling (relative decoupling refers to using fewer resources per unit of economic growth while absolute decoupling refers to a total reduction in the use of resources) underpins many conventional definitions of sustainability and the vast majority of current corporate sustainability strategies and programmes. However decoupling is seen by some critics as an elusive goal and Conrad and Cassar (2014, p 6370) suggested that *'a substantial body of research has cast doubts on whether countries can truly grow their way out of environmental problems.'* In a similar vein Wiedmann et al. (2015, p. 6271) argued that *'achievements in decoupling in advanced economies are smaller than reported or even non-existent'* and this, in turn, may be seen to ultimately undermine the potential to achieve sustainable growth. Arguably more radically Jackson (2009, p. 57) concluded a discussion of what he described as *'the myth of decoupling'* by arguing that *'it is entirely fanciful to suppose that deep emission and resource cuts can be achieved without confronting the structure of market economies.'* Equally critically Castro (2004) has questioned the very possibility of sustainable development under capitalism and argued that economic growth relies upon the continuing and inevitable exploitation of both natural and social capital.

At the same time a number of the leading packaging companies reported on how their commitment to innovation and to harnessing a wide range of new developments in technology would be vitally important in improving efficiency across the sustainability spectrum and in helping to deliver sustainable growth. Smurfit Kappa, for example stressed its commitment to *'drive innovation and sustainability for long term success'* and claimed

'we use sustainability as a lens through which to focus our innovation strategy and processes' and Svenska-Cellulosa emphasised that the company *'develops innovations for people and nature'* and that *'these new solutions offer improvements for the user or for the environment.'* More generally Clark and Dickson (2003, p. 8059) suggested that *'the need for sustainable development initiatives to mobilize appropriate science and technology has long been recognized'* and advances in technology are often seen to provide the best way of promoting greater efficiency. However while Schor (2005, p.310) recognised that *'advocates of technological solutions argue that more intelligent design and technological innovation can dramatically reduce or even stop the depletion of ecological resources'* he argued that such approaches *'fail to address increases in the scale of production and consumption, sometimes even arguing that such increases are not unsustainable if enough natural-capital-saving technical change occurs.'*

Conclusion

All the leading companies within the forestry, paper and packaging industry publicly reported on their commitments to sustainability and on their achievements in meeting such commitments. A number argued that by integrating sustainability into their businesses, they are creating sustainable value, are better placed to provide long term growth and financial security for all stakeholders and to enhance their market position and reputation. However the authors argue that the selected companies definitions of, and commitments to, sustainability can be interpreted as being driven as much by business imperatives as by any fundamental commitments to sustainability. Thus the accent currently appears to be on making efficiency gains across a wide range of economic, social and environmental issues rather than on maintaining the viability and integrity of natural ecosystems and on reducing demands on finite natural resources. As such the leading companies within the forest, paper and packaging industry are, at best, pursuing a 'weak' rather than a 'strong' model of sustainability. More critically the authors suggest that the selected companies' commitments to sustainability are couched within existing business models centred on continuing growth and consumption and that current policies might be viewed as little more than genuflections to sustainability. This echoes Roper's (2012) belief that weak sustainability represents *'a compromise that essentially requires very little change from dominant economic driven practices but effectively works to defuse opposition, increase legitimacy and allow business as usual.'*

Looking to the future and in the face of growing media, investor, customer, pressure groups and government scrutiny, the leading companies within the forest, paper and packaging industry may seek to further develop, and adopt, a more rigorous and transparent approach to, their sustainability reporting. Here the leading players in the forest, paper and packaging industry may want to address how they can continue to reflect on corporate approaches to sustainability, on the development of such approaches over time and on how to bring greater value and transparency to the reporting process. At the same time future academic research agendas might usefully build on the current paper by focusing on a number of avenues of enquiry. These include, for example, market research into customers' perceptions of the environmental and social impacts of the forest, paper and packaging industry and its impact on purchasing behaviour, investigations into if, and

how, the forest, paper and packaging industry looks to manage sustainability issues within the supply chain and if, and how, greater transparency in the sustainability reporting process is reflected in corporate investment and profitability.



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