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A Strategic Approach to Product Stewardship
Advances in Project Management
Series Article

by Dr Helen Lewis

Advances in Project Management Series[1]

A STRATEGIC APPROACH TO PRODUCT STEWARDSHIP [2]

Dr Helen Lewis

INTRODUCTION

Product stewardship is no longer a discretionary activity confined to businesses that want to 'do the right thing'. There is growing government and consumer interest in the social and environmental impacts of products, from their supply chain through to end of life. This represents both a risk and an opportunity for businesses that make, sell or recover products.

Most product stewardship programs are a reaction to regulations or pressure from external groups. Responsiveness to stakeholder expectations on issues such as worker safety, hazardous substances and recycling can be beneficial, for example by improving a company's reputation. A more proactive and strategic approach is to look for opportunities that create 'shared value': that simultaneously achieve social and environmental objectives while building long-term competitiveness.[i]

This article presents a strategic, shared value approach to product stewardship. It can be used by companies to reduce the life cycle impacts of their products while building business value, for example by reducing costs, improving access to raw materials or building customer loyalty.

DRIVERS FOR PRODUCT STEWARDSHIP

While product stewardship is often driven by stakeholder perceptions or expectations about a specific issue in the product life cycle, a more strategic approach also considers the available scientific evidence and how stakeholder concerns interact with business priorities. As Porter and Kramer argue, stakeholder views are important, but:
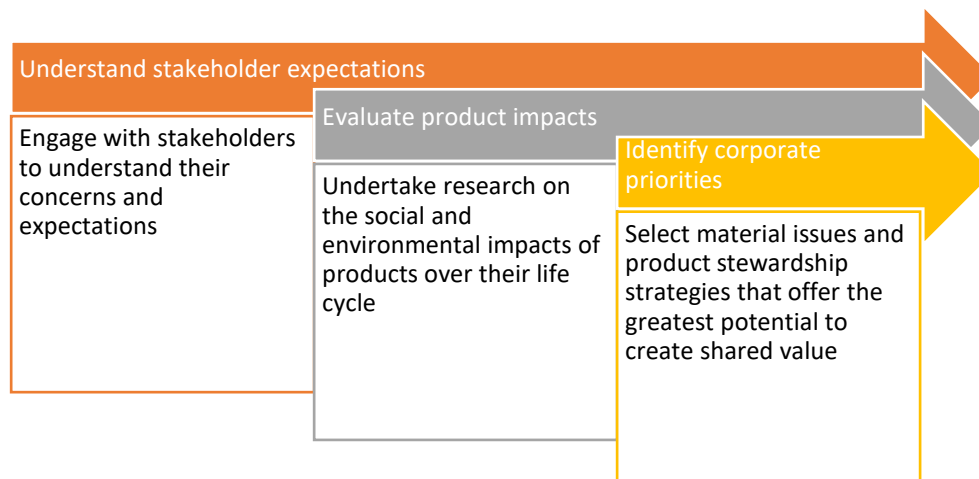
> …these groups can never understand a corporation's capabilities, competitive positioning, or the trade-offs it must make. Nor does the vehemence of a stakeholder group necessarily signify the importance of an issue—either to the company or to the world.[ii]

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[1]The PMWJ Advances in Project Management series includes articles by authors of program and project management books previously published by Gower in the UK and now by Routledge worldwide. To view project management books published by Routledge publishers, click here. See this month's author profile at the end of this article.

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In practice most companies are driven to act by a combination of factors, including stakeholder expectations, evidence of product impacts and business goals and priorities. A systematic approach to product stewardship involves careful evaluation of all three drivers to guide decision making within firms (Error! Reference source not found.**).**

Figure 1: Three steps towards a product stewardship strategy

Understand stakeholder expectations

Engage with stakeholders to understand their concerns and expectations

Evaluate product impacts

Undertake research on the social and environmental impacts of products over their life cycle

Identify corporate priorities

Select material issues and product stewardship strategies that offer the greatest potential to create shared value

The following section considers each one of the three drivers for product stewardship individually: stakeholders, product research, and business priorities.

STAKEHOLDER ENGAGEMENT

Ongoing stakeholder engagement through surveys, workshops or informal dialogue is essential to the success of product stewardship initiatives. Many existing schemes were developed in response to pressure from environment groups or regulators. In the 1990s Greenpeace International campaigned to stop companies using chlorine-containing products, including PVC plastic. In Australia, following similar developments in Europe, resin suppliers and converters responded by developing a comprehensive environmental program in consultation with stakeholders. This included a voluntary phase-out of heavy metal additives and support for collection and recycling of PVC products.

In contrast, the Call2Recycle battery recycling program was set up by battery manufacturers in the U.S. to avoid product bans and mandatory recycling mandates. In 1991 the Environment Protection Agency announced that rechargeable nickel cadmium batteries would be classified as a hazardous waste and delegated responsibility to the states for regulation. After a number of states introduced laws mandating producer responsibility for recycling, and others threatened to ban the sale of mercury and cadmium-containing products, including rechargeable batteries, the industry established a voluntary national recycling scheme to avoid any further regulation.

Over time these organisations, and many others like them, have shifted from a reactive and defensive approach to a more proactive engagement strategy. The Vinyl Council of Australia, for example, seeks input to its program through an external Technical Steering Group that meets

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quarterly, and a larger stakeholder round table every two to three years. Some of the significant changes that have been made in response to stakeholder feedback include a commitment to open disclosure of material components and actions to address climate change.

Companies can minimise the risks associated with negative stakeholder perceptions and influence by taking steps to engage with groups that are important to their business. The most appropriate engagement tools will vary depending on the purpose, for example whether stakeholders are being approached to help Identify corporate social responsibility priorities; to guide product development and marketing strategies; or to inform product take-back programs.

Stakeholder mapping

A useful starting point is the development of a 'stakeholder map'. This can take many different forms, ranging from a simple diagram to a matrix showing the potential importance of each stakeholder to the business.

In practice a firm's stakeholders are never equally important, and their issues and expectations need to be prioritised. Regulators and customers are generally given a high priority because of their potential to negatively impact on the business if their concerns are not addressed. Non-compliance with a government directive, for example, could result in a financial penalty or (more importantly) a loss of corporate reputation.

Business for Social Responsibility (BSR) has developed a list of five criteria to guide this process :

- **Contribution (value)** - does the stakeholder have information, counsel or expertise on the issue that can be helpful to the company?
- **Legitimacy** – how legitimate is the stakeholder's claim to engagement?
- **Willingness** – how willing is the stakeholder to engage?
- **Influence** – how much influence does the stakeholder have, and on whom?
- **Necessity of involvement** – is this someone who could derail or de-legitimise the process if they are not included?[iii]

Engaging with consumers

A successful product stewardship strategy requires a good understanding of consumer attitudes and behavior. Consumers can influence the environmental impact of products in several ways:

- through their purchasing decisions, for example whether to buy a 'green' or environmentally improved product
- through the way they use products, for example whether they choose to wash clothes with hot or cold water
- through their disposal decisions, for example whether to give something away when they no longer want it, recycle it, or put it in a rubbish bin.

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For these reasons, individual companies, stewardship organisations and government environment agencies often undertake market research to inform their environmental programs.

Numerous surveys have been undertaken on consumer attitudes to the environment, their purchasing preferences, and their willingness to buy more sustainable products. These often identify a gap between consumers' expressed concerns about social and environmental issues and their willingness to reflect these concerns in their purchasing behaviour.[iv]

BBMG, GlobeScan and SustainAbility surveyed over 6,000 consumers in six international markets (Brazil, China, Germany, India, United Kingdom and United States) and identified strong demand for more sustainable products.[v] Almost two-thirds of respondents (65%) said that they 'feel a sense of responsibility to purchase products that are good for the environment and for society'.[vi] When asked about which social and environmental issues were most important for companies to address as part of their products, services or operations; there was universal agreement in all markets that 'safe drinking water' was the most important issue overall, followed by several other social issues such as healthcare and jobs. Waste reduction was supported by 85% of respondents, which made it the highest-ranking environmental issue on the list. [vii]

In the same survey, most consumers (75%) agreed that they would 'purchase more products that are environmentally and socially responsible' if they 'performed as well as, or better than, products they usually buy'. This clearly presents a marketing opportunity for companies with the ability to change their product mix or redesign products to reduce their environmental or social impacts.

UNDERSTANDING PRODUCT IMPACTS

Additional research is often required to test stakeholder perceptions or to gather further information on product impacts. The PVC industry in Australia, for example, commissioned a literature review from Australia's pre-eminent scientific organisation, the Commonwealth Scientific and Industrial Research Organisation (CSIRO), to investigate stakeholder claims that PVC was more hazardous than other building materials and should be avoided in construction of infrastructure for the 2000 Olympic Games in Sydney.

CSIRO's report concluded that PVC building products were generally sound from an environmental perspective but there were issues that could be addressed to improve their performance.[viii] The findings of this study and a later update have helped to shape the industry's product stewardship program.[ix]

Life cycle mapping

A literature review is useful to investigate specific issues raised by stakeholders. A visual 'life cycle mapping' exercise can also provide insights into the product life cycle and some of the sustainability benefits and impacts associated with each stage. This can be as simple as a hand-drawn flow chart, compiled by a cross-functional and knowledgeable group of people within the

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company, showing the different stages in the product life cycle and some of the inputs and outputs at each stage. An exercise like this has some advantages compared to a literature review:

- it is specific to a particular company, product and supply chain
- a visual map, particularly when undertaken as a group exercise, can identify materials, components or activities that may have been overlooked.

A more detailed explanation and step-by-step guide to developing a life cycle map is found in Verghese and Lockrey.[x]

Life cycle assessment

Life cycle assessment (LCA) is an internationally recognised method for evaluating the environmental impacts of a product over its total life cycle. LCA is useful when an organisation needs to evaluate the environmental impacts of a product or system with a high degree of accuracy, for example to support product claims.[xi] Nestlé, for example, commissioned an LCA to calculate the environmental benefits of a new laminated pouch for coffee, and the results were promoted on the label. The LCA found that the pouch used 73% less non-renewable energy, 66% less water and emitted 75% less greenhouse gas emissions over its entire life cycle than a glass jar, challenging a common perception that glass is superior to plastics from an environmental perspective.[xii]

An LCA can also make an important contribution to understanding and managing environmental problems, for example by revealing 'blind spots' in the knowledge base.[xiii] While batteries are often perceived as a hazardous waste issue, for example, there are also significant issues in raw materials extraction and processing.[xiv] One of the benefits of an LCA is that it generally highlights a range of different impacts that may require trade-offs in the selection of appropriate strategies.

The cost of an LCA can be a valuable and worthwhile investment if it helps to generate new business opportunities. Interface Carpets, for example, used an LCA to identify and promote design improvements, such as the use of lower yarn weights, which gave the company a competitive advantage[xv].

There are a number of LCA software tools which are available to assist practitioners.[xvi] These include publicly available inventory data and also allow the user to add their own product-specific data to improve its accuracy and therefore value.

IDENTIFYING PRIORITY ISSUES AND STRATEGIES

Stakeholder engagement and product research can both help to identify social issues that could be considered 'material' to a business. These have been defined as issues that:

- reflect the organisation's significant economic, environmental and social impacts; or
- substantially influence the assessments and decisions of stakeholders.[xvii]

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Businesses are not responsible for all of society's problems; nor are they always in the best position to address them (many issues are better addressed by governments or civil society actors). Porter and Kramer advise companies to select social issues that intersect with their particular business interests:

> The essential test that should guide CSR is not whether a cause is worthy but whether it presents an opportunity to create shared value—that is, a meaningful benefit for society that is also valuable to the business.[xviii]

Porter and Kramer distinguish between three types of issues: generic social issues; those directly related to a company's value chain; and social issues in the external environment that affect competitiveness (**Table 1**).[xix] To maximise the overall benefits of a CSR program, the authors recommend that companies choose CSR strategies that either transform their value chain activities to benefit society and improve competitiveness at the same time, or change aspects of the external environment to improve the 'competitive context' in which they operate. External issues that affect productivity include the availability of raw materials and labour, the nature of regulations and standards, demand from local consumers, or access to firms in related fields.[xx]

Table 1: Prioritising social issues

Generic social issue	Value chain social impacts	Social dimensions of competitive context
Social issues that are not significantly affected by a company's operations nor materially affect its long-term competitiveness	Social issues that are significantly affected by a company's activities in the ordinary course of business	Social issues in the external environment that significantly affect the underlying drivers of a company's competitiveness in the locations where it operates

Source: Porter and Kramer[xxi]

This framework for strategic CSR can also be used to identify material issues and priorities for product stewardship. Changes to products or packaging to reduce material consumption, eliminate toxic components or improve recovery can transform a company's value chain in ways that achieve both societal and business benefits.

PRODUCT STEWARDSHIP POLICY AND STRATEGIES

To be effective, product stewardship needs to be considered in every aspect of a business; from corporate policy and targets through to the product portfolio, design, procurement and distribution. It has implications for every function within the business.

This section outlines some of the strategies that companies are commonly using to manage the environmental and social aspects of their products. It focuses on four key areas of activity: corporate policy (leadership), design, procurement and product recovery (**Figure 2**).

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Figure 2: Examples of product stewardship strategies

Policy	Design	Procurement	Recovery
• A policy outlining sustainability values and objectives • Sustainability targets for products and packaging	• Life cycle assessment to identify opportunities • Design for sustainability embedded in product development processes	• Industry standards on supply chain issues • Guidelines for suppliers • Supply chain auditing and transparency	• Take-back of products at end of life • Funding recycling infrastructure • Influencing regulations and standards

POLICY

Many businesses have a CSR or sustainability policy that outlines their corporate values and objectives. These should reflect the knowledge and insights gained through stakeholder engagement and product research. To be effective, a sustainability policy must be relevant and meaningful to employees and customers.

Product goals and targets

Sustainability or CSR policies provide a broad framework for action, but more specific product goals and targets are needed to guide product stewardship strategies in design, procurement and recovery. Foodstuffs New Zealand for example, has a goal to ensure that all of its own-brand packaging is recyclable. This has helped to guide the development of environmentally improved packaging, including the launch of a new recyclable plastic meat tray in 2015. Foodstuffs uses around 100 million meat trays a year, and previously these were all manufactured from non-recyclable foamed polystyrene. The new tray is made from recyclable polyethylene terephthalate (PET), which can be collected through municipal recycling programs.

The achievement of product-related policies, goals and targets must be supported by procedures to ensure that these are implemented in everyday practices including design and procurement (explored further below).

Within the marketing function, a strategic approach to product stewardship integrates sustainability objectives in the product portfolio, the product development process and the marketing mix. In their book *Sustainability Marketing,* Belz and Peattie suggest two important questions that need to be answered:

- Which markets should we compete in?
- Within each of our markets, how shall we compete?[xxii]

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They argue that the choice of products will depend on a range of factors, including the perceived attractiveness of the market and the potential strength of the company's competitive position within it. The process of strategic portfolio planning involves decisions about which products the company should withdraw from as well as those it will invest in, and sustainability considerations may influence these decisions [10].
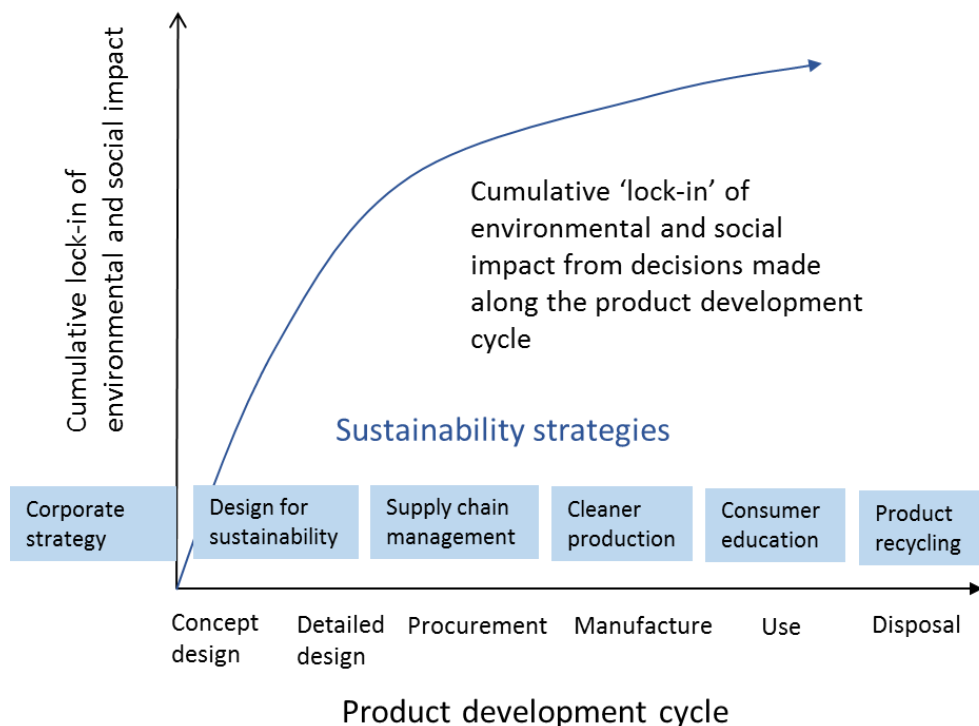
Marketing practitioners need to consider when and how sustainability can be a source of competitive advantage. This can be generated in a number of ways, including:

- by using superior environmental or social performance to differentiate a business and its products from competitors
- by using environmental strategies to reduce costs and prices
- by identifying, occupying and defending a particular market niche.[xxiii]

DESIGN

While environmental impacts occur at every stage of a product's life cycle, most of these impacts are 'locked-in' at the design stage.[xxiv] The specification of materials, for example, will determine where resource impacts occur, whether toxic substances will be released during manufacture, and whether or not the product is recyclable. Impacts such as energy and water consumption during use, or recycling rates at end of life, are also influenced by consumer behavior, and may require alternative strategies (**Error! Reference source not found. 3**).

Figure 3: Environmental 'lock-in' over a product's development cycle

Source: Adapted from Lewis et al.[xxv]

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'Design for sustainability' means thinking about the environmental and social impacts of a product during the design process. Implementing design for sustainability requires new skills and capabilities, including life cycle thinking. A simple life cycle mapping exercise, common sense and a good understanding of the supply chain will almost always identify opportunities for improvement. Many larger companies also use LCA to inform product development.

A commitment to product stewardship in the design process can generate a range of business benefits. Resene (New Zealand) reformulated its products to meet the 'Environmental Choice' ecolabeling standard for decorative paints, which restricts the use of pigments, solvents, additives and volatile organic compounds that are environmentally damaging or hazardous to human health.[xxvi] Initiatives such as this have helped to build a positive reputation for the company with commercial markets and specifiers.

PROCUREMENT

Companies are increasingly being held accountable for the social and environmental impacts of products and materials in their supply chain. Many of these impacts are outside the direct control of a product manufacturer or brand owner, but there are a number of ways that companies can influence or control the actions of suppliers. These include:

- the development of voluntary or mandatory industry standards in collaboration with industry peers
- specifying minimum standards in procurement guidelines and contracts
- collaborating with suppliers to develop more sustainable materials or products.

Industry-wide guidelines and standards

Media coverage of a factory fire in Bangladesh in 2013 revealed that many well-known clothing brands were being manufactured in unsafe conditions. As a direct result of the fire, Walt Disney Company announced that it would no longer allow the manufacture of its branded merchandise in Bangladesh.[xxvii] However, labour groups suggested that Western companies should 'stay and fix the problem' rather than leave. The outcome was the development of the legally enforceable 'Accord on Fire and Building Safety in Bangladesh', which has been signed by over 100 international brands and retailers; local and global labour unions; and non-government organisations.[xxviii]

Other sustainability issues are being addressed in response to actions by government. The Conflict-Free Sourcing Initiative was developed by consumer electronics manufacturers after President Obama signed the Dodd-Frank Consumer Act into law.[xxix] The resources available through the initiative help companies to comply with a requirement to verify and report on their use of 'conflict minerals' that may be contributing to conflict or human rights abuses.

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Procurement policies and processes

Many companies are taking action to integrate sustainability goals and standards in their procurement processes. Nike, for example, exerts control over its packaging supply chain by requiring that suppliers comply with their 'Packaging restricted substances list and packaging design requirements'.[xxx] Many of Nike's requirements, including bans on PVC and foamed plastics, go beyond legal compliance.
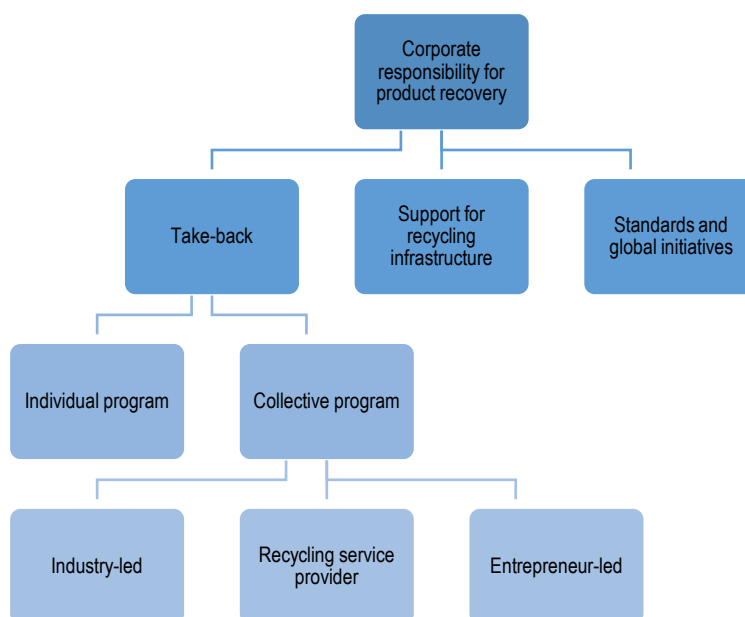
Collaboration with suppliers

Collaboration with suppliers is essential to the achievement of many product stewardship objectives, particularly those for raw materials and components.

RECOVERY

One of the most important goals of product stewardship is the recovery of used products at end of life for reuse or recycling. To achieve this goal companies are implementing a range of strategies including take-back, support for recycling infrastructure, and the development of industry-wide recycling standards (**Figure 4**).

Take back programs may be implemented by an individual company or undertaken collectively by a group of companies in the same sector to achieve economies of scale. Collective industry programs can be further categorized as either industry-led, as is the case for most producer responsibility organisations (PROs); provided by a more conventional waste management service provider on behalf of an industry sector; or entrepreneur-led, where a company develops a program and then works with industry stewards to implement it.

Figure 4: Producer responsibility strategies for product recovery

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Take-back

Extended producer responsibility (EPR) laws shift financial and/or physical responsibility for recycling from local government to producers. Most regulations give producers a choice of complying individually or collectively, which means they can either implement their own take-back and recycling program, or join a collective PRO.

In certain circumstances a company might choose to implement their own individual program, for example if they have an efficient reverse logistics system; if they think they could do it more cost effectively than an established PRO; or if they want more control. There are indications that some companies are reviewing whether their objectives could be better serviced by fulfilling their EPR obligations individually; not as part of a collective scheme.[xxxi]

There are three common models for take-back. The first and most common is the industry-led and industry managed model, which usually involves a not-for-profit PRO developed by a group of companies with the purpose of meeting compliance obligations.

The second collective model involves a waste management or logistics company providing a compliance service to producers, with the total cost shared between a number of different companies.

The third option for a collective program is one initiated by an entrepreneurial organisation in response to a perceived need rather than a compliance obligation. RED Group, for example, developed a national retail recycling initiative for 'soft plastics' (bags and film) in Australia with the support of food and consumer product manufacturers. This was driven by its founder, Liz Kasell, who had become concerned about the amount of soft plastic packaging going to landfill. She convinced retailers and manufacturers to support her vision for an industry-funded recycling program called REDcycle.

Other options to support product recovery

Where product take-back is not regulated, some companies have chosen to support recycling of their products in other ways, for example by providing financial support for collection or recycling infrastructure. The Closed Loop Fund in the US, which is supported by consumer goods manufacturers, provides financial support for packaging collection, sorting, reprocessing and manufacture into new products.[xxxii]

Another way that companies support recovery of their products is through global initiatives. Dell, for example, is working with the United Nations Industrial Development Organization (UNIDO) to facilitate the development of appropriate e-waste regulations in developing countries.

CONCLUSIONS

Product stewardship is being implemented by organisations and regulators in response to increasing community concern about the environmental impact of everyday products.

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Companies that take a strategic and knowledge-based approach to product stewardship understand the perceptions and expectations of their stakeholders; investigate sustainability issues over the total life cycle of their products; and use this knowledge to identify material issues and priorities for their business. This approach helps to ensure financial sustainability within an environment that places more emphasis on corporate responsibility and shared value for business, employees and the community.

About the Author

Dr Helen Lewis

Principal, Helen Lewis Research

Sydney, Australia

Dr Helen Lewis runs her own consulting business, providing research and strategic advice to a range of industry and government clients on product stewardship and packaging. She is an Adjunct Professor with the Institute for Sustainable Futures (ISF) at the University of Technology Sydney and a consultant to the Australian Packaging Covenant Organisation (APCO). IN 2017 Helen co-founded the Product Stewardship Cluster to promote knowledge sharing and collaboration between product stewardship organisations.

Helen has written widely on product stewardship and corporate social responsibility including several books. She published *Product stewardship in action* in 2016 and is a co-author of *Packaging for sustainability* (2012) and *Design + Environment* (2001). She has a PhD in product stewardship and is a Fellow of the Australian Institute of Packaging.

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