

# THE BUSINESS CASE FOR ECO-INNOVATION



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# Preface

## to the Updated Edition

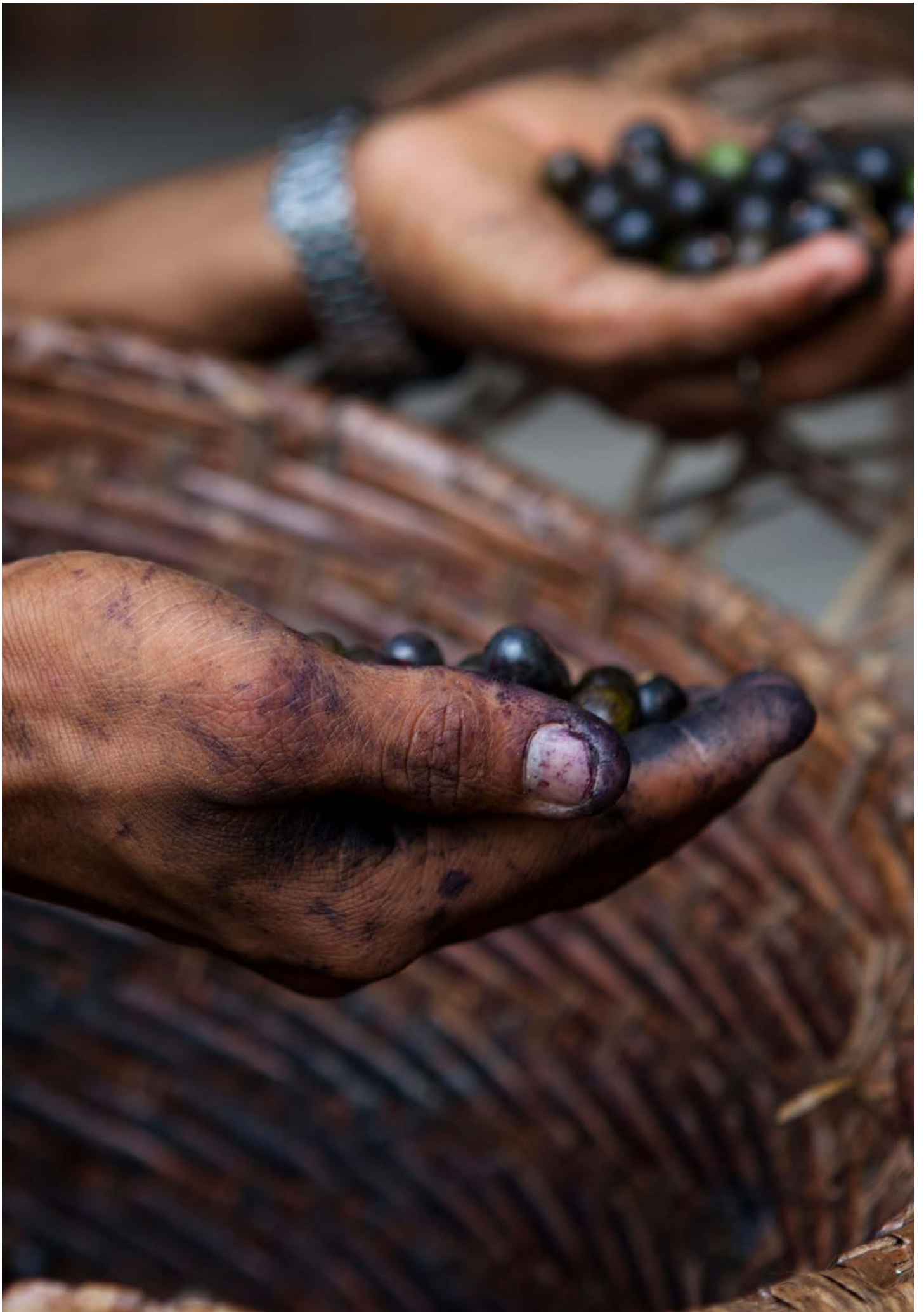
The first edition of this publication represented an important milestone in the collaboration between the United Nations Environment Programme and the European Commission to disseminate eco-innovative business practices in developing countries and emerging economies. The publication was an outcome of UNEP's global Eco-innovation Project, which was funded by the European Commission. In that project, which ran for five years between 2012 and 2017, 45 companies in eight countries, covering three regions (Africa, Asia, Latin America), were accompanied and supported in their efforts to adopt eco-innovation in their businesses. The companies belonged to the chemicals, food, and metal-working sectors (for more information, see <http://unep.ecoinnovation.org/>). The purpose of the publication was to help strengthen private sector engagement in promoting the transition to a more resource efficient economy and Sustainable Consumption and Production practices.

To enhance the relevance of this publication for the private sector, UNEP went back to the companies which were involved in the Eco-Innovation Project, with the aim of seeing how the companies had advanced in their eco-innovation efforts since the project was completed. All the companies were invited to respond to an online survey. In addition, ten companies were also interviewed. Their experiences have been used to enrich the publication with new case studies and new insights into the drivers for eco-innovation.

This update has taken place while the world suffers through COVID-19, the worst global pandemic it has faced in a hundred years. Small and Medium-sized Enterprises have been especially hard hit. COVID-19 is an extreme example of the external shocks that SMEs face quite regularly. There is evidence to show that an eco-innovative company is more resilient to external shocks such as COVID-19. Consequently, the link between eco-innovation and resilience in the face of external shocks has now been more fully explored in this update.

UNEP continues to work on eco-innovation, with the support of the European Commission and other countries.





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# Introduction

This publication is intended for businesses, especially Small and Medium-sized Enterprises (SMEs). It sets out to demonstrate the compelling business case for eco-innovation and how it can enable your company to carve out commercially interesting opportunities. You are presented with examples from companies of all sizes and located in every region of the world that have integrated eco-innovation into the core of their business strategy. These and many other examples demonstrate the considerable business benefits which can accrue to your company if you adopt eco-innovation: increased market access, value creation and business growth (with an average annual growth of 15% from eco-innovative companies) along with increased operational resilience. As a result of eco-innovation, companies are developing new solutions and products (both goods and services) which can perform above industry standards.

Given their critical role in the value chains which make up our economies, it is crucial that SMEs embrace eco-innovation. They are responsible for more than two thirds of all jobs worldwide. They also account for the majority of new job creation. Given their strong embeddedness in local communities, SMEs are key agents of change and can be a strong source of social and environmental innovation. SMEs are also engines of economic growth and social development; it is therefore crucial that they be empowered to actively contribute to the transition towards sustainability<sup>1</sup>.

With global resource scarcity and environmental degradation presenting growing challenges for business, along with related market and regulatory pressures, companies are facing a need to think more strategically about the sustainability of their business. Eco-innovation can help transform these challenges into new market opportunities.

<sup>1</sup> ILO 2019, The Power of Small: Unlocking the potential of SMEs, <https://www.ilo.org/infostories/en-GB/Stories/Employment/SMEs#grid-the-employers-perspective>



## WHAT IS ECO-INNOVATION, OPERATIONALLY?

*Eco-innovation is the development and application of a business model, shaped by a new business strategy, which incorporates sustainability throughout all business operations based on life cycle thinking and in cooperation with partners across the value chain.*

*It entails a coordinated set of modifications or novel solutions to products (goods / services), processes, market approach and organizational structure which leads to a company's enhanced performance and competitiveness.*

*See the Glossary for a definition of a number of the terms used in this definition*

At its core, eco-innovation is the development and application of a business model, itself shaped by a new business strategy, which incorporates sustainability throughout all business operations. This incorporation of sustainability is based on life cycle thinking, which means considering all phases of the business's product life cycle, from extraction of raw materials through material processing, manufacturing, distribution, use, repair, and maintenance, to re-use or disposal. This approach allows a business to evaluate where it can make significant progress against the major challenges ("hotspots") currently faced not only by itself but also by

all the partners in its value chain, as well as anticipate and avoid future ones. Since such evaluations work best when carried out in cooperation with suppliers, customers and other partners along the value chain, eco-innovation requires collaboration with a business's value chain partners.

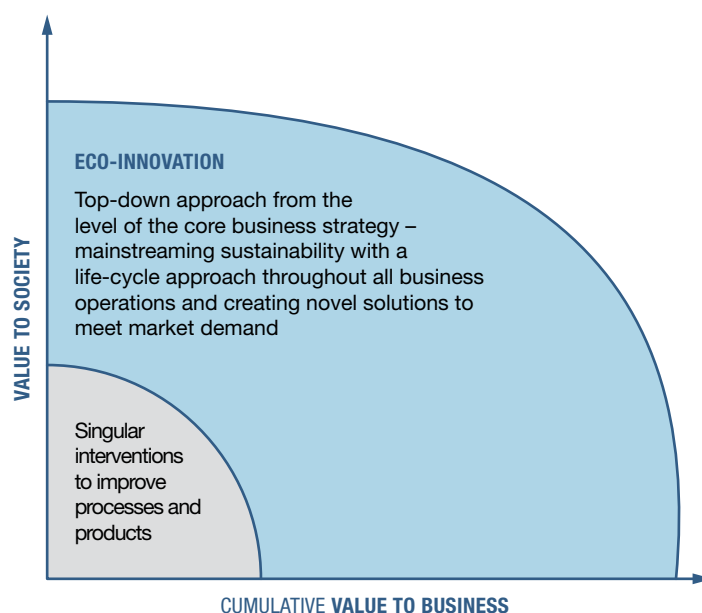
Eco-innovation can lead to modifications or novel solutions to a company's goods or services, or to its processes, or to its market approach and organizational structure. The end result of eco-innovation is that a company's performance and competitiveness are enhanced.

Actual transformation is likely to be achieved by implementing the elements of the new strategy on a gradual, progressive and targeted basis, but these steps take place within the framework of the company's long-term strategic drive towards major change.

Through the adoption of eco-innovation, companies create value for the business, the environment and society in general.

The result is a more flexible company, able to respond to changing market trends with novel solutions ahead of competitors. Contrary to a short-term outlook that leads to incremental improvements and results in only limited progress and benefits, eco-innovation represents a long-term strategic drive towards sustainability (see figure 1).

Figure 1: **Eco-innovation generates significant value to business and society<sup>2</sup>**



<sup>2</sup> Graphic adapted from: SustainAbility 2014 Model Behaviour: 20 business model innovations for sustainability

Eco-innovation will often build on earlier efforts made by a business to become more sustainable, through singular interventions to improve processes and products. Many of these efforts have focused on making the business's processes or products more resource and energy efficient, using approaches such as RECP (Resource Efficiency and Cleaner Production)<sup>3</sup>. These efforts can help a business become more sustainable, however it can only reach true sustainability if the goal to become sustainable throughout the life cycle is made into a core element of its business strategy and has been mainstreamed into all of its operations through its business models.

Eco-innovation is part of a broader movement which is seeking to have businesses adopt new and more Sustainable Business models (SBMs)<sup>4</sup>, which are frameworks for creating a systems change towards sustainability in organisations. All these efforts share common characteristics. They place sustainability (in all three of its dimensions, environmental, social, and economic) at the core of a business's strategy. They require proactive engagement of the business with all of its stakeholders (which include society as a whole and the environment) through a managed process to identify where sustainability is lagging and the solutions for improvement. Through these improvements they look to create sustainable value within the stakeholder network along the value chain<sup>5</sup>. They expect the business to adopt a long-term perspective when determining its future path. While sustainable business strategies and models will give rise to a series of innovations in a business's goods or services, its processes, its market approach, its organizational structure or any combination of these, their development is in and of itself a process of sustainable innovation<sup>6</sup>.

Increasing pressures on businesses are creating favourable conditions for eco-innovation (figure 2). The incremental improvements which companies often choose to make are not sufficient to respond to these growing pressures. Only eco-innovation and similar sustainable business strategies, in which a long-term strategic drive towards sustainability is embedded, can allow companies to respond effectively to all these pressures.

The COVID-19 pandemic has been a huge risk factor for businesses and has raised the question if eco-innovation or similar sustainable business strategies can make businesses more resilient in the face of external shocks such as COVID-19. The pandemic is an extreme example of the external shocks that SMEs actually face quite regularly. On average, shutdowns lasting a month or more occur nearly every four years in supply chains for a variety of reasons: environmental crises (such as flooding and hurricanes), strikes, cyberattacks, and financial crises<sup>7</sup>. The issue of resilience is especially critical for Small and Medium-sized Enterprise (SMEs). They have been hardest hit by COVID-19, with the burden falling especially hard on women – the workforce of many of the SMEs most affected by COVID-19 are predominantly women<sup>8</sup>.

It has been suggested<sup>9</sup> that businesses which are resilient give greater attention to six principles:

- Prudence, where businesses operate on the precautionary principle ("if something can plausibly happen, it eventually will");
- Redundancy, where businesses create both operational buffers and financial buffers to cushion against external shocks;
- Diversity, where businesses which diversify their operations are less likely to experience catastrophic failure;
- Modularity, where businesses which are organized in separate, loosely linked modules are less likely to fail if one of the individual modules fails;

3 For detailed information on RECP, see RECPnet's website: <https://greenindustryplatform.org/recpnet>

4 Geissdoerfer, M., Vladimirova, D., Evans, S., 2018. Sustainable business model innovation: A review. *Jnl. Cleaner Prod.* 198, 401-416. <https://doi.org/10.1016/j.jclepro.2018.06.240>

5 Evans, S., Vladimirova, D., Holgado, M., Van Fossen, K., Yang, M., Silva, E., Barlow, C.Y., 2017. Business model innovation for sustainability: towards a unified perspective for creation of sustainable business models. *Bus. Strateg. Environ.* 26, 597-608. <https://doi.org/10.1002/bse.1939>

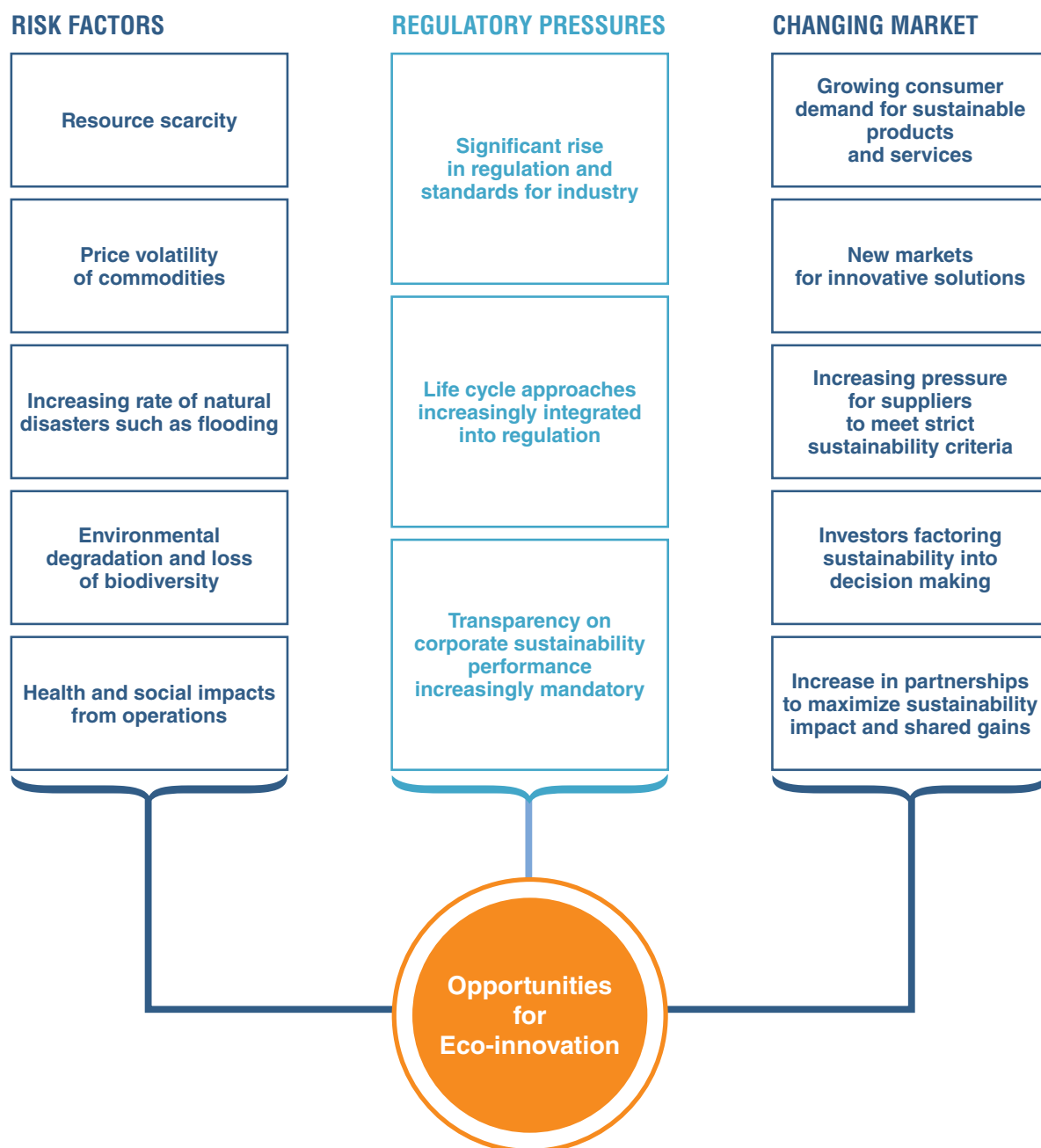
6 For overviews of SBMs and sustainable innovation more generally, see: Boons, F., Montalvo, C., Quist, J., Wagner, M. 2013, Sustainable Innovation and Business Models, *Jnl. Cleaner Prod.*, vol. 5, pp. 1-116 <https://www.sciencedirect.com/journal/journal-of-cleaner-production/vol/45> Schaltegger, S., Hansen, E., Lüdeke-Freund, F. 2015, Special Issue: Business Models for Sustainability: Entrepreneurship, Innovation and Transformation, *Organization & Environment*, vol. 29 issue 1 <https://journals.sagepub.com/toc/oea/29/1>

7 McKinsey & Co. Risk, resilience, and rebalancing in global value chains. August 2020. <https://www.mckinsey.com/business-functions/operations/our-insights/risk-resilience-and-rebalancing-in-global-value-chains>

8 Travel and food services have been most affected by COVID-19, which have a predominantly female workforce, meaning more women than men are losing their livelihoods. <https://www.nber.org/papers/w26947>

9 BCG Sept. 2020, "Becoming an All-Weather Company" <https://www.bcg.com/publications/2020/how-to-become-an-all-weather-resilient-company>

Figure 2: **Increasing pressures are creating favourable conditions for eco-innovation**



- Embeddedness, where businesses which have strong relationships with the broader economic or social systems of which they are part, are less likely to be abandoned by their customers or suppliers during a crisis, and can rely on support from their employees, their local communities, and governments;
- Adaptivity, where businesses are able to rapidly adjust to new circumstances, such as will often occur after a crisis.

While research is still ongoing on this question, there is evidence that eco-innovation and other, related sustainable business practices can support a number of these principles, with resilience in this case coming in many forms:

- Business resilience, where companies can innovate their business models to provide new goods or services that are relevant to new customer needs and so offer diversified income streams;

- Financial resilience, where companies can innovate in their pricing and payment methods, adjusting them to absorb irregular cash flow or liquidity shocks;
- Organisational resilience, where companies can innovate in their organisational management by, for instance, shifting their operations online;
- Ecosystem resilience, where companies can innovate in their value chains, identifying, in collaboration with their value chain partners, new markets;
- Market resilience, where companies can innovate to find new markets for their inputs as well as their products;
- Impact resilience, where companies can innovate to find new ways to support their local communities and local partners to also weather the impacts of external shocks<sup>10</sup>.

Although each company has its own motivation and reasons for eco-innovating, primary research<sup>11</sup> has shown that overall these can be organized into five broad drivers (see figure 3). These are presented briefly below and discussed in greater detail in individual chapters.

Figure 3: **Added value from eco-innovation - an overview of the business drivers**



<sup>10</sup> SEED 2020, Mapping Enterprise Resilience to COVID-19, <https://seed.uno/articles/reports/mapping-enterprise-resilience-to-covid-19>

<sup>11</sup> In the form of information and data gathered during interviews and surveys which took place during UNEP's Eco-Innovation project 2012-2017, and collected as on-the-ground evidence in that project.

## Driver 1: Access new and emerging markets

The market demand for eco-innovative solutions is growing rapidly in many sectors. There are numerous examples of how, through eco-innovation, companies have reached new market segments, both among low-income consumers as well as high-end consumers, accessed the supply chains of large companies, or catered to untapped demand in areas where no solution previously existed in the market. Since eco-innovation involves collaborating with other partners across the value chain, it also provides opportunities to access knowledge and networks.

## Driver 2: Increase profitability along the value chain

Reaping the full advantages of eco-innovation requires looking at every stage along the company's value chain to identify the risk factors (see figure 3) which the business faces and the opportunities for improvement. Through working with the partners in the value chain on joint solutions to common problems, a company can achieve significant shared gains with better commercial, environmental and social value, the sum of which can be considerably higher than the gains it would achieve if it worked alone. The value can come in the form of greater material or production efficiency, minimised waste to landfill, optimisation of distribution channels, reduced lead-times, or an altogether novel breakthrough solution. Gains can also include a more resilient supply chain and knowledge-related advantages in terms of technologies and expertise.

*'Eco-innovation is linked to our core values, strategy and our search for product differentiation'*

**Fabien Brones,**  
*Natura*

## Driver 3: Stay ahead of standards and regulation

Regulation and standards in the policy domain are becoming increasingly stringent in response to the growing sustainability imperative. Eco-innovative companies are typically significantly ahead of regulatory requirements and therefore reap competitive advantages when the regulation is implemented: they have already anticipated the change, innovated with the right materials, technologies and processes, and tested new solutions. Continuous innovation enables them to react quickly as the requirements get stricter. This approach also has a positive impact on the company's reputation, providing opportunities to acquire industry leadership and inform future regulation.

## Driver 4: Attract investment

The financial opportunities available to eco-innovative companies are increasing. High value acquisitions and mergers with eco-innovative companies are one indicator of this<sup>12</sup>. Banks and long-term investors such as pension funds, are increasingly investing in companies that demonstrate higher resilience and viability in the long run. In emerging markets, banks are increasingly making investment choices based on sustainability initiatives. Crowd funding platforms have also become a popular source of investment for the commercialization of new ideas. Governments are also increasingly funding eco-innovation. For SMEs, there is a rise in funding opportunities from local governments and institutions or regional funding agencies to implement initiatives linking innovation and sustainability. Stimulus packages which governments put together to help build their economies back after external shocks, can also provide opportunities for eco-innovative companies. As governments increasingly use these stimulation packages to "build back better", to make their economies more sustainable, eco-innovative companies are in a considerably better position than others to take advantage of the stimuli being offered.

<sup>12</sup> Montalvo, C., Diaz Lopez F. J. & Brandes, F. 2011. Analysis of the Potential for Eco-innovation in Nine Sectors. Task 4 Horizontal Report Delft: Europe Innova Sectoral Innovation Watch. Project on behalf of the European Commission, DG Enterprise and Industry.

## Driver 5: Increase productivity and technical capacity

The organizational change triggered by eco-innovation increases the technical capacity of the company and drives productivity. Eco-innovation involves information exchange and participation in innovation processes by different units within a company, as well as the acquisition of knowledge through collaboration with value chain partners including technical institutes<sup>13</sup>. The resulting learning and creative process leads to enhanced technical capacity in key competencies, a stronger skills base and increased employee engagement that in turn drives key business performance indicators such as productivity and profitability<sup>14</sup>.

These five drivers have helped eco-innovative companies respond to industry challenges, build more resilient and responsive supply chains while obtaining clear market advantages over their competitors. Clients of these companies enjoy enhanced value through such factors as higher quality and more durable products, novel functionalities and a more attractive price.

The business case varies according to context. Certain enabling conditions, including policy environment, market demand and industry pressures, are of key importance. This publication demonstrates that the conditions are increasingly favourable in a number of countries. However, limitations still exist in certain markets which are not rewarding eco-innovation. In these cases, companies can benefit from export opportunities into markets which do reward eco-innovation, or from being part of global value chains; the leaders of these chains increasingly reward eco-innovation.

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13 Aija Leiponen, June 2005, Skills and Innovation International Journal of Industrial Organization Volume 23, Issues 5–6, Pages 303–323

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14 International Journal of Business and Management 2010, Vol. 5, No. 12; Solomon Markos and M. Sandhya Sridevi



# Access new and emerging markets

## DRIVER 1:

Across the globe, a growing number of markets are demanding innovative sustainable solutions.

### OPPORTUNITIES FOR COMPANIES

Eco-innovation is strategic, and so are your decisions regarding future products, solutions or services. Applying eco-innovation can help to develop tailored solutions to meet growing market demand ahead of your competitors. This will allow you to access new consumer segments, large companies' supply chains and international markets. Furthermore, eco-innovation serves as a good starting point for partnerships with other stakeholders in your value chain. Such collaboration can help your company access partners' networks, thereby facilitating market penetration and increased brand visibility.

## DEVELOPING COUNTRIES OFFER LARGE CONSUMER MARKETS

Many developing countries have large numbers of price sensitive consumers looking for affordable and durable products to fulfil their everyday needs. They are active buyers in the market and represent fertile ground for an eco-innovative company to provide innovative solutions and increase the client base. For example, India is known for its distinctive expertise in frugal innovation which is strongly anchored in social sustainability. Businesses there can thrive by being able to improve the lives of the poor by offering low-cost as well as better quality and more sustainable goods and services. Through tapping into the markets of previously overlooked millions, companies can compensate lower prices with higher sales volumes<sup>15</sup>.

These types of consumers represent new market opportunities for companies such as *Specialized Solar Systems* (SSS) from South Africa and *Natura* from Brazil<sup>16</sup>.

### *Specialized Solar Systems* brings electricity to rural communities

The alternative energy company, SSS, is a small business start-up that tripled in size in its first three years<sup>17</sup> and expanded its business operations to four other countries in the region. Its business strategy is to provide renewable energy solutions to meet the market demand of rural communities in Africa with limited or no energy access. The company also aims to change the norms in consumption patterns of electricity. In rural South Africa, electricity supply is often not connected to Alternating Current (AC) based infrastructure. SSS deploys microgrid kits fed by solar power and modifies home appliances to use Direct Current (DC) which consumes two-thirds less energy than conversion to AC systems. The microgrid kit was designed to minimize impacts along its life-cycle. The modular base enables specific components to be replaced without having to reinstall the entire system. In addition, the panels are effective for 20 years. The kit is sold as a service-system which can be managed remotely through a web-based smart box. SSS also provides free training to ensure

direct local maintenance. Through a partnership with local government and technical research institutions, SSS gained additional funding and technical support which enabled it to roll out this model of energy supply to a critical mass.

### *Natura* reaches a new market with bath and body products

In Brazil, the cosmetics firm *Natura* has a market share of over 20%, with an average annual growth of 26% in 2005-2010. The company has practically doubled in size from 2007 to 2011. Its business strategy is based on innovation for sustainability and market differentiation. Through its innovations in the body and bath care product line SOU, *Natura* proposed a new product to consumers. It was designed with the aim of reducing impacts along its life cycle by innovating the ingredients formula, the packaging along the supply chain. Less material was used, and manufacturing time as well as transportation were improved and optimized. *Natura* was therefore able to expand sales in a new market segment, with a price point lower by 20-40% compared to other product lines from *Natura*. The new product line was well received by the consumers, and after a six-month successful trial period, it was launched throughout Brazil<sup>18</sup>.



© Natura

15 Nesta 2012, Our frugal Future: Lessons from India's Innovation System, K. Bound and I. Thornton

16 Based on interviews with the company representatives

17 Interview with Mr. Carlos Smith, Specialized Solar Systems, South Africa

18 Interview with Fabien Brones, Scientific Manager Eco-design and Environmental Impacts, Natura

## DEMAND FOR SUSTAINABLE PRODUCTS IS GROWING WORLDWIDE

It has been predicted that the demand for sustainable products and services will grow significantly<sup>19</sup> worldwide. In some markets, consumers have even been experiencing a lack of supply of such products. Already in 2013, a global survey found that only 6% of consumers in Germany and 10% in South Korea felt that enough sustainable products were available. Economies like China and India are also showing a steep rise in the demand for sustainable product offerings<sup>20</sup>. This demand on the part of consumers has not slackened even during the COVID-19 pandemic. A global survey undertaken in June 2020 showed that 70% of consumers believed that the environment should be considered at least as important as economic issues during the COVID-19 recovery, while 87% believed companies should do more on sustainability in general<sup>21</sup>. The squeeze which COVID-19 is exerting on consumers' personal finances means that half of global consumers want companies to make products and services which are more affordable and yet are still better for people and the environment<sup>22</sup>.

### *Ecover* meets growing demand for ecological cleaning products

The market for ecological cleaning products increased by 21% between 2007 and 2011. In Belgium, *Ecover*, a manufacturer of ecological cleaning products, seized the opportunity of this growing demand. The company achieved an annual revenue growth of 10-25% between 2002 and 2013 while the rest of the market remained flat. This was helped by expanding from small shops to large supermarkets, significantly increasing its sales. In 2012, *Ecover* acquired the US company *Method*, a manufacturer of ecological cleaning products, meaning *Ecover* doubled in size to a company with 300 employees and over \$200 million in sales. In 2017, *Ecover* and *Method* were acquired by *SC Johnson & Son*, a multinational household cleaning supplies manufacturer.



© Ecover

*Ecover* started with incremental improvements such as replacing ingredients before adopting a more radical approach through an innovative business model, which involved revisiting supply chains and sourcing strategies. It has a Long-term Innovation Manager who works integrally with all core business operations. Today *Ecover* innovates across all dimensions of its business, from product formulas to packaging, including re-fill options<sup>23</sup>. Through an open innovation<sup>24</sup> scheme, *Ecover* has expanded its network with buyers, suppliers and technical and academic communities working with partners in the value chain such as *Solazyme* and *Philips* and increased its access to knowledge and information in the process. Open innovation represents a potentially cost-effective means of supporting eco-innovation even if the patents are not owned by the company.

*'Our expansion from the small shops to supermarkets was thanks to our eco-innovation. This entry in mass retail has given us a big boom in sales'*

**Tom Domen,**  
Long-term Innovation Manager at *Ecover*

<sup>19</sup> World Economic Forum 2013, Sustainable Consumption, stakeholder preferences

<sup>20</sup> [www.greenbiz.com/article/should-supply-or-demand-drive-sustainable-products](https://www.greenbiz.com/article/should-supply-or-demand-drive-sustainable-products)

<sup>21</sup> WBCSD/BCG 2020, COVID-19 Business Recovery: A guidance framework for a sustainable & inclusive "new normal", <https://www.wbcsd.org/WBCSD-COVID-19-Response-Program/Return-to-New-Normal-Employee-Health-and-Business-Recovery/COVID-19-Business-Recovery-A-guidance-framework-for-a-sustainable-inclusive-new-normal>

<sup>22</sup> Globescan 2020, Healthy and Sustainable Living Highlights Report, [https://globescan.com/wp-content/uploads/2020/10/GlobeScan\\_Healthy\\_and\\_Sustainable\\_Living\\_Highlights\\_Report\\_2020.pdf](https://globescan.com/wp-content/uploads/2020/10/GlobeScan_Healthy_and_Sustainable_Living_Highlights_Report_2020.pdf)

<sup>23</sup> Interview with Tom Domen, Long term Innovation Manager, *Ecover*

<sup>24</sup> Open innovation is the use of purposive inflows and outflows of knowledge to accelerate internal innovation, and expand the markets for external use of innovation, respectively. [This paradigm] assumes that firms can and should use external ideas as well as internal ideas, and internal and external paths to market, as they look to advance their technology. (Oxford University Press 2006 Henry Chesbrough Open Innovation: Researching a New Paradigm)

Some *Ecover* detergents are effective in a cold water wash thereby addressing a key hotspot in the life-cycle of detergents: hot water use. It is not only *Ecover* that sells this type of product; life-cycle thinking is becoming a mainstream business approach in the market of fast moving consumer goods. Enzyme producing companies partnered with large companies to develop and market solutions allowing cold-washing. The enzyme companies were able to demonstrate –through life cycle approach – how this offered greater advantages in spite of the initial higher cost of such substitutes. Cold-wash enabling enzymes are used more and more by *Unilever*, *P&G*, and *SC Johnson*, which acquired *Ecover* in 2017.

## A GROWING NUMBER OF COUNTRIES ARE EMBEDDING SUSTAINABLE PUBLIC PROCUREMENT IN THEIR NATIONAL POLICIES

Government spending ranges from 12-30% of gross domestic product (GDP) worldwide. Increasingly, governments in many countries and at all levels are using sustainable public procurement (SPP) to drive innovation towards environmental and social improvements in their markets. According to a recent survey of SPP policies in 56 countries, 93% of the 41 respondents include SPP provisions in overarching or thematic policies and strategies, 78% include it in their procurement regulations, and 66% have policies specifically dedicated to the promotion of SPP. Most of the national governments that do not have policies dedicated specifically to SPP explained that they are currently developing their SPP action plans.<sup>25</sup>

### *Ecover* was selected for use in the public buildings of Ghent

In 2013 the City of Ghent in Belgium declared that *Ecover* products be used for cleaning 340 public buildings including administrative buildings, museums, libraries, warehouses and community centres. Given the large quantity of products bought, combined with the long-term nature of the contract, the City of Ghent represented an important customer for a then-relatively small company such as *Ecover*<sup>26</sup>.

## COMPANIES ARE DEMANDING TRANSPARENCY AND INFORMATION FROM SUPPLIERS

Environmental, social and regulatory pressures are forcing companies to change their sourcing strategies. Sustainability criteria in procurement have become a key corporate approach to ensure resilience, continuity and quality of supply<sup>27</sup>. Procurers in large businesses are increasingly demanding more comprehensive and transparent information<sup>28</sup> from their suppliers, using this information in their strategic decisions.

### *Kering* uses Environmental Profit and Loss Accounting to collaborate with suppliers in a new way

*Kering* and its brand *PUMA* developed the innovative Environmental Profit and Loss Account (EP&L), which measures and monetizes a company's footprint across the Group's entire supply chain. Based on the positive results with *PUMA*, *Kering* has rolled out its use of EP&L across all its brands. In 2019, it valued the costs of the Group's negative environmental impacts at € 524 million. Only a small part of these costs (8%) derived from its core operations (its stores, warehouses and offices). The remainder occurred beyond the company gates: 6% during assembly, 10% during manufacturing, 11% during raw material processing, and 65% during raw material production<sup>29</sup>. *Kering's* use of the EP&L as a strategic sourcing tool is changing the way the Group works with its suppliers<sup>30</sup>.

*'It is not just about the quick wins [energy and water use] but real innovations with a view on the entire value chain. Understanding the value of eco-innovation will determine the winners from the losers.'*

**Michael Beutler,**

Sustainability Director at *Kering*, parent company of *PUMA* and other global brands.

25 UNEP 2017, Global Review of Sustainable Public Procurement, [https://www.oneplanetnetwork.org/sites/default/files/globalreview\\_web\\_final.pdf](https://www.oneplanetnetwork.org/sites/default/files/globalreview_web_final.pdf)

26 [https://www.c2ccertified.org/news/article/city\\_of\\_ghent\\_cleans\\_with\\_ecover\\_c2c\\_certified\\_products](https://www.c2ccertified.org/news/article/city_of_ghent_cleans_with_ecover_c2c_certified_products)

27 Greenbiz 2013, State of Green Business Report, Joel Makower

28 BSR 2013, BSR's Center for Sustainable Procurement: Year 1 Findings and Insights

29 Kering 2019, Environmental Profit & Loss (EP&L). 2019 Group Results, <https://keringcorporate.dam.kering.com/m/788c4d5588730055/original/Kering-EP-L-report-2019.pdf>

30 Information provided from interview with Michel Beutler, Sustainability Director at Kering

## **Natura includes social and environmental costs and benefits in supplier selection**

Suppliers need to be innovative and adapt quickly in order to live up to sustainability criteria. Large companies often assist their suppliers in this process. Part of the *Natura* strategy involves a new way<sup>31</sup> of working with suppliers, selecting them not on the basis of their lowest price offering, but rather on the lowest costs that their products have on the environment and society<sup>32</sup>. In 2010, *Natura* launched a strategic sourcing programme. As a key element of this programme, suppliers were taught how to use the *Natura* life cycle approach and collect the necessary data. *Natura* is constantly expanding the strategic sourcing programme, which today includes 87% of its suppliers<sup>33</sup>. The company estimates that the socio-environmental benefits of selecting suppliers based on high sustainability performance was worth over US\$750 000 in 2012<sup>34</sup> alone.

In moments of economic downturn such as has occurred because of the COVID-19 pandemic or other large external shocks, both consumer and business confidence tend to fall<sup>35</sup>. At such moments, it is even more critical for companies to be transparent, honest and proactive about their sustainability performance, to maintain the trust of their business or consumer clients. An eco-innovative company is in a good position to do this.

## **COMPANIES AND NGOs ARE INSERTING SUSTAINABILITY REQUIREMENTS INTO THEIR PROCUREMENT**

Sustainable procurement practices are not limited to national and local government agencies. The private sector as well as NGOs are also showing global leadership in this area. In doing so, they are seeking to reduce their organizations' risks, encourage sustainability in their value chains and, in some cases, reduce costs. By incorporating sustainability requirements into the sourcing process, such as in supplier evaluation and specifications, private organizations convey a strong market signal to suppliers, one which eco-innovative companies are in a good position to respond to.

### **ABN AMRO and circular procurement**

Dutch bank *ABN AMRO* serves retail, private and corporate banking clients with a focus on the Netherlands and selective operations internationally. In 2016, the bank promoted 32 circular procurement initiatives in the framework of its participation to the Green Deal Circular Procurement. For example, *ABN AMRO* worked closely with its suppliers and incorporated a buy-back model in the suppliers' contracts for computers. All non-usable PCs, laptops and other peripherals are sent back to the suppliers. Some of these are equipped with new operating systems and donated to schools and other charities in the Netherlands. *ABN AMRO* also requested proposals for preventive and corrective maintenance, including a long-term budget, thus encouraging suppliers to maximize IT equipment' lifetime through efficient maintenance<sup>36</sup>.

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31 Harvard Business Review 2012, The Growth Opportunity That Lies Next Door, How a Brazilian cosmetics giant saw the beauty in neighbouring markets

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32 World Resource Institute 2013, Aligning Profit and Environmental Sustainability: Stories from Industry

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33 *Natura* 2012, Annual Report

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34 World Resource Institute 2013, Aligning Profit and Environmental Sustainability: Stories from Industry

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35 See, for instance, OECD's Consumer Confidence Index and Business Confidence index for the impact of COVID-19 on consumer and business confidence (<https://data.oecd.org/leadind/consumer-confidence-index-cci.htm#indicator-chart>, <https://data.oecd.org/leadind/business-confidence-index-bci.htm>)

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36 United Nations Environment Programme 2018, Building circularity into our economies through sustainable procurement, [https://wedocs.unep.org/bitstream/handle/20.500.11822/26599/circularity\\_procurement.pdf?sequence=1&isAllowed=y](https://wedocs.unep.org/bitstream/handle/20.500.11822/26599/circularity_procurement.pdf?sequence=1&isAllowed=y)



# Increase profitability along the value chain

## DRIVER 2:

Many examples have shown the benefits of working in collaboration with value chain partners to drive down costs, increase profitability and share knowledge and expertise.

### OPPORTUNITIES FOR COMPANIES

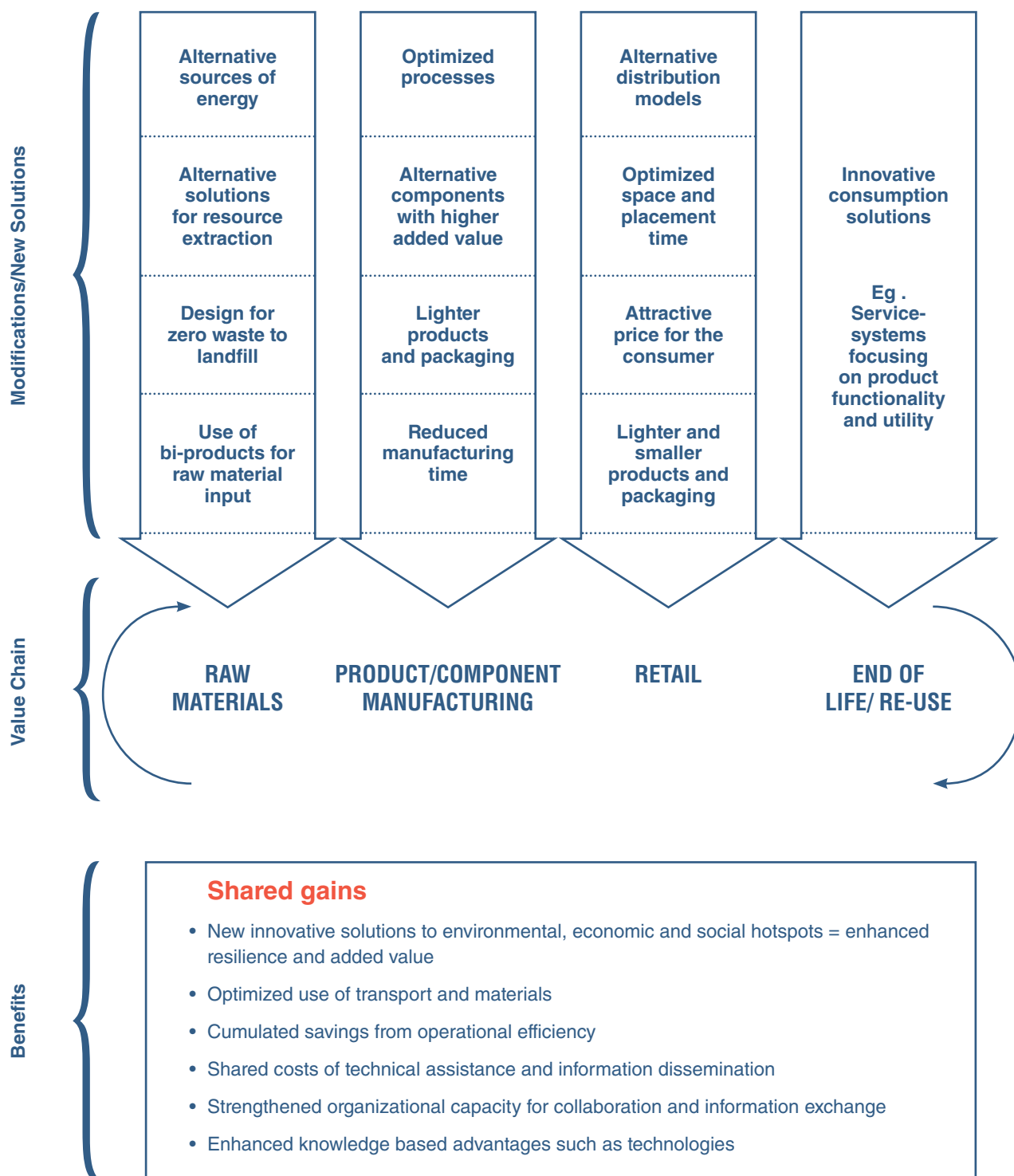
A key pillar of eco-innovation is Life Cycle Thinking (LCT). LCT is about going beyond the traditional focus on the production site and manufacturing processes to include environmental, social and economic impacts of a product over its entire life cycle<sup>37</sup>. Eco-innovation, then, requires going beyond your company's gate and looking at every link within your product's life cycle to identify critical areas in its environmental, social and economic impacts. To properly identify these critical areas and, even more importantly, to identify the most sustainable solutions for their improvement, it is vital for you to work in collaboration with the partners in your value chain. Effective and long-term collaboration with them can result in substantial shared benefits in terms of reduced costs, lower risks, greater efficiency and productivity, higher sales and better value proposition<sup>38</sup>. Figure 4 shows examples of what potential eco-innovations exist in value chains as well as of potential shared gains.

37 <https://www.lifecycleinitiative.org/starting-life-cycle-thinking/what-is-life-cycle-thinking/>

38 Ghisetti, C., Rennings, K. 2014, Environmental Innovations and Profitability: How does it pay to be green? An empirical analysis on the German Innovation Survey, Jnl. of Cleaner Prod.



Figure 4: **Benefits from eco-innovation along the value chain (non-exhaustive)**



## COLLABORATION CREATES GREATER PRODUCTIVITY AND HIGHER SALES

By applying life cycle thinking and working with partners along the value chain, companies can achieve greater overall productivity in the value chain. This in turn can result in higher sales, increasing the income of all the partners in the value chain.

### *Rasoda Dairies* helps its dairy farmers improve their productivity and thereby increases its sales

Sri Lanka's *Rasoda Dairies* makes ice cream, yoghurt, and jelly yoghurt, all sold in the local markets. The company used to purchase the largest portion of its raw milk from middlemen, who in turn purchased it from local farmers, with only a small portion being purchased directly from the farmers themselves. With the support of the National Cleaner Production Centre of Sri Lanka, *Rasoda* undertook a programme to identify its eco-innovation options. The initial evaluation of its sustainability hotspots identified an important hotspot in the farmers' production of milk. Specifically, poor farming practices meant that the yields per cow were low, on average 2L/cow/day (compared to about 19L/cow/day in Europe). In addition, the milk produced was of poor quality. *Rasoda* had not been aware of these issues, in part because it had not engaged much with the farmers in its milk purchases.

*Rasoda* realized that this low productivity at farm level would limit its ability to fulfil its business strategy of increasing production to meet the growing demand for milk products in Sri Lanka. After meetings with its partners in the farming community to discuss these productivity issues, *Rasoda* decided to abandon its earlier business model of simply increasing the number of farmers from which it purchased milk and to focus instead on enhancing both the quantity and the quality of the raw milk which it purchased by providing extension services to farmers. The company now purchases its milk directly from 400 farmers in the surrounding area, providing them with awareness-raising and education programmes on better farming practices. Direct purchasing also means that *Rasoda* can give farmers an economic incentive to increase the quality of their milk, by linking the price it pays for the milk to its quality.

By improving the quality of the milk it received from its farmers, *Rasoda* was able to also improve the nutritional value of its products. Overall production costs were also minimized; the excess fats in the milk could now be

used for other products. The company has, for instance, introduced different ice creams and is now planning to produce ice cream bars.

## INNOVATIVE SOLUTIONS ALONG THE SUPPLY CHAIN ACCUMULATE VALUE

Resource scarcity and the depletion of non-renewable resources are driving up prices. Yet at the same time, 30% more materials could potentially be recovered than is the case today<sup>39</sup>. Companies of all sizes are innovating to find alternative solutions and create systems that reduce dependence on certain materials and recover others. Such systems are more easily developed in partnership and collaboration with suppliers and other companies, local organizations or academic institutions. Finding alternative solutions and systems allows companies to build a chain of higher economic, social and environmental value.

In developing and emerging economies, the potential for development and use of such systems is greater because companies are not as locked into existing manufacturing or infrastructure systems. Companies in these countries have the possibility of transforming their business models and benefiting from untapped markets. Many companies in these economies are resource-intensive and have the potential to achieve considerable economic and environmental benefits<sup>40</sup> from eco-innovation.

### The Mexican Green Supply Programme boasted a positive value creation rate for participating companies

The *Mexican Green Supply Programme*<sup>41</sup> was a public-private demonstration project between Mexican federal and local authorities and a group of large companies to develop an innovative and replicable mechanism for engaging SMEs to improve their sustainability performance. Based on the value chain collaboration approach, it resulted in mutual economic and environmental benefits for all parties involved. The participating companies implemented new procedures, modified technologies, or took on new activities such as on-site recycling or modification of products. The projects that focused on collaboration schemes produced significantly higher economic benefits than those based on singular interventions, with an average payback of one year or less. Around 94% of the projects

39 Ellen MacArthur Foundation 2013, Towards the Circular Economy

40 Ibid.

41 T.P. Lyon & B. v. Hoof, September 2010, Evaluating Mexico's Green Supply Chain Program



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implemented in the programme led to positive value creation for companies.

This project also demonstrated that supply chain cooperation strengthened the companies' organizational capacity for collaboration and information exchange while creating tangible knowledge-based advantages. The cost of the technical assistance given to the SMEs could also be shared and therefore reduced.

## WORKING WITH KEY PARTNERS MAXIMIZES INNOVATION AND RESILIENCE

Eco-innovation can be implemented more efficiently when working with key partners along the value chain towards the same goals. This approach requires a clear and long-term company strategy to be developed, with interventions that result in a greater capacity for innovation, full-scale resource efficiency and shared gains, all of which will contribute to increased resilience<sup>42</sup>.

Resilience to uncertainties in supply (quantity as well as prices) is one dimension of resilience which is becoming increasingly important. It has been estimated<sup>43</sup> that if we proceed with consumption and production as usual, global material use would more than double from 2015 levels to reach 190 billion tonnes by 2060. Resource use per capita would grow from 11.9 tonnes to 18.5 tonnes.

This growth would result in substantial stress on resource supply systems, with resulting sharp increases in raw material prices. Securing future supply of affordable raw materials is a key incentive for companies to start engaging with their whole supply chain, downstream as well as upstream: companies that rely less or at least not exclusively on importing their supplies (for example, by sourcing certain materials locally or through on-site recycling) are less prone external shocks in supplies<sup>44</sup>.

Resilience to emerging challenges and risks is another important dimension of resilience. Very often, the emerging challenges and risks faced by a company emerge elsewhere in that company's value chain. Developing proactively good relationships throughout the value chain can help companies identify emerging challenges and risks in good time to allow them to adapt, along with the rest of the value chain<sup>45</sup>.

### *Kering* supply chain approach enables the Group to anticipate resource constraints

According to *Kering*, using the Environmental Profit and Loss (EP&L) accounting tool is helping them understand all impacts and potential risk areas in their brand's supply chains and raw material sourcing. Integrating these factors into the sourcing and innovation strategy has stimulated the development of solutions to these pressures, in collaboration with suppliers. This work

42 Deloitte 2011, The high profit supply chain: A resource-focused approach

43 International Resource Panel 2019, Global Resources Outlook 2019: Natural Resources for the Future We Want

44 UNEP Fact Sheet 2020, Green jobs, <https://wedocs.unep.org/bitstream/handle/20.500.11822/32281/GJ.pdf?sequence=1&isAllowed=y>

45 Ibid



©Interface

entails a number of activities such as supporting suppliers to find alternatives for the production of its raw materials, as well as for the processing and manufacturing phases of specific components. This can help prevent supply instability and resulting impacts on profitability.

**Interface found an innovative solution in collaboration with its partners and enhanced its supply of raw material**

The global flooring manufacturer *Interface* has implemented a range of closed-loop systems with a variety of partners. Applying a life cycle analysis, they discovered that 80-90% of the environmental impacts from their carpets came from the nylon yarn. *Interface* started investigating solutions on how to recycle the yarn, use less yarn and opt for different types of yarn. To recycle the yarn, the company designed a new system in which they reclaim old carpets and separate the yarn from the backing. In 1995, *Interface* developed a partnership with yarn suppliers, where old carpet tiles are collected, turned into recycled raw materials, and used to make new carpets<sup>46</sup>. As of 2019, this has diverted over 136 000 tons from landfill, allowing *Interface* to source and sell 100% recycled nylon carpet tiles since 2010.

*'You can make progress building a circular system only so far on your own. To change your entire system, you have to engage your whole value chain and beyond to create a truly circular model.'*

**Erin Meezan,**  
VP and Chief Sustainability Officer at *Interface*

The company also engaged its value chain partners to find other ways 'outside of the box' to recover raw materials. Since 2012, *Interface* has collaborated with the *Zoological Society of London* and *Aquafil*, an Italian yarn supplier, to collect discarded fishing nets from the Philippines, Cameroon, and Indonesia. The goal of the partnership was to find an alternative source of recycled materials for the yarn, but it also enabled the development of a community-based supply chain system for discarded nets which otherwise pose an environmental threat to the marine environment. The nets are recycled into new threads which, combined with recycled yarn from reclaimed carpets, allow the production of carpet tiles made of 100% recycled yarn while diverting over 224 tons of fishing net waste<sup>47</sup>. These types of innovations have positioned *Interface* as the leading company in its sector.

46 The *Natural Step* 2013, The Journey of a Lifetime

47 Interview with Erin Meezan, VP and Chief Sustainability Officer, *Interface*



# Stay ahead of standards and regulation

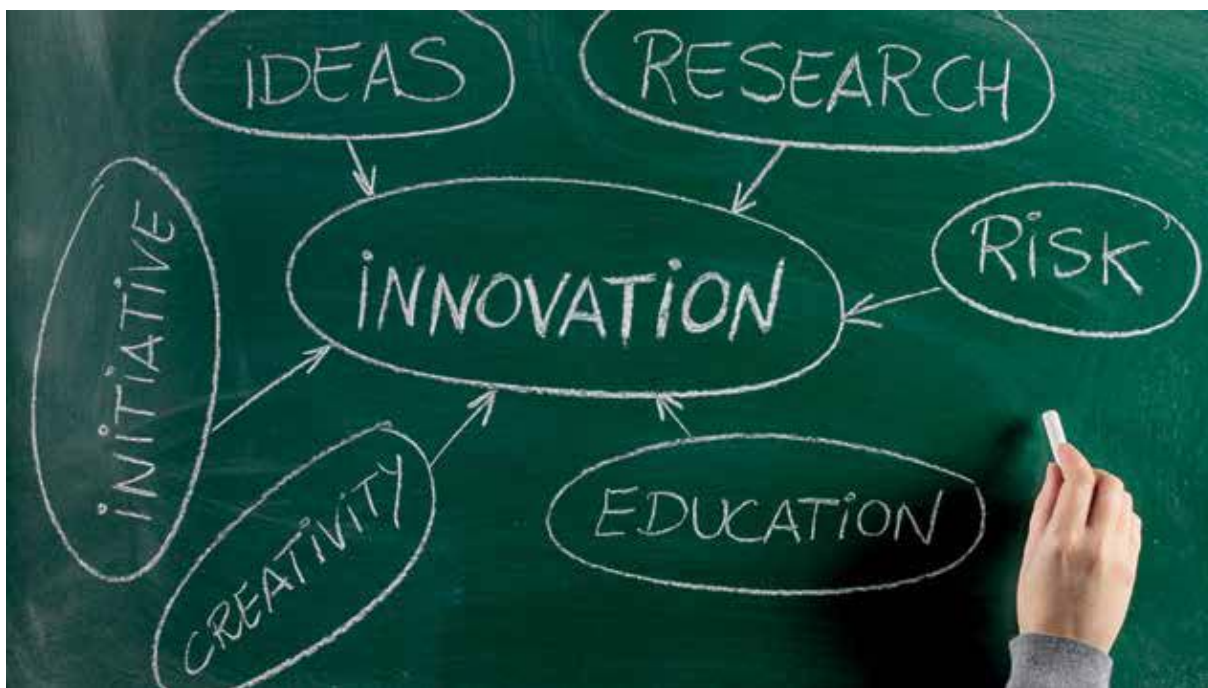
## DRIVER 3:

Eco-innovative companies are typically ahead in terms of compliance with new standards and regulations as they will have already innovated and tested the right materials, technologies and processes to meet requirements ahead of competitors.

### OPPORTUNITIES FOR COMPANIES

Regulation and standards are becoming increasingly stringent worldwide. If your company operates in many different markets, eco-innovation will enable you to comply with the toughest requirements. In addition, companies considered as innovative sustainability leaders set the performance bar in the market, inform regulation and influence standards<sup>48</sup>. This can have a positive effect on your company's reputation and market position.

48 GreenBiz 2014, State of Green Business Report, Joel Makower



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## THE POLICY LANDSCAPE IS CHANGING

A range of new policy initiatives are being developed to encourage the mainstreaming of life cycle based approaches that promote environmental and social improvement of products and businesses. For example, the European Commission (EC) has developed the Product Environmental Footprint (PEF) method, which can be used to measure the environmental performance of products from a life cycle perspective. Using the PEF, a company can determine all relevant environmental and health impacts as well as resource-related burdens caused by its products. The method considers the entire life cycle of the products, from raw material procurement to disposal<sup>49</sup>. The EC announced that the European Green Deal will use PEF metrics<sup>50</sup>. The EC has also developed the Organisation Environmental Footprint (OEF) method, which measures environmental impacts of organisations based on a life cycle approach to ensure no important issues are overlooked both throughout the value chain and regarding relevant environmental areas<sup>51</sup>. Other examples can be seen around the world in

Japan, Brazil, Tunisia and Thailand<sup>52</sup>. This trend will be of extreme importance for businesses and their respective supply chains spread across the globe.

At the same time, governments are developing policies in many environmental areas which will have a growing impact on businesses. Climate change is one important area. In Paris in December 2015, countries reached a landmark agreement to combat climate change and to accelerate and intensify the actions and investments needed for a sustainable low carbon future. The Paris Agreement's central aim is to strengthen the global response to the threat of climate change by keeping a global temperature rise this century well below 2°C above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5°C<sup>53</sup>. Many governments are implementing policies to bring down their emissions of GHGs. Many of these are summarized in their Nationally Determined Contributions (NDCs)<sup>54</sup>. Many of these affect businesses, either in their operations or in their products. Some consider the cumulative GHG emissions along value chains<sup>55</sup>.

49 [https://www.ifu.com/en/product-environmental-footprint/#:~:text=A%20Product%20Environmental%20Footprint%20\(PEF,evaluation%20compared%20to%20existing%20methods.](https://www.ifu.com/en/product-environmental-footprint/#:~:text=A%20Product%20Environmental%20Footprint%20(PEF,evaluation%20compared%20to%20existing%20methods.)

50 <https://pre-sustainability.com/solutions/consulting/sustainable-products/product-environmental-footprint/>

51 <https://ec.europa.eu/jrc/en/publication/ec-organization-environmental-footprint-and-development-sector-specific-guidance-documents>

52 UNEP 2014, Life cycle thinking and the use of life cycle assessment in SCP Policies, Pre-print version

53 UNFCCC, NDC Registry (interim), [https://unfccc.int/files/essential\\_background/convention/application/pdf/english\\_paris\\_agreement.pdf](https://unfccc.int/files/essential_background/convention/application/pdf/english_paris_agreement.pdf)

54 <https://www4.unfccc.int/sites/NDCStaging/Pages/All.aspx>

55 See, for instance, International Resource Panel 2020, Resource Efficiency and Climate Change: Material Efficiency Strategies for a Low-Carbon Future, <https://www.resourcepanel.org/reports/resource-efficiency-and-climate-change>



The need to reduce GHG emissions is an increasingly strong driver for companies to eco-innovate.

To deal with the challenge of managing growing amounts of waste, governments are increasingly implementing Extended Producer Responsibility (EPR) policies. These place the responsibility for managing certain waste products on the manufacturers or importers of those products. The goal of EPR policies is to increase the proper recycling of waste products. Since 1990, the number of EPR policies has increased substantially. A recent survey identified about 400 EPR systems currently in operation across the globe, most of them in OECD member countries. Nearly three-quarters were established since 2001. In terms of types of products covered, more than a third of EPR policies are aimed at small consumer electronics. Packaging products (including beverage containers) and tyres follow, with 17% each of EPR policies. Vehicles at the end of their lives and batteries are other product types covered by EPR policies<sup>56</sup>. By placing the cost of disposal on the producers, EPR policies are a strong driver for companies to eco-innovate along their supply chains to bring about redesign of products and parts to make their recycling easier and less costly.

There is growing legislation in the area of chemicals control, which requires changes along value chains. For instance, in the EU the REACH (Registration, Evaluation, Authorization & Restriction of Chemicals) Directive<sup>57</sup> impacts a wide range of manufacturers, importers and exporters across many sectors. Its remit covers not only chemical products for onwards sale but also finished products, like clothes, furniture or plastic goods, which contain chemicals. The RoHS (Restriction of the use of Hazardous Substances) Directive<sup>58</sup> restricts the use of certain chemicals and other substances in products. These types of regulations have been a strong driver for eco-innovation in a variety of sectors including textiles, agri-foods and electronics. Similar regulation has also been implemented in countries such as South Korea, China and Argentina<sup>59</sup>. Products other than chemicals

are also increasingly objects of regulation, leading to a surge in product-focused environmental regulation and technical standards<sup>60</sup>. These are in addition to older product-focused regulation concerned with the health and safety aspects of products.

COVID-19 has seen a sudden surge of regulatory activity by governments, as they try to contain rates of infection. Companies in particular have been the target of a raft of health and safety regulations affecting working conditions. This is an area ripe for eco-innovation, where companies, seeing the direction these regulations are going in, can come up now with innovative solutions that not only help them make their workplaces safer to work in during epidemics like COVID-19 but also help their partners stay ahead of these new regulatory requirements. This can help companies maintain their competitive advantage by minimizing downtime as well as open up new opportunities to acquire industry leadership on health and safety issues and leverage their power in informing future COVID-19 regulations for the workplace.

Looking to the future, there is a growing interest on the part of governments in promoting circularity, where the underlying objective is that materials should be kept at their highest possible value as they move through an economy and are retained as long as possible within the economy. This reduces and disconnects the use of natural resources and environmental impacts from economic activity, while continuing to enable improvements in human wellbeing. Operationally, this means subjecting production and consumption patterns to four categories of processes.

1. “Reduce by design”: at the earliest stages of product and service development, businesses use design to “hardwire” into products and services reductions in the amounts of material used and consumed during production and/or use - this applies especially to raw materials and hazardous chemicals;
2. “User-to-user value retention loop”, where users (households, businesses, and other organizations) ensure that a product or component remains close to them and its function. They do so by applying three principles: (a) deciding not to buy products (“Refuse”), (b) deciding to buy less products (“Reduce”), and (c) handing over a product to another user for further use (“Re-use”);

56 OECD 2019, Extended Producer Responsibility (EPR) and the Impact of Online Sales, Environment Working Paper N° 142. Available at [www.oecd.org/environment/workingpapers.htm](http://www.oecd.org/environment/workingpapers.htm)

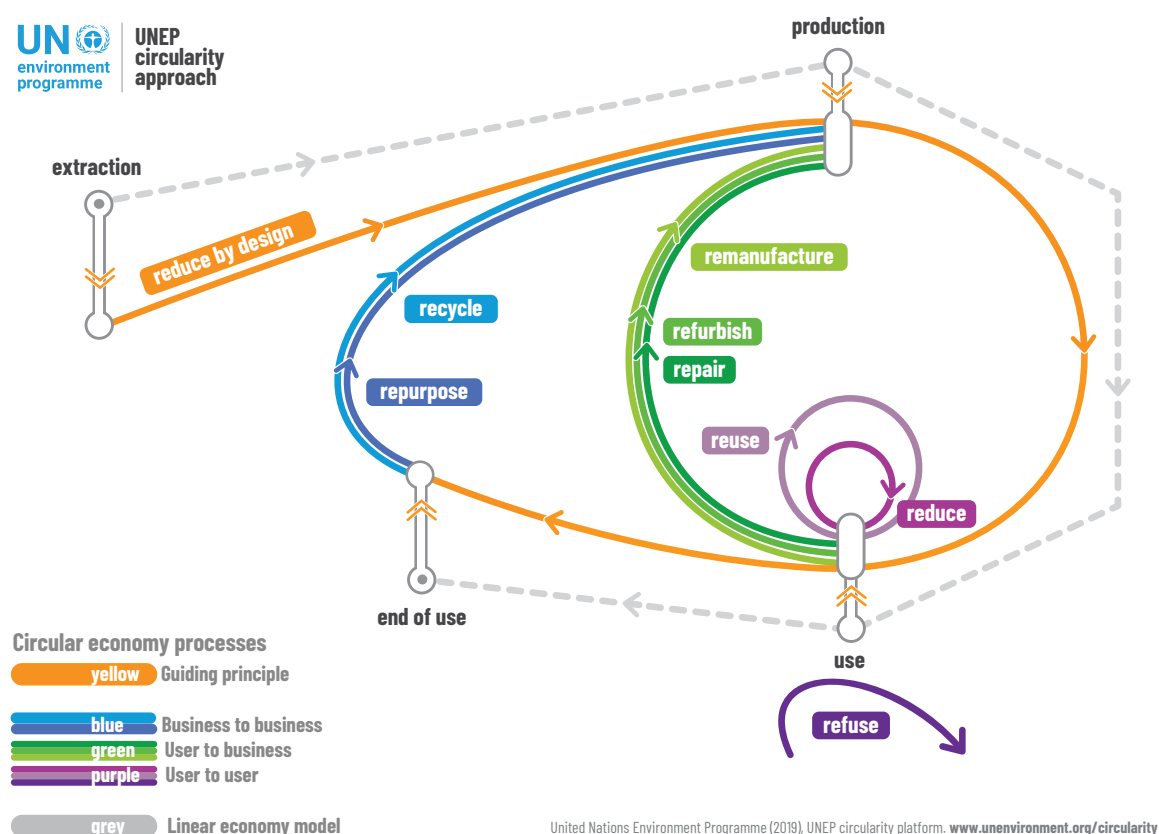
57 [http://ec.europa.eu/enterprise/sectors/chemicals/reach/index\\_en.htm](http://ec.europa.eu/enterprise/sectors/chemicals/reach/index_en.htm)

58 [http://ec.europa.eu/environment/waste/rohs\\_eee/](http://ec.europa.eu/environment/waste/rohs_eee/)

59 IHS 2010, A Whitepaper Developed for Manufacturers of Electrical and Electronic Equipment How to Ensure Your Products Meet Environmental Requirements in Asia and IHS 2010 A Whitepaper Developed for Manufacturers of Electrical and Electronic Equipment How to Ensure Your Products Meet Environmental Requirements in Latin America

60 IHS 2010, A Whitepaper Developed for Manufacturers of Electrical and Electronic Equipment How to Ensure Your Products Meet Environmental Requirements in Asia

Figure 5: UNEP Circularity Approach



3. “User-to-business value retention loop”, where users ensure that a product or component is upgraded and its lifetime in the economy extended. They do this by applying three principles: (a) fixing a fault in the product which would otherwise no longer be usable (“Repair”), (b) modifying the product so as to increase or restore its performance and/or functionality (“Refurbish”), and (c) and restoring the product or a part of the product, which is worn or no longer functional, to same-as-new (“Remanufacture”);
4. “Business-to-business value retention loop”, where users ensure that even though a product is discarded and loses its original function the materials making it up continue to be used. They do this by applying two principles: (a) adapting the product or its components to a new function (“Repurpose”), and (b) extracting and reprocessing of the materials making up the product and reusing them in the economy (“Recycle”)<sup>61</sup>.

The diagram in figure 5 shows these various loops as conceptualized by the UNEP circularity platform.

Policies which support a transition to circularity can cover all phases of a product's or service's design, production and use, with a goal of optimizing resource consumption and use along value chains. These policies will put a premium on eco-innovation and similar approaches which take a life-cycle approach to innovation. An increasing number of countries are passing policies or strategies that aim to incentivize a more circular system, including Chile, Colombia and France.<sup>62</sup>

There is a strong connection between eco-innovation and circularity since circularity-based business models follow an approach which incorporates sustainability throughout all business operations based on life cycle thinking and seeks cooperation with partners along the value chain.

61 See the UNEP circularity platform (<https://www.unenvironment.org/circularity>) for an overview of the topic

62 For more information please refer to <https://www.unenvironment.org/circularity>.

At a more sectoral level, recent years have seen a surge in interest in the management of plastic waste, with many governments looking to implement policies to reduce the amounts of plastic waste entering the environment, especially the marine environment. Much of this plastic waste is packaging, which accounts for approximately 30% of global plastic use<sup>63</sup>, and there will be pressures on manufacturers and users of packaging to come up with innovative solutions to their use of plastics. This will involve innovating on the packaging itself, such as reducing the amount of packaging, introducing higher percentages of recycled materials into packaging, as well as innovating along the value chain to reduce the need for, and amounts of, packaging. In the latter case, eliminating unnecessary and difficult-to-recycle packaging through increased application of reusable and returnable packaging models is a critical solution. This requires not only innovation by brands and producers; but also actions by other partners in the value chain. Retailers and civil society need to work with producers and brands to raise the awareness of consumers of these new product delivery models and build their acceptance, while governments need to provide the necessary legislative guidance<sup>64</sup>.

Finally, there are growing calls by governments at national and regional level for increased transparency on the part of businesses. Europe leads in this regard, with 141 mandatory reporting requirements, but Asia has seen a large increase in recent years and now has 99 mandatory reporting requirements. Africa and the Middle East, South America, and North America have 40, 37, and 31 mandatory reporting requirements, respectively<sup>65</sup>.

In April 2014, the European Union adopted legislation relating to the mandatory disclosure of social and environmental information<sup>66</sup>. In December 2019, as part of the European Green Deal, the European Commission committed to reviewing the Directive. Among other things, it wishes to improve disclosure by

companies of their climate-related and environmental data, so that investors can be better informed about the sustainability of their investments<sup>67 68</sup>. While the focus of the Directive is only on large companies, the requirements can potentially affect all companies in the supply chain as large clients reporting on their performance will increasingly demand their suppliers to provide information and live up to specified standards.

### Eco-innovative companies are far ahead of compliance and can anticipate regulation

Given that eco-innovation is based on a life cycle approach, it enables companies to identify potential risk areas in the supply chain and improve on product and business operations holistically without shifting the burden to a different stage of the value chain, geographic area or time. As policy requirements become stricter, these risks could potentially turn into a liability and cost. Through their strategic approach, eco-innovative companies anticipate possible policy changes and propose solutions to meet future requirements. This gives them a first-mover advantage in the market.

#### *SAFECHEM* developed a closed-loop service system in anticipation of the Volatile Organic Compound (VOC) Directive

The German company *SAFECHEM* is a provider of services and solutions related to the optimized use of solvents in industrial surface cleaning and professional textile cleaning. Throughout Europe the company offers chemical product service systems such as chemical leasing where clients pay for the performance of cleaning rather than the volume of chemicals consumed. Through its closed-loop service system, *SAFECHEM* enables its clients to manage the product-specific risks of chlorinated and non-chlorinated solvents. Their product and service offering is well suited to SMEs.

With the service-system model, the amount of solvents used for cleaning is reduced by up to 98%. When the European VOC Solvents Emissions Directive came into force in 1999, *SAFECHEM* was the only company ready with this offering to clients. Consequently, it saw a boost to its business.

63 UNEP, 2018, Mapping of global plastics value chain and plastics losses to the environment (with a particular focus on marine environment), Ryberg, M., Laurent, A., Hauschild, M. United Nations Environment Programme, <https://www.unenvironment.org/resources/report/mapping-global-plastics-value-chain-and-plastics-losses-environment-particular>

64 UNEP, 2019, Addressing marine plastics: A systemic approach - Recommendations for action. Notten, P. United Nations Environment Programme, <https://www.unenvironment.org/resources/report/addressing-marine-plastics-systemic-approach-recommendations-actions>

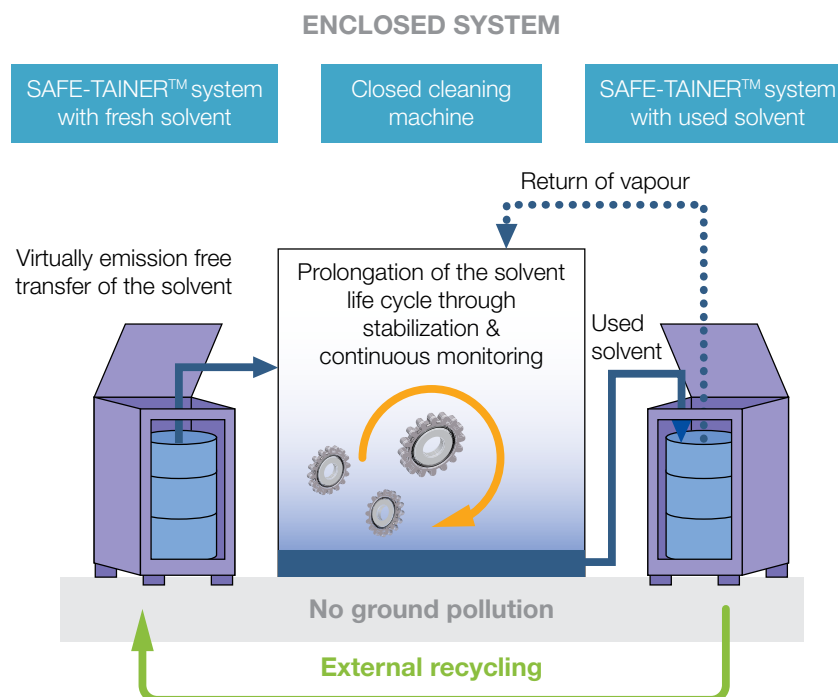
65 GRI, University of Stellenbosch, UNEP 2020, Carrots and Sticks, Sustainability Reporting Policy: Global trends in disclosure as the ESG agenda goes mainstream. <https://www.carrotsandsticks.net/reporting-instruments/?status=Forthcoming&status=Current>

66 [http://europa.eu/rapid/press-release\\_STATEMENT-14-29\\_en.htm?locale=en](http://europa.eu/rapid/press-release_STATEMENT-14-29_en.htm?locale=en)

67 <https://www.allenoverly.com/en-gb/global/news-and-insights/publications/review-of-the-non-financial-reporting-directive>

68 <https://medium.com/ksapa/updates-on-the-non-financial-reporting-eu-directive-5a3d002c5aeb>

Figure 6: **Closed-loop service system**



Source: SAFECHEM

*'Being ahead of regulation has given us a competitive advantage. The new solution has opened up access to new types of customers for us.'*

**Steffen Saecker,**  
SAFECHEM

SAFECHEM's pioneering efforts have been publicly recognized. Between 2010 and 2012 it received three Global Chemical Leasing awards, while in 2016 it received the European Chemical Industry Council's European Responsible Care® award.

## ECO-INNOVATIVE PRODUCTS ENHANCE ACCESS TO EXPORT MARKETS WITH STRICT REGULATIONS

Environmental and social requirements in international markets are also a key driver for eco-innovation. A number of countries have introduced stricter regulations which affect export opportunities. For instance, countries such as the Netherlands and the United Kingdom have, for a number of years now, been requesting sustainable sourcing certification for a variety

of imported commodities such as palm oil<sup>69</sup>. Companies that can meet these standards can increase their access to international markets.

## Multibax has seized the opportunity of growing demand for biodegradable bags

The Thai company *Multibax* was established in 1995 as a producer of standard polyethylene bags. However, it soon realized that there was a growing demand for biodegradable bags which it could satisfy, and the company set up a new production line for biodegradable bags. By 2013, it decided to more than double its production capacity for biodegradable bags due to strong international demand. *Multibax*'s bio bag has passed several international standards for biodegradability such as ASTM 6400<sup>70</sup>, allowing them to sell their product to Europe, the United States, the Middle East, Australia and South Africa. Meeting this difficult standard has allowed *Multibax* to tap into this demand and enter international markets. The company developed a bio-based and biodegradable plastic bag together with local universities and government agencies. Drawing on the analysis of available

69 [http://www.rspo.org/en/national\\_commitments](http://www.rspo.org/en/national_commitments)

70 ASTM D6400 is the Standard Specification for Labeling of Plastics Designed to be Aerobically Composted in Municipal or Industrial Facilities

information and technology, *Multibax* formulated the composition for the bags focusing on locally abundant raw material, and then created a network with outside researchers to develop their own bio-based resin for the bags. Since demand in the domestic market was not sufficient for this product, the company based its strategy on increasing exports.<sup>71</sup>

### **Eco-innovative companies can anticipate new sustainability requirements demanded by leaders of value chains**

Many of the regulatory pressures for sustainability described above are first felt in developed countries. The companies whose primary markets are in these countries will be subject to these pressures. In addition, those companies whose primary business model is B2C and which own valuable brands will also be subject to pressures from their customers to make their operations more sustainable. The companies will often turn these regulatory pressures or consumer demands into requirements for partners in their value chains. They will become “quasi-regulations” for these partners, since access to the value chain will require respect of these standards. Through their strategic approach, eco-innovative companies can anticipate possible new sustainability requirements being transmitted down value chains and can be in a good position to maintain their position in value chains or enter new value chains, taking the place of companies which have failed to anticipate the changes.

### **RESPECTED COMPANIES CAN INFORM FUTURE STANDARDS AND REGULATION**

Being an industry leader and innovator serves as a market differentiator, increasing reputation and brand recognition. Policy-makers look to leading sustainability companies when setting benchmarks on what is feasible in the market and deciding how they can shape policy to encourage more sustainable enterprises and products. Eco-innovative companies therefore have more opportunity to inspire regulators to develop legislation that is feasible and beneficial for both industry and the environment<sup>72</sup>.

### ***Interface* supports the use of environmental product declarations**

Since their first sustainability report in 1997, the global flooring manufacturer *Interface* has committed to transparency. This commitment includes transparency into how their flooring is made by using environmental product declarations (EPDs) on 99% of their products. EPDs allow customers to compare products across the same set of criteria, and they allow manufacturers to analyze their own performance. EPDs are now used in green building standards to design buildings and interiors with lower environment impacts<sup>73</sup>.

*‘Transparency empowers our customers to become agents of change through their purchasing choices, sending critical market signals to encourage other manufacturers and companies to change.’*

**Erin Meezan,**  
VP and Chief Sustainability  
Officer at *Interface*

The fact that policy making usually involves a variety of stakeholders at the agenda-setting stage provides opportunities for industry leaders in sustainability not only to participate in the process but also to drive it. For example, companies and large retailers were actively engaged in the development of the most prominent international standard for carbon foot-printing, the Greenhouse Gas Protocol Carbon Footprint Standard<sup>74</sup>. This standard has informed the development of related regulation and legislation in many countries.

71 Steve Toloken Plastic News January 2013, *Multibax* boosting its bio-based plastics production

72 OECD 2013, A. Beltramello, L. Haie-Fayle & D. Pilat, Why New Business Models Matter for Green Growth

73 Erin Meezan, VP and Chief Sustainability Officer, *Interface*, personal communication.

74 <http://www.ghgprotocol.org/>

# Attract financial resources and investments

## DRIVER 4

Eco-innovation is attracting an increasing amount of investment from different sources.

### OPPORTUNITIES FOR COMPANIES

As an eco-innovative company, you have an increasing number of possibilities to attract funding. Local governments and institutions across the world provide funding to stimulate environmental and social innovation, targeting SMEs in particular. In addition, an increasing number of mainstream banks have established specific credit lines to provide loans to companies with strong sustainability approaches while internet technology has expanded investment options by offering crowd-funding platforms to attract investors to new ideas.

### PUBLIC AUTHORITIES AND INSTITUTIONS OFFER FUNDING FOR ECO-INNOVATION

There are many examples of governments, organizations and universities that have set up special funds for companies to obtain grants for innovation and sustainability initiatives. These range from funding for research and development to the purchase of new technologies and other relevant activities. National and regional level grants can also be obtained for testing products and bringing them to the market. In many cases, priority for these grants is given to SMEs.





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In countries such as Korea<sup>75</sup>, Brazil<sup>76</sup>, India<sup>77</sup>, China<sup>78</sup> and South Africa<sup>79</sup>, government programmes focus on research and development of knowledge and technology related to eco-innovation. In Malaysia<sup>80</sup>, the Philippines<sup>81</sup>, Mexico<sup>82</sup>, Canada<sup>83</sup>, Denmark<sup>84</sup>, the UK<sup>85</sup>, Japan<sup>86</sup>, Australia<sup>87</sup>, New Zealand<sup>88</sup>, the USA<sup>89</sup>, Israel<sup>90</sup>

and Thailand, governments have been offering funding programmes to help SMEs embark on sustainability and innovation projects. Typically, these programmes consist of advice and assistance for SMEs, or grants where companies can receive up to 70% of their costs related to the project. For example in Malaysia, the National SME Development Council (NSDC) endorsed, as part of its SME Masterplan, specific funds to be made available for inclusive innovation for the lower 40% of the SME income group<sup>91</sup>. The National Innovation Agency in Thailand has provided matchmaking between banks and SMEs in order to make funding schemes available for eco-innovative initiatives<sup>92</sup> while the European Commission has been providing a wide number of grants specifically promoting eco-innovation at the SME level. Examples include the Innovation in SMEs scheme under the Horizon 2020 EU Framework Programme for Research and Innovation which aims to build the internal capacity of SMEs to manage innovation processes from idea generation through to its profitability on the market<sup>93</sup>.

75 OECD 2008, Eco-Innovation policies in the Republic of Korea

76 <http://www.finep.gov.br>

77 NESTA 2012, Our Frugal Future, Lessons from India's Innovations System

78 OECD 2009, Eco-Innovation policies in the People's Republic of China

79 OECD 2011, Eco-Innovation policies in South Africa

80 <http://www.smecorp.gov.my/vn2/programmes>

81 <https://techcrunch.com/2013/04/06/filipino-social-good-start-ups-win-at-ideaspaces-competition/>

82 Secretaria de Economía, Mexico, <http://www.2006-2012.economia.gob.mx/comunidad-negocios/innovacion/innovacion-programa-nacional-innovacion>

83 <https://greeneconomy.ca/caif/>

84 The Green Business Development Fund; <https://danishbusiness-authority.dk/innovation-and-growth>

85 North West Eco-Innovation programme, <http://www.ctechinnovation.com/#sthash.HydyK77Q.dpbs>

86 OECD 2008, Eco-Innovation policies in Japan

87 OECD 2008, Eco-Innovation policies in Australia

88 OECD 2008, Eco-Innovation policies in New Zealand

89 OECD 2008, Eco-Innovation policies in the United States

90 OECD 2011, Policies to support eco-innovation in Israel

91 SME Corp, Malaysia [www.smecorp.gov.my](http://www.smecorp.gov.my)

92 <http://www.nia.or.th/>

93 <http://ec.europa.eu/programmes/horizon2020/en/h2020-section/innovation-smes>



## **Natura, SSS, KUO Industrial Group and Multibax have all benefited from funding and support**

The Brazilian company *Natura* received US \$43 million in 2012 specifically for innovation, training, logistics and information technology from national institutions<sup>94</sup>. The company established research partnerships consisting of research institutions, suppliers, local producers and NGOs which helped them to obtain funding<sup>95</sup>,<sup>96</sup>. Similarly, the South African energy supply company *Specialized Solar Systems* developed its solar micro-grid technology with support from local universities and deployed it via the government electrification programme. The Thai company *Multibax* benefited from support provided by the National Innovation Agency of Thailand as well as other local government agencies assisting them on their innovation path. The Mexican *KUO Industrial Group* received funding support from the National Council on Science and Technology (CONACYT).



© Specialized Solar Systems

## **Government stimulus packages increasingly offer opportunities**

The stimulus packages which governments put together to build back from economic downturns caused by external economic shocks offer eco-innovative companies a special opportunity. Increasingly, governments are making sustainability, “building back better” at the heart of these stimulus packages. For instance, many countries have developed stimulus packages in the wake of the COVID-19 pandemic, and there are increasing calls for these stimulus packages to be green<sup>97</sup>. Some countries are heeding these calls<sup>98</sup>. The specific programmes which come out of the greener stimulus packages offer opportunities to eco-innovative companies which have integrated sustainability into their business strategies.

## **LONG-TERM INVESTORS LOOK FOR RESILIENT COMPANIES**

Innovation for sustainability entails building long-term resilience which increases the commercial attractiveness of a company. Long-term investors are finding that investments which address sustainability challenges can offer attractive financial returns as well as reduce future risks. Over 3,000 institutional investors have now signed up to the UN Principles for Responsible Investment<sup>99</sup>. In fact, the sustainability angle adds attractiveness for any investor, linking as it does to reputation and brand equity as well as giving a stronger correlation with the project's resilience particularly in the long run.

The attraction of sustainability to investors is demonstrated by the fact that information on the sustainability performance of companies is now increasingly demanded by stock exchanges all over the world<sup>100</sup>. By 2016, the world's stock exchanges as a whole had issued some 50 different reporting provisions related to sustainability. By 2020, this number had climbed to about 75. They mostly take the form of codes, guidance, standards, self-regulatory requirements and questionnaires. Of the 100 exchanges in the UN-backed Sustainable Stock Exchanges (SSE) initiative,

94 *Natura* Annual Report 2012: Funds were granted by BNDES (Brazilian National Bank for Social and Economic Development) and FINEP (Financial Sponsor of Studies and Projects)

95 Including organizations such as FINEP, BNDES and CNPQ

96 Interview with Fabien Brones, Scientific Manager Eco-design and Environmental Impacts, *Natura*.

97 See, e.g., IMF, October 2020, The IMF's Response to COVID-19, <https://www.imf.org/en/About/FAQ/imf-response-to-covid-19#Q1>

98 Vivideconomics, October 2020, Greenness of Stimulus Index: An assessment of COVID-19 stimulus by G20 countries and other major economies in relation to climate action and biodiversity goals, [https://www.vivideconomics.com/wp-content/uploads/2020/10/201028-GSI-report\\_October-release.pdf](https://www.vivideconomics.com/wp-content/uploads/2020/10/201028-GSI-report_October-release.pdf)

99 UN Principles for Responsible Investment <https://www.unpri.org/pri/about-the-pri>

100 <http://www.ft.com/intl/cms/s/0/7ab8f196-40ab-11e3-ae19-00144feabdc0.html>

almost half provide written guidance on Environmental, Social and Governance (ESG) reporting, with 24 having mandatory ESG listing requirements. By 2020, the SSE members hosted some 50,000 listed companies, with a total market capitalization of over US \$80 trillion<sup>101</sup>.

Stock exchanges are not the only organizations through which investors are increasingly requiring sustainability reporting. In some countries, pension funds and banks are preferring to invest in companies and projects with a long-term sustainability focus and goals<sup>102</sup>. Nigeria was the first country in the world to launch Sustainable Banking Principles in 2012. These require banks to balance the environmental and social risks of their investments, the adoption and implementation of which are compulsory<sup>103</sup>. The launch of the initiative opened a new market for sustainability services for local and foreign companies<sup>104</sup>. Since then, UNEP Finance Initiative, in partnership with the global financial sector, has launched the Principle for Responsible Banking, which has developed an international framework for a sustainable banking system. 200 banks and other financial institutions from all over the world are signatories<sup>105</sup>. UNEP's Finance Initiative has also launched the Principles for Sustainable Insurance, which has 89 signatories and 77 supporting companies from around the world.<sup>106</sup>

### **Triodos Bank doubled in size due to increase in capital for sustainability initiatives**

The lending and investment strategy of the Dutch *Triodos Bank* demonstrates the growing financial interest in companies with a positive impact on society and the environment. Its banking activities finance SMEs that are sustainability leaders. *Triodos* has been a sustainable bank since its creation in 1980, therefore its market share, consumer demand, and success is based completely on its sustainable business model. Its investment strategy targets companies that demonstrate an integrated sustainability approach assessed on stringent sustainability criteria evaluated along their



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entire supply chain. *Triodos* currently manages US \$22.6 billion (nearly double the amount it managed at the time of original publication in 2014) and is proof that financing companies with a positive impact on society and the environment presents an opportunity not only for long-term climate positive impacts, but also shorter-term resilient and inclusive financial recovery against shocks<sup>107</sup>.

Other banks such as *YES BANK* in India, *CIBanco* in Mexico and *Bancolombia* and *Bancoldex* in Colombia have established green credit lines for companies demonstrating a strong sustainability vision.

### **Three Wheels United links cleaner auto-rickshaws with financial and social services**

Founded in 2010, *Three Wheels United (TWU)* is an Indian company with an innovative financing scheme which has triple bottom line benefits. An auto-rickshaw is a common means of transport in India that provides a livelihood for at least 5 million people<sup>108</sup>. The business-as-usual model is that the drivers rent highly polluting vehicles to work up to 12 hours a day earning around US\$3 under poor working conditions. In addition, the drivers are often trapped in predatory loans that restrict their ability to earn a real income. *TWU* realized there was an opportunity here to create an alternative, sustainable lending market for auto-rickshaw drivers while at the same time reducing the pollution caused by auto-rickshaws. The company provides affordable financing to drivers to allow them to purchase an electric auto-rickshaw. To date, *TWU* has financed the purchase

101 GRI, University of Stellenbosch, UNEP 2020. Sustainability Reporting Policy: Global trends in disclosure as the ESG agenda goes mainstream: <https://www.carrotsandsticks.net/media/zirbzabv/carrots-and-sticks-2020-interactive.pdf>

102 UN Principles for Responsible Investment 2012. Investing in the Sustainable Economy

103 <https://www.cbn.gov.ng/out/2012/ccd/circular-nsbp.pdf>

104 <http://www.theguardian.com/sustainable-business/sustainable-banking-nigeria-strategy-mindset>

105 UNEP Finance Initiative <https://www.unepfi.org/banking/bankingprinciples/more-about-the-principles/>

106 UNEP Finance Initiative <https://www.unepfi.org/psi/>

107 Interview with Marcel Proos, Manager External Communications, *Triodos Bank*

108 Interview with Ramesh Prabhu, *Three Wheels United*.

of 3,000 vehicles. The company uses an innovative fintech loan management system which is fuelled by income generation and behavioural data, which in turn are captured from borrower interactions digitally and in-person as well as through telematics in the vehicles. In this way, *TWU* has not only allowed drivers to earn more, it has also de-risked its lending, by keeping defaults to below 1%<sup>109,110</sup>.

### Crowdfunding channels funds directly from individuals to companies

An increasingly popular method of attracting investments for eco-innovation ideas and projects is through crowdfunding organizations. These connect individual investors with companies. Crowdfunding has gained significant momentum, with about 500 crowdfunding platforms now online. About 10 of these are major players in the space for crowdfunding for green businesses looking for investments<sup>111</sup>.

### ECO-INNOVATIVE COMPANIES ARE ATTRACTIVE TO BUSINESSES SEEKING ACQUISITIONS, MERGERS AND PARTNERSHIPS

In recent years, a range of SMEs have built strong brands as a result of eco-innovation. This leads to an increase in the companies' value, making them attractive candidates for potential acquisitions, mergers and partnerships<sup>112</sup>. In addition, small companies working in partnership with large companies gain access to knowledge and resources and can tap into larger funds than might otherwise be possible<sup>113</sup>.

A number of highly valued small innovative companies have been bought up by large companies. Some examples include the beverage company *Innocent*, producer of smoothies and juice, that was acquired by the US multinational *Coca Cola*, the US company *Burt's Bees*, which makes personal care products with natural ingredients that started out as a small company with revenues of US \$23 million in 2000 and was acquired by *Clorox* in 2007 for US \$1 billion<sup>114</sup>, and finally the car sharing platform *Zipcar* which was acquired by the car rental company *Avis* in 2013 for US \$500 million. These acquisitions are an indication of the potential growth for companies with innovative business models. There has also been a significant rise in interest from corporations to create or fund subsidiary companies specializing in innovation and clean technology<sup>115,116</sup>.

### SC Johnson acquires Ecover and Method

The small manufacturer of ecological cleaning products, *Ecover*, bought *Method*, a San Francisco-based manufacturer of green cleaning products, in 2012 to assist with their entry into the North American market. *Ecover* thereby doubled in size to a company with 300 employees and sales exceeding US \$200 million. Through the acquisition, both companies gained access to innovative solutions: e.g. *Ecover* to *Method's* green solvents and design capabilities, and *Method* to *Ecover's* R&D capabilities to develop novel plant based ingredients such as biosynthetic surfactants<sup>117</sup>. In 2017, *Ecover* and *Method* were in turn acquired by US multinational *SC Johnson* due to their "strong tradition of innovation and delivering on consumers' needs"<sup>118</sup>.

109 <https://www.enviu.org/work/three-wheels-united/>

110 <https://www.threewheelsunited.com/>

111 <https://www.thebalancesmb.com/green-business-crowdfunding-guide-4135794>

112 Montalvo, C., Diaz Lopez F. J. & Brandes, F. 2011. Analysis of the Potential for Eco-innovation in Nine Sectors. Task 4 Horizontal Report Delft: Europe Innova Sectoral Innovation Watch. Project on behalf of the European Commission, DG Enterprise and Industry.

113 OECD Publishing, Paris, 2013 A. Beltramello, L. Haie-Fayle & D. Pilat, Why New Business Models Matter for Green Growth, OECD Green Growth Papers

114 <https://www.greenbiz.com/article/lean-startup-movement-lessons-coca-cola-and-burts-bees>

115 Clean Tech Group 2009, The rise of the corporation in cleantech

116 Clean Tech Group 2013, Global Cleantech 100

117 Interview with Tom Domen, Long-term Innovation Manager, Ecover.

118 Statement by Fisk Johnson, Chairman and CEO of SC Johnson: <https://www.scjohnson.com/en/press-releases/2017/september/sc-johnson-signs-agreement-to-acquire-method-and-ecover#:~:text=RACINE%2C%20Wis.%2C%20Sept%2014,and%20a%20number%20of%20other>

## DRIVER 5

# Increase productivity and technical capacity

Eco-innovation entails a process of organizational change enhancing human and social capital, which are key assets of a company.

### OPPORTUNITIES FOR COMPANIES

“The more you innovate, the better you get at innovating”. As an eco-innovative company, you can benefit from this virtuous circle. Eco-innovation typically involves a drive for information exchange and participation in innovation processes by different units within your company as well as the acquisition of knowledge through collaboration with value chain partners including technical institutes<sup>119</sup>. The resulting learning and creative process leads to stronger employee engagement, better technical capacity in key competencies, and a broader overall skills base, all of which correlate positively with the productivity of a company<sup>120,121</sup>.

119 Aija Leiponen Skills and Innovation International Journal of Industrial Organization Volume 23, Issues 5–6, June 2005, Pages 303–323

120 Ibid.

121 104 Solomon Markos and M. Sandhya Sridevi, December 2010 International Journal of Business and Management Vol. 5, No. 12





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## ECO-INNOVATIVE COMPANIES INCREASE TECHNICAL CAPACITY AND PRODUCTIVITY

Embarking on eco-innovation is a process of change that will lead to the enhancement of technical capabilities. As eco-innovation typically involves companies collaborating with their value chain partners such as larger companies and technical institutes, they can acquire knowledge in the process. For example, *Ecover* noted that through the eco-innovation process, their partners brought different expertise and perspectives into the company, which increased its capacity to develop innovative solutions for the market<sup>122</sup>. In the process, an eco-innovative company benefits from the creation of a stronger skills base and better performance, which positively correlate with the productivity rate<sup>123</sup>.

Since so many value chains are now global or regional in nature, digitalization plays a key role in supporting a company's effective collaboration with partners, allowing for a rapid and easily communicable transfer of information and knowledge. Eco-innovative companies often commit to digitalization. The uptake of digitalization

is also key to the switch to e-commerce, an important business model option for many eco-innovative companies. With the trend towards e-commerce having been accelerated by the COVID-19 pandemic, this business model is becoming rapidly more important. Thus, eco-innovative companies which commit to digitalization are also "future-proofing" themselves against future external shocks like COVID-19<sup>124</sup>.

*'Without innovation, growth wouldn't be possible. It has helped us to become a sustainable producer which is a requisite to develop new projects in our markets.'*

**Margarita Ferat,**  
Environmental and Energy Corporate  
Manager at KUO Industrial Group

<sup>122</sup> Interview with Tom Domen, Long-term Innovation Manager, Ecover.

<sup>123</sup> D. Antonioli, S. Mancinelli, M. Mazzanti: Is environmental innovation embedded within high-performance organisational changes? The role of human resource management and complementarity in green business strategies, Research Policy, Volume 42, Issue 4, Pages 975-988, 2013

<sup>124</sup> OECD, October 2020, E-commerce in the time of COVID-19, <http://www.oecd.org/coronavirus/policy-responses/e-commerce-in-the-time-of-covid-19-3a2b78e8/>



## KUO moved from low value-added products to high value chemical components

Through a large number of process and organizational innovations, the Mexican industrial group *KUO* managed to increase productivity, reduce costs, and increase the overall efficiency of operations in parallel to developing its research and development (R&D) capacity<sup>125</sup>. *KUO* implemented a new business strategy in the 1990s implementing Design for Environment and combining eco-efficiency with innovation to produce higher value specialized chemical components. The company used an approach of joint ventures, an extensive eco-efficiency programme and R&D to increase its overall technical capacity<sup>126</sup>. This improved the company's ability to develop high-value chemical components. For instance, *KUO* now commercializes specialized components based on proprietary technology such as Biorene, an ingredient of bio-based plastics that is compliant with the ASTM<sup>127</sup> biodegradability standard, and composite materials for tyres with more sustainable features that are sold on international markets such as the United States and Europe.

## ECO-INNOVATIVE COMPANIES INCREASE EMPLOYEE ENGAGEMENT

The working culture of a company determines the strength of social capital, which can directly affect the success of the company. An increasing number of companies now realize that by focusing on employee engagement, they can create more efficient and productive workforces<sup>128</sup>. Given the collaborative nature of eco-innovation, such companies tend to involve their workforce in a more participative process of knowledge sharing, training and encouraging two-way communication.

Employees' sense of engagement and satisfaction leads to better retention of skills and reduced attrition rate, which corresponds in turn to higher productivity, profitability and growth for a company<sup>129</sup>. This is supported by research which indicates that the more engaged employees are, the more likely their employer is to exceed the industry average in terms of revenue growth<sup>130</sup>. Such correlation is stronger if employees feel engaged in a positive cause. For example, a 2010 global survey in China, India, US, UK and Germany indicated that over 96% of 18-45 year olds want their employer and workplace to be environmentally friendly or at least environmentally aware<sup>131</sup>.

Experience during the COVID-19 pandemic has shown that employee engagement created by a business's commitment to sustainability can help to make that business more resilient. In addition, the greater trust engendered between employer and employee by a commitment to sustainability becomes ever more important in situations, like the COVID-19 pandemic, where home-based work becomes the norm.

*'The company's commitment to sustainability strengthened employee loyalty. They felt connected and engaged. When COVID-19 hit, that commitment helped us. Employees were willing to go "the extra mile" which the pandemic required.'*

**Natalia Osorio**  
CEO, *Naturesse*

## Ecover's Long-term Innovation Manager helps develop internal capacities

*Ecover* hired a dedicated Long-term Innovation Manager who collaborated with all company departments. This not only helped to drive change within the company but also to develop internal capacities at its core. The company's culture of information exchange encouraged employees to express their ideas to drive sustainability and innovation forwards.

125 Diaz Lopez, F. J. 2009, Environment, Technological Change and Innovation. Faculty of Social Sciences. School of Development Studies. Norwich, University of East Anglia. Doctor in Philosophy: 302.

126 Journal Industry and the Environment, 2004 Volume 27 No.2-3 Article Margarita Ferat

127 ASTM, is an international standards organization that develops and publishes voluntary consensus technical standards for a wide range of materials, products, systems and services.

128 Solomon Markos and M. Sandhya Sridevi, December 2010 International Journal of Business and Management Vol. 5, No. 12

129 Ibid.

130 Ibid.

131 Johnson Controls 2010 Global Work Place Innovation: Generation Y and the Workplace Annual Report

# How do I start an eco-innovation process?

This publication can serve your company as inspiration for embarking on eco-innovation. To go further, we can recommend a number of publications and websites.

## UNEP ECO-INNOVATION WEBSITE AND TOOLS

<http://unep.ecoinnovation.org/>

- The UNEP eco-innovation website provides a learning journey on eco-innovation, with step-by-step guidance
- Learning videos walk you through key concepts and steps of eco-innovation (<https://www.youtube.com/playlist?list=PLZ4sOGXTWw8HovjemsP0zUkMe-Qb2XAI-4>)
- Success stories of eco-innovation showcase best practices and lessons learned by companies that have implemented eco-innovation

## TOOLS PROVIDING GUIDANCE TO SERVICE PROVIDERS AND EXPERTS ON HOW TO SUPPORT COMPANIES TO IMPLEMENT ECO-INNOVATION

- The *Eco-Innovation Manual* provides step-by-step guidance to service providers to identify opportunities and assist SMEs to implement eco-innovation programmes. Specific sector supplements further detail the process for those sectors (currently available: agrifood, metals and chemicals; under development at time of publication: building products, electronics, textiles).
- *Technology for Eco-innovation* provides practical advice to service providers and policy makers on the key enablers, processes and methods of transferring, adapting and developing technologies for eco-innovation. Some key policy actions in this context are highlighted.
- *Mainstreaming eco-innovation in SCP policies* informs service providers and policy-makers about appropriate policy mixes that can address the barriers and enabling conditions for eco-innovation in order to provide a conducive policy framework. It also informs service providers about proactive ways to use their expertise for interacting in the policy-making cycle.

## LIST OF SERVICE PROVIDERS AND EXPERTS

- To assist you with eco-innovation, service providers and other relevant experts can provide advice on what needs to be considered and how to implement the different phases of the eco-innovation process. To date, a number of members of the Resource Efficient and Cleaner Production network (*RECPnet*) have supported SMEs to implement eco-innovation (<https://greenindustryplatform.org/recpnet>). We also welcome you to check our website for current and past projects on eco-innovation in your country or region, which will list the service providers who were involved (<https://www.unenvironment.org/eco-innovation>)

## LIST OF TOOLS AND REFERENCES FOR MORE INFORMATION

- UNEP Circularity Platform: <https://www.unenvironment.org/circularity>
- UNEP Design for Sustainability: <http://hdl.handle.net/20.500.11822/8742>
- UNEP Life Cycle Management; a business guide to sustainability: <https://www.unenvironment.org/resources/report/life-cycle-management-business-guide-sustainability>
- European Commission: Eco-Innovation – A guide to SMEs and Business Coaches <https://eco-innovation.eu/index.php/guide-for-smes>
- OECD: Sustainable Manufacturing Toolkit: [www.oecd.org/innovation/green/toolkit](http://www.oecd.org/innovation/green/toolkit)
- Green Industry Platform: [www.greenindustryplatform.org](http://www.greenindustryplatform.org)

# Full Case Studies

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# Case Study Specialized Solar Systems

Location	Size	Established
South Africa	60 employees (SME)	2005
Annual Sales		Sector
2012/13 \$US 872 040 2013/14 \$US 2 083 687		Alternative energy supply, service and Support

<b>Business Growth</b>	<ul style="list-style-type: none"> <li>✓ In 3 years, the company has tripled in size.</li> <li>✓ SSS has become one of the main suppliers to local government. Initial support from local government and institutions, and rollout to the critical mass, have enabled 'enormous business growth'<sup>132</sup>.</li> </ul>
<b>Business Strategy</b>	<ul style="list-style-type: none"> <li>✓ Meet market demand from low-income consumers with high levels of energy poverty in rural South Africa through the provision of a Direct Current (DC) micro grid service-system fed by solar power.</li> <li>✓ Modify home appliances to function on DC, which uses ¼ less energy compared to Alternate Current (AC) when converted.</li> <li>✓ Change the 'norms' in consumption patterns of electricity from AC to DC from solar power by working in partnership with local government and institutions.</li> <li>✓ Establish support networks for the technology throughout the region of Africa.</li> <li>✓ Many areas in South Africa are not covered by traditional AC-based energy supply infrastructure. SSS has therefore demonstrated technological leapfrogging through an innovative approach that avoids being locked into less efficient systems requiring highly skilled maintenance.</li> </ul>
<b>Business Model</b>	<ul style="list-style-type: none"> <li>✓ The DC microgrid kit is sold as a service system, as opposed to a one-off product purchase, at a price that is considered affordable locally by the target market.</li> <li>✓ The kit can be managed remotely from a 'smart box'.</li> <li>✓ SSS provides free trainings for installation, use and maintenance. Through fostering new skills in local communities, which function within service to service exchanges, SSS states that it is creating social and economic value.</li> </ul>
<b>Product Innovation</b>	<ul style="list-style-type: none"> <li>✓ Designed using a life-cycle approach, the product has a modular base which means that specific components can be replaced without having to reinstall the entire system.</li> <li>✓ The panels are effective for 20 years and a smart box serves as the functioning mechanism, which enables the system's management and maintenance.</li> </ul>
<b>Process and Distribution</b>	<ul style="list-style-type: none"> <li>✓ The smart box has a web-based system which allows remote system management and payment, reducing transport needs and costs for monitoring.</li> <li>✓ Training and manufacturing plants are moved to the proximity of the respective markets</li> </ul>

Source: Interviews with Carlos Smith and Jonathan Hodgson, Specialized Solar Systems

# Case Study Ecover

Location	Size	Established
Belgium	300 employees	1980
Annual Sales		Sector
US \$200 million		Ecological cleaning products

*'Our expansion from the small shops into supermarkets was thanks to our eco-innovation. This entry in mass retail has given us a big boom in sales.'*

**Tom Domen,**  
Ecover

<b>Business Growth</b>	<ul style="list-style-type: none"> <li>✓ Shift from niche markets to supermarkets Europe-wide.</li> <li>✓ Annual growth rates of 10-25% between 2002 and 2010.</li> <li>✓ Acquisition of the company Method in 2012, a US manufacturer of ecological cleaning products, bringing Ecover sales to over US \$200 million.</li> <li>✓ In 2017, Ecover and Method were acquired by SC Johnson.</li> </ul>
<b>Business Strategy</b>	<ul style="list-style-type: none"> <li>✓ Innovations mostly through open innovation involving partners and scientific institutions.</li> <li>✓ Shift from incremental innovations such as replacing ingredients to a more radical eco-innovative path now, looking at new business models, supply chains and sourcing strategies.</li> <li>✓ Respond to market demand: global green cleaning products sales were estimated to be US \$3.9 billion in 2019 and predicted to increase to US \$11.6 billion by 2029</li> <li>✓ Business expansion to supermarkets all over Europe with a view to expand to other global regions.</li> </ul>
<b>Business Model</b>	<ul style="list-style-type: none"> <li>✓ Innovation in all dimensions of the company, considering the entire value chain of its products to respond to market demand ahead of competitors.</li> <li>✓ Certification of their products with eco-labels, if needed, to reach key market segments.</li> </ul>
<b>Product Innovation</b>	<ul style="list-style-type: none"> <li>✓ Development and use of formulas with bio-based solutions using certified ingredients<sup>133</sup>. According to Ecover, they are continuously innovating to develop new technologies that can provide the most sustainable alternatives in the long term.</li> <li>✓ Re-fill packages and use of 100% bio-based plastics such as Green PE made from certified sugar cane<sup>134</sup> which can be fully recycled along with conventional plastics.</li> <li>✓ Cleaning products that are effective with a cold-water wash (hot water use is a key environmental hotspot in the life cycle of most cleaning products).</li> <li>✓ Substituting imported palm oil with local alternatives, leading to a palm oil reduction of 200 tons per year.</li> <li>✓ Development of concentrated cleaning product, reducing water and plastic use, as well as transport emissions.</li> <li>✓ All bottles made from recycled plastic, some bottles based on biomimicry to reduce plastic use.</li> <li>✓ Certification of their products with eco-labels to reach key market segments.</li> </ul>
<b>Process Innovation</b>	<ul style="list-style-type: none"> <li>✓ Innovating in all processes including manufacturing and distribution channels by promoting dispensing machines with retailers and online purchases.</li> <li>✓ Replacing water use in pipes by a cleaning device that pushes products through pipes instead of water, and treating wastewater for other companies' use (e.g. maintaining bacteria at biological water treatment plant).</li> <li>✓ Prioritizing local suppliers, matching order sizes to suppliers' trucks to reduce number of deliveries needed.</li> </ul>
<b>Organizational Structure</b>	<ul style="list-style-type: none"> <li>✓ Collaboration with actors in the product value chain.</li> <li>✓ Establishment of a specific position for Long-term Innovation Manager.</li> <li>✓ A company culture of encouraging and inviting employees to propose ideas.</li> </ul>

Source: Tom Domen, Long term Innovation Manager, Ecover; [ecover.com](http://ecover.com)

<sup>133</sup> LCA studies have been carried out on the specific issue of land and water use for bio-based ingredients with universities.

<sup>134</sup> Idem.



# Case Study SAFECHEM

Location	Size	Established
Germany	35 employees	1992

Sector
Chemical product services and chemical leasing

<b>Business Growth</b>	<ul style="list-style-type: none"> <li>✓ SAFECHEM continues to grow in a declining market and serves 7,500 clients across Europe and North America.</li> </ul>
<b>Business Strategy</b>	<ul style="list-style-type: none"> <li>✓ SAFECHEM is a provider of services and solutions related to the use of solvents in industrial surface cleaning and professional textile cleaning.</li> <li>✓ Driven by customer demand and guided by Product Stewardship principles, SAFECHEM has developed an innovative closed-loop service system to help its clients meet their needs of: <ul style="list-style-type: none"> <li>◆ Cleaning performance through the use of recyclable solvents</li> <li>◆ Workplace safety</li> <li>◆ Regulatory compliance</li> <li>◆ Environmental protection</li> <li>◆ Reduced solvent consumption and therefore, waste</li> <li>◆ Through its closed-loop service system, SAFECHEM enables its clients to manage the product-specific risks of chlorinated and non-chlorinated solvents. Their product and service offering is suited for SMEs.</li> <li>◆ By being 15 years ahead of European regulation the company benefitted from untapped market demand for the safe and sustainable use of solvents in cleaning applications.</li> </ul> </li> </ul>
<b>Business Model</b>	<ul style="list-style-type: none"> <li>✓ SAFECHEM offers chemical product service systems like chemical leasing where clients pay for the performance of cleaning rather than the volume of chemicals consumed.</li> <li>✓ Chemical leasing and the closed loop system which reduces the use of chemicals and increases the financial benefits for both parties. SAFECHEM helps optimize the cleaning process as well as the amount of solvent consumption.</li> <li>✓ In 2007 the VOC directive was implemented throughout Europe. At that point, the company had a product that was tested and proven, and that no one else could offer. By developing a new solution, the company had a product that was ahead of regulation and could gain a competitive advantage in the market of solvent cleaning.</li> <li>✓ The company works with relevant stakeholders along the value chain such as recycling companies and machine manufacturers. They also offer their services via distribution partners and have expanded their network and market coverage.</li> </ul>
<b>Product Innovation</b>	<ul style="list-style-type: none"> <li>✓ The closed loop system is a double-walled safety steel container system for the safe handling of fresh solvents and the take-back of used solvents for recycling. It was designed together with clients and the machine manufacturer.</li> <li>✓ Up to 98% reduction of solvent consumption for clients in combination with closed cleaning equipment technology.</li> <li>✓ Using the closed-loop system, virtually no chemicals are spilled or emitted.</li> </ul>
<b>Process innovation</b>	<ul style="list-style-type: none"> <li>✓ Solvents are recycled within a closed cleaning machine and can be used for up to 4 years if continuously monitored and stabilized applying SAFECHEM Service Elements. This service portfolio includes test kits for on-site monitoring, stabilizer concentrates for re-stabilization of the solvent during use, specialized laboratory services, solvent training, and consultancy. After that the solvents are returned and recycled.</li> <li>✓ Workforce training on the safe and proper handling of solvents provided by SAFECHEM enables optimized processes and environmental compliance.</li> </ul>

Source: Steffen Saecker, SAFECHEM  
Nordic Innovation Report 2012 Green Business Model Innovation:  
Business case study compendium

# Case Study Natura

Location	Size	Established
Brazil	Over 6 800 employees and 1.8 million independent sales consultants	1969

Annual Sales	Sector
US\$ 3.6 billion	Cosmetics, fragrances and personal care

<b>Business Growth</b>	<ul style="list-style-type: none"> <li>✓ Natura is a Brazilian cosmetics, fragrances and toiletries multinational. The leader in the direct selling sector in Brazil, the company has over 1.8 million independent sales consultants and is now present in Argentina, Bolivia, Brazil, Chile, Colombia, France, Mexico, Peru, Malaysia and the United States.</li> <li>✓ Natura is a subsidiary of Natura &amp;Co Holding, a global, purpose-driven, multi-channel and multi-brand cosmetics group which also includes Avon, The Body Shop and Aesop.</li> </ul>
<b>Business Strategy</b>	<ul style="list-style-type: none"> <li>✓ Innovation for market differentiation and sustainability.</li> </ul>
<b>Business Model</b>	<ul style="list-style-type: none"> <li>✓ Continuous research into new technologies, market trends and advances in the area of cosmetics with a focus on technologies for sustainability and 'well-being' as key innovation drivers. Natura launched 330 new products on the Brazilian market and invested US \$40 million in innovation, corresponding to 2.4% of the company's net revenue.</li> <li>✓ Uses an open innovation model and R&amp;D platform involving partners such as researchers and other institutions as part of a scientific community as well as suppliers. Maintains a close relationship with national financial institutions such as FINEP, BNDES, CNPQ, and USAID amongst international agencies.</li> <li>✓ Selects suppliers on a 'shadow price' that reflect the socio-environmental costs and benefits.</li> <li>✓ Focuses supplier relationships on the creation of partnerships to build a chain with higher added value. In 2019, US \$ 6.3 million were allocated to supplier communities for the purchase of inputs, benefit sharing and training.</li> <li>✓ The 2050 Sustainability Vision, launched in 2014, outlined a route for making Natura a company that will generate positive impact in the coming decades, in addition to reducing and mitigating the impacts from its activities.</li> </ul>
<b>Product Innovation</b>	<ul style="list-style-type: none"> <li>✓ Natura develop products using an eco-design approach applying life-cycle thinking to the product formulas, packaging and distribution channels.</li> <li>✓ For example, for the SOU body, hair, and bath care product line: <ul style="list-style-type: none"> <li>◆ The product line was developed using eco-design and a life cycle thinking approach, with a dedicated multifunctional team. Formulas were created using only essential ingredients, giving priority to plant-based components with up to 75% 'vegetalization' and no colour pigments.</li> <li>◆ Stand up pouches with a cap are used as primary packaging. The pouch requires 70% less plastic compared to conventional packaging and CO2 emissions are reduced by 60%. The packaging results in 3 times less waste and can be recycled with other plastics.</li> <li>◆ Within the innovative manufacturing process, the pouch is formed using a plastic film roll just before the filling stage thus optimizing transportation and packaging storage and resulting in cost savings and less pollution.</li> <li>◆ With the reduction of material consumption and reduction of waste along the entire supply chain, Natura was able to position SOU in a new market segment, with a more accessible price than its current lines. SOU was successfully tested for six months and launched nationally in June 2013.</li> <li>◆ Natura has offered product refills since 1983. The company prioritizes renewable or recyclable material, as well as reduces packaging material volume and uses and reuses materials already present in the production process All plastics used in the Ekos rangeline are 100% recycled or made from sugar cane. Natura's use of sugar cane-based plastic avoids almost 5000 tons of carbon per year.</li> </ul> </li> </ul>

# Case Study Natura

<b>Process Innovation</b>	<ul style="list-style-type: none"> <li>✓ A carbon calculator is used to minimize emissions to support the Corporate Carbon Reduction Programme (with a target of 33% reduction achieved in 2013); it also calculates all the indicators of an environmental table and simplified packaging LCA for all sold products. Currently, 1462 raw materials and 94 packaging materials are available in the tool. This programme resulted in Natura receiving a UN Global Climate Action Award in 2019.</li> <li>✓ The environmental table (displayed on all products) shows the value for 6 key indicators: the percentage of plant-based product content, percentage of certified raw materials, packaging with percentage of recycled and recyclable material as well as a number of recommended re-fills.</li> <li>✓ Waste and water programs have been implemented at product and corporate level, including all factories.</li> <li>✓ In 2018 Natura achieved Union for Ethical Bio Trade (UEBT) certification for the Natura Ekos product line. The recertification in 2019 took into account 81 supply chains of social biodiversity ingredients, an increase of 17% compared with the first certification.</li> <li>✓ Natura uses Environmental Profit &amp; Loss (EP&amp;L) to measure the positive and negative impacts of all phases of production, commercialisation, and disposal in monetary terms, including volume of solid waste generated, land use, consumption, and pollution of water, GHG emissions and atmospheric pollutant emissions. In 2017, the impact generated represented 6.9% of Natura's net revenue, down from 8.6% in 2013, when they first began measuring.</li> </ul>
<b>Organizational Structure</b>	<ul style="list-style-type: none"> <li>✓ In 2014, Natura was the first publicly traded company to receive B Corp certification in Brazil businesses that, in addition to positive financial impacts, generate positive social and environmental impacts. The recertification was granted in 2017 and in 2020 for the third consecutive time; increasing their score by 24% over their last certification and achieving 153 points out of 200.</li> <li>✓ In 2014, Natura inaugurated the Ecoparque, a business centre based on the concept of industrial symbiosis located in the Amazon region of Brazil, which they share with other companies to create a network of innovation and entrepreneurship in the region. Natura's work with innovation in the Amazon region is based on the premise of leveraging research and development in the region while contributing towards keeping the forest standing and promoting the social and economic development of local communities.</li> <li>✓ Cross-disciplinary teams established at the beginning of every new project.</li> </ul>
<b>Resilience</b>	<p>COVID-19</p> <ul style="list-style-type: none"> <li>✓ Repurposed manufacturing setup within weeks to increase production of soap and hand sanitizer by more than 30%.</li> <li>✓ Used existing direct-to-consumer sales network to amplify hygiene, domestic violence, and social distancing information.</li> <li>✓ Introduced flexible credit terms for consultants and implemented more digital direct selling tools and provided training to enable everyone to work from home more effectively.</li> <li>✓ Developed new digital tools and resources for independent sales consultants to drive online selling and remote consulting.</li> <li>✓ Consultants were also helped through postponed bill payment, the introduction of payment in up to six instalments for credit card purchases, and the reduction of the number of points necessary to place product purchase orders.</li> </ul>

Sources: Interview with Fabien Brones, Scientific Manager Eco-design and Environmental Impacts; Harvard Business Review July-August 2012; Redefining the Future of Growth: The New Sustainability Champions, WEF & BCG; Aligning profit and environmental sustainability: Stories from Industry, WRI; Natura Annual report 2012. UNEP, Greening the Economy through Life Cycle Thinking – Ten Years of the UNEP/SETAC Life Cycle Initiative, 2012; naturaeco.com; naturabrasil.com; Communications with Patricia Kusunoki, Tainara Machado and Pamela Maiuolo, Natura.

# Case Study Interface

Location	Size	Established
USA	4,100 employees	1973
Annual Sales		Sector
US\$ 1.3 billion		Textiles - Global Commercial Flooring

<b>Business Growth</b>	Interface manufactures modular flooring and is the global share leader in the US \$5 billion commercial carpet tile segment. Interface had been operating for 20 years when a customer enquired about environmental impacts, sparking Interface's reorganization into an eco-innovative company, where everything from raw materials and value chains, to product use, and consumer information would be centred first around reducing negative environmental impacts, and more recently, about contributing environmentally positive impacts. In 2019, Interface declared success regarding its Mission Zero goal to transform its business to have zero negative impact, and it achieved this by deeply reducing the carbon footprint of its operations. The company has since increased its ambition to have positive environmental impacts and is working to become a carbon negative enterprise by 2040. This increasing ambition has reinforced its market leadership position.
<b>Business Strategy</b>	<ul style="list-style-type: none"> <li>✓ To constantly innovate in products, processes, and stakeholder collaboration as a brand enhancing, competitive strength, as well as a strategic initiative.</li> <li>✓ To seek to increase revenues and profitability by capitalizing on the company strengths.</li> <li>✓ To go beyond carbon neutral with its entire product portfolio (which Interface achieved in 2019) and become a carbon negative enterprise.</li> </ul>
<b>Business Model</b>	<ul style="list-style-type: none"> <li>✓ Innovate in designing and manufacturing floor tiles that are modifiable and completely circular (meaning all components are fully re-usable).</li> <li>✓ Use the company capabilities to drive change in consumer behaviour.</li> <li>✓ Work with suppliers to affect the sustainability of the value chain.</li> <li>✓ Beyond its value chain, partner with customers, competitors and other building industry stakeholders.</li> </ul>
<b>Product Innovation</b>	<ul style="list-style-type: none"> <li>✓ 46% of materials in products are from recycled or bio-based sources..</li> <li>✓ TacTiles™, adhesive stickers fix carpet tiles to the floor without synthetic glues.</li> <li>✓ CQuest™BioX carbon negative backing for carpet tiles, which, when combined with specialty yarns and proprietary tufting processes, results in a carbon negative carpet tile when measured cradle to gate. This means there is less CO2 in the atmosphere after production than had the tiles not been manufactured when considering impact from manufacturing to sales.</li> <li>✓ Carbon Neutral Floors™ program offsets the carbon emissions of all flooring products sold across their full product life cycle, offsetting over 549 000 tons of carbon in 2019.</li> </ul>
<b>Process Innovation</b>	<p>Since 1996, Interface has seen the following innovations:</p> <ul style="list-style-type: none"> <li>✓ The ReEntry™ program allows customers to return Interface or competitors' carpet or vinyl tiles to be reused or recycled into components, diverting over 136 000 tons from landfill while providing Interface raw material resources.</li> <li>✓ The Net-Works™ program pays villagers in the Philippines, Cameroon, and Indonesia to recover over 224 tons of discarded fishing nets as of 2019 for use as recycled nylon for Interface products. The recycled nylon since has been adopted by competitors and other sectors.</li> <li>✓ The introduction of precision cutting machinery and other process changes have driven a 92% reduction in waste sent to landfill at Interface carpet tile manufacturing sites.</li> </ul>
<b>Organizational Structure</b>	<ul style="list-style-type: none"> <li>✓ In 2019, Interface began reporting Scope 3 emissions, with purchased raw materials accounting for 45% of Interface's total carbon impact. Interface helps suppliers identify how to reduce carbon emissions, including providing a platform to identify hotspots and track progress.</li> <li>✓ The Ambassador program allows employees to volunteer to represent the company publicly to share sustainability efforts, creating stronger engagement and empowering employees to improve their business function's sustainability performance.</li> </ul>

## Case Study Interface

### Resilience

#### Long-term

- ✓ Since 1996, Interface has shown that sustainable business models have long-term benefits to profits, competitiveness, and productivity. A 2020 study showed that 79% of architects want to specify the use of more sustainable materials. In addition, over 90% of Interface's top end-user customers have set carbon reduction goals. Interface is therefore able to comply with future demands for sustainable building materials procurement. By working closely and sharing information with value chain suppliers, as well as industry stakeholders, Interface is able to stay ahead of supply chain shocks, changes to regulations and standards, as well as customer demand.

#### COVID-19

- ✓ Following Interface's years of eco-innovating with suppliers to make its raw materials more sustainable, the company's vendor relationships are now collaborative partnerships rather than simply transactional exchanges. These deeper relationships mean that when unexpected events like COVID-19 occur, Interface's supply chain can weather challenges better. During the pandemic, Interface's close relationships with suppliers helped the company avoid supply chain challenges, providing insights into supply chain and raw materials suppliers' stock levels to avoid supply chain disruptions.

Source: Interview with Erin Meezan, VP and Chief Sustainability Officer; *Lessons for the Future: The Interface guide to changing your business to change the world*; *Annual Report 2020*; American Institute of Architects, *Sustainability in the Architect's Journey to Specification*, November 2020.



# Case Study Triodos Bank

Location	Size	Established
Banking activities in the Netherlands, Belgium, Spain, Germany, United Kingdom, and investment management globally	911 employees in 2014, and 1 524 employees mid-2020	1980

Sector
Financial services: retail deposit taker and lender. Specifically working on impact investment, emerging markets, SMEs and small listed funds.

<b>Business Growth</b>	Triodos Bank more than doubled in size from 2008 to 2013. During this period, they increased the amount of equity and funds entrusted to the bank by over 200%. In 2014 they managed US \$11.6 billion, which has since grown to US \$22.8 billion in 2020.
<b>Business Strategy</b>	<ul style="list-style-type: none"> <li>✓ Triodos Bank finances and invests in companies, institutions and projects that add cultural value and aim to benefit people and the environment. Triodos Bank does this with the support of depositors and investors who want to encourage socially responsible business and a sustainable society. Triodos Bank bases its selection for investment on sustainability leadership for 100% of the companies they lend to. The bank lends specifically to projects that have positive impacts on food and agriculture, energy and climate, social inclusion, renewable energy projects and organic farms and specifically seeks companies with sustainability integrated into their core business model with a transformative potential for their markets.</li> <li>✓ The categories of loans granted by Triodos Bank at the end of 2019 are: <ul style="list-style-type: none"> <li>◆ Environment – 35% (organic agriculture, renewable energy, green buildings)</li> <li>◆ Social – 23%</li> <li>◆ Culture – 13%</li> <li>◆ Residential sustainable mortgages – 24%</li> <li>◆ Municipalities – 4.4%</li> </ul> </li> </ul>
<b>Business Model</b>	Triodos Bank uses impact, risk and return to understand their overall development and place in the world around them. This necessarily means they have a positive, long-term perspective. By focusing on delivering sustainable social, environmental and cultural impact as well as risk and return, Triodos Bank's horizon is inherently longer-term and has a positive, holistic outlook. Through convening direct relationships with customers in their respective sectors and having sector-specialist relationship management teams, market insights are used to drive innovation. Investing in maintaining a high level of dialogue with other stakeholders within sectors (governmental bodies, NGOs, trade bodies, foundations, researchers etc.), Triodos Bank is able to gather insights and data to help further innovation – for example through setting up guarantee funds for cultural projects with foundations. Triodos Investment Management invests to generate social and environmental impact alongside a healthy financial return.
<b>Investment Criteria</b>	<ul style="list-style-type: none"> <li>✓ Triodos Bank considers a broad range of factors at the level of processes, relationships and motivation in investment decisions. Triodos Bank lends money only to organizations working to bring about positive and lasting change. Therefore, clearly defined criteria guide their everyday lending decisions, and make them accountable to their savers and investors. They use minimum standards, which contain a list of exclusions.</li> <li>✓ For their agriculture financing, decision making is based not on rule-based compliance or 'box ticking' but what principles are supporting the project. This includes regenerative agriculture, biodynamic agriculture, circular agriculture, and initiatives that follow organic principles and allow animals to express their natural behaviour and fulfil their natural function within ecosystems. This approach allows Triodos Bank to fund projects that are organic by default or follow organic principles without certification.</li> </ul>

## Case Study Triodos Bank

	<ul style="list-style-type: none"> <li>✓ In 2018, Triodos Bank began measuring the GHG emissions of their entire portfolio using the Partnership Carbon Accounting Financials methodology to create a baseline on which they can improve and monitor performance, thus creating an incentive to work with customers to reduce their emissions and grant financing to low-emission projects. Their 2020 annual report reported for the first time about the GHG emissions of its entire portfolio. The bank takes perspective of the entire network of relationships (supply chains and stakeholders) in order to assess a company's resilience and sustainability.</li> </ul>
<b>Process Innovation</b>	<ul style="list-style-type: none"> <li>✓ Specialist services and impact investment funds to complement their core banking business in order to respond to the needs of leading clients.</li> <li>✓ Discounts on loan interest rates to incentivize sustainability (e.g. private mortgage customers that improve the energy rating of their houses).</li> </ul>
<b>Resilience</b>	<p>COVID-19</p> <ul style="list-style-type: none"> <li>✓ Triodos Bank liaised with stakeholders including other banks, governments, and regulators to discuss measures to support SMEs, and supporting SME customers by applying government measures and facilitating repayment holidays and payment deferrals. When COVID-19-related government support schemes expire, Triodos Bank customers will face economic challenges, however in the medium and long-term, by nature of their sustainable business models, Triodos Bank customers (and therefore Triodos Bank itself) are well-positioned to be part of 'building back better'.</li> <li>✓ As a forward-looking company, Triodos Bank had contingency plans for shocks, and during the beginning of the COVID-19 outbreak, Triodos Bank activated their plan to address an evolving situation to allow customers and co-workers could continue their operations.</li> </ul>

Source: Marcel Proos, Manager External Communications at Triodos Bank; Annual Reports on the Triodos Bank website: <http://www.triodos.com/download-centre> or <https://annual-report-triodos.com/2019/>

# Case Study Naturesse

Location	Size	Established
Colombia	10 in 2014, 30 in 2020	2010

Annual Sales	Sector
US\$ 153,400 in 2014, US\$ 915,800 in 2020	Personal care consumer products

<b>Introduction</b>	<ul style="list-style-type: none"> <li>✓ When Naturesse S.A.S was created in 2010, they focused on producing environmentally friendly toiletries (such as lotions, antibacterial gel, liquid soaps, and solid soaps). The company offered customizing the design of amenities according to the customer's needs as a way of adding value to products. Sales were business-to-business, with most clients being hotels and motels.</li> <li>✓ In 2014, Naturesse participated in UNEP's Eco-innovation project, where they assessed their entire value chain to identify their environmental hotspots to improve productivity, expand into new markets, and increase profitability. Having a sustainable business model was 'based on my personal belief, but we've been able to access new environmentally-conscious customers (by doing so),' said Natalia Osorio, CEO and founder of Naturesse.</li> </ul>
<b>Business Growth</b>	<ul style="list-style-type: none"> <li>✓ Shift from hotel industry to supermarkets and direct-to-consumer online sales.</li> <li>✓ Between 2013 and 2020, Naturesse sales have grown 592% and have tripled the number of employees (30).</li> </ul>
<b>Business Strategy</b>	<ul style="list-style-type: none"> <li>✓ Business expansion of both markets as well as products, responding to consumer demands for ecological products</li> </ul>
<b>Business Model</b>	<ul style="list-style-type: none"> <li>✓ In 2014, 99% of Naturesse's clients were hotels. Since 2014, Naturesse expanded to sell in eco-hotels, major supermarkets, hospitals, clinics, and direct to consumer using their online store. Hotels now only comprise 20% of their sales.</li> <li>✓ Innovation in process, raw materials, products, and packaging to become a more eco-friendly and responsible company.</li> </ul>
<b>Product Innovation</b>	<ul style="list-style-type: none"> <li>✓ By applying UNEP's Eco-innovation methodology on their solid soap line, Naturesse was able to identify two hotspots and offer solutions to them.</li> </ul> <p>Hotel soap waste</p> <ul style="list-style-type: none"> <li>✓ It is estimated hotels discard up to 20% of the bar soap they buy. Naturesse collaborated with hotel customers to collect bar soap waste from hotel customers for reuse into manufacture liquid detergent. Due to regulation requiring separate facilities for this process, Naturesse pivoted to exploring collaborating with another facility to implement this.</li> </ul> <p>Reformulation</p> <ul style="list-style-type: none"> <li>✓ Naturesse collaborated with suppliers to find appropriate raw materials to reformulate its solid soap line to 100% sustainability-certified natural raw materials, including palm oil. The company's previous palm oil supplier was from Ecuador and did not have environmental certification – by switching to a local RFA-certified supplier, Naturesse saved on import taxes and high transport fees, while reducing potential supply chain disruptions. Naturesse also switched from chemical fragrances to essential oils, making the solid soap lines 100% derived from natural products.</li> <li>✓ New customers were attracted to Naturesse products specifically for their sustainability properties, leading to almost US \$3 000 per year in additional sales.</li> </ul>
<b>Process Innovation</b>	<ul style="list-style-type: none"> <li>✓ Packaging has been a priority for Naturesse, partially switching to paper packaging derived from local sugarcane. As a result of lack of domestic expertise and capacity for lower-plastic bottles, Naturesse created a line of solid shampoo products that do not require plastic packaging, thus reducing Naturesse's plastic use.</li> </ul>

## Case Study Naturesse

<b>Organizational Structure</b>	<ul style="list-style-type: none"> <li>✓ Naturesse's commitment to incorporating environment into every part of their operations has strengthened employee loyalty, as employees felt personally engaged to do things sustainably, and were motivated to go beyond what was required and offer help in difficult times.</li> <li>✓ Naturesse hired an environmental engineer to collect and analyze data on energy, water, and plastic use to improve their environmental performance. This allows Naturesse to stay ahead of and comply with regulations.</li> <li>✓ With a culture that prioritizes innovation, Naturesse is able to be flexible in its operations, pivoting to producing what the market demands more quickly and efficiently (e.g. producing more hand sanitizer during COVID-19).</li> </ul>
<b>Resilience</b>	<p>Long-term</p> <ul style="list-style-type: none"> <li>✓ Naturesse showed that eco-innovation is not a one-off project, but a way to keep a company innovating and deepening relationships with stakeholders. After the project ended in 2014, Naturesse continued implementing eco-innovation, exploring in-store refilling stations, creating solid shampoo bars to reduce plastics use, and new plastic packaging-free product lines. Barriers such as regulatory requirements can be an opportunity to collaborate, as Naturesse showed in their soap recycling model, where authorities would not allow Naturesse to recycle soap in their facility. Naturesse then explored other facilities to collaborate with to comply with regulations.</li> </ul> <p>COVID-19</p> <ul style="list-style-type: none"> <li>✓ Had Naturesse continued in its original business model selling to hotels, they would be facing a severe drop in sales. By expanding to new markets, Naturesse was able to continue operating during COVID-19, with retail sales increasing for products like liquid soap.</li> <li>✓ Employee loyalty, which was strengthened by Naturesse's commitment to sustainability, meant that Naturesse was able to adapt operations to continue business during COVID-19.</li> <li>✓ Naturesse's soap recycling project remains a longer-term project due to the reduction in hotel soap bar waste during the tourism downturn experienced because of COVID-19.</li> </ul>

Source: Natalia Osorio, CEO of Naturesse

## Case Study Kibebe

Location	Size	Established
Malawi	40 employees	2010

Annual Sales	Sector
US\$ 90 000	Accessories, Stationery

<b>Business Strategy</b>	<ul style="list-style-type: none"> <li>✓ Kibebe makes accessories from upcycled local waste products, including second-hand jeans, plastic packaging waste, cardboard waste, and production waste. Originally Kibebe sold domestically in Malawi, however the market proved relatively small, so the company expanded to the US and the UK to carry Kibebe towards profitability. Online sales were launched in early 2020 to facilitate this.</li> <li>✓ Kibebe's holistic approach to improving the environment as well as local communities was recognized when they won the 2019 SEED Africa Award.</li> </ul>
<b>Business Model</b>	<ul style="list-style-type: none"> <li>✓ Kibebe trains marginalized artisans to produce their products, often women artisans from the Dzaleka refugee camp who are legally unable to work outside of the camp. Profits are given to a partner organization to run vocational training programs. Kibebe also offers tours of their production centre to connect social impact with tourism.</li> </ul>
<b>Product Innovation</b>	<ul style="list-style-type: none"> <li>✓ Kibebe uses 100% local inputs, and what materials are available – meaning they are flexible with product design and processes. Product offerings respond to consumer demand</li> </ul>
<b>Organizational Structure</b>	<ul style="list-style-type: none"> <li>✓ Collaborates with stakeholders in their products' value chain closely, including local waste handlers, NGOs, and artisans. Locates their workshop in the Dzaleka refugee camp and trains and hires women who are only authorized to work within the camp. Allows workers to work from home when it suits them better.</li> </ul>
<b>Resilience</b>	<p>COVID-19</p> <ul style="list-style-type: none"> <li>✓ With tourism abruptly stopping, and some expat customers returning home, Kibebe was facing letting staff and artisans go and putting the business in dormancy. By assessing the existing in-house skills, as well as the market needs, Kibebe was able to pivot early to be one of the first providers of masks in Malawi before COVID-19 hit the region. Kibebe's customer network and strong brand loyalty helped turn individual customers into business clients, with NGO workers trusting Kibebe's quality and commissioning Kibebe to manufacture masks for their NGOs to distribute to their beneficiary communities, and the German Embassy donating sewing machines and a US donor donating money to start initial mask production.</li> <li>✓ Since March 2020, Kibebe has manufactured and sold over 10 000 face masks, allowing the company to continue making profits and keep employees.</li> </ul>

Source: Florisa Magambi, Director, Kibebe



# Case Study Nets Printwork Sdn Bhd

Location	Size	Established
Seri Kembangan, Selangor Darul Ehsan, Malaysia	19 in 2017, 22 in 2020	1997
Annual Sales	Sector	
US\$ 1.4 million	Commercial printing	

<b>Business Model</b>	<ul style="list-style-type: none"> <li>✓ In 2009, Nets Printwork transitioned from a conventional printing business into one that is environment friendly. This approach to embed sustainable development into its business model enabled the company to offer additional eco-printing services and products to its range of stakeholders in the industry and in the regional market.</li> <li>✓ Printing is now done using environment friendly machines, vegetable-based inks, with papers sourced from sustainably managed forests and other renewable raw materials.</li> <li>✓ A local SME serving local customers, Nets Printwork provides custom eco-solutions beyond paper printing such as packaging and paper-based furniture. Customers include local newsprint industry, large retailers, and eco-packaging SMEs, who support multinational corporations and public limited countries in the country and around Asia.</li> </ul>
<b>Business Strategy</b>	<ul style="list-style-type: none"> <li>✓ Since 2009, Nets Printwork has centred eco-innovation in all its operations. Because of this, senior management is supportive of new ideas, processes are more flexible to accommodate eco-innovative practices, and Nets Printwork already knows how to communicate environmental benefits to customers through its offerings of vegetable-based inks, environmentally efficient processes, and products with eco-labels and carbon footprint labels.</li> <li>✓ "We firmly believe that a fully circular economy is the goal for going green and are committed to cultivating a culture of sustainable innovation to reach that goal," said Soo Tyng Teh, Sustainability Director at Nets Printwork.</li> <li>✓ Nets Printwork has identified renewable energy as a priority and have begun investing in renewable energy along with 'Industry 4.0' technology to increase efficiency and reduce environmental impacts.</li> </ul>
<b>Product Innovation</b>	<ul style="list-style-type: none"> <li>✓ Nets Printwork worked with the Standard and Industrial Research Institute of Malaysia (SIRIM Berhad) to implement UNEP's Eco-innovation methodology to its operations in 2017. By applying the Eco-innovation methodology, Nets Printwork identified the hotspot of a lack of local supply of Forest Stewardship Council (FSC)-certified paper products, which were imported and therefore expensive and vulnerable to currency fluctuations, putting Nets Printwork's profit margin at risk.</li> <li>✓ Nets Printwork first looked at collaborating with a local paper producer to create paper from plant waste such as banana leaves, sugarcane waste, and durian shells, however it proved too expensive.</li> <li>✓ Nets Printwork then identified local partners that aligned with FSC certification principles, finding that the PEFC certification process also met their requirements. By working with local value chain partners, Nets Printwork was able to provide customers with paper derived from sustainable forest management practices, while reducing GHG emissions and costs from importing paper, and currency fluctuation risks. Nets Printwork now has an established reputation for procuring sustainable paper, so when paper suppliers gain sustainability certification, they seek out Nets Printwork as they know it is a priority for them.</li> <li>✓ Nets Printwork also advises other print, paper, and packaging players in the industry to obtain sustainability related recognition, certifications and other matters pertaining to business models transformation for sustainable development.</li> </ul>
<b>Organizational Structure</b>	<ul style="list-style-type: none"> <li>✓ Nets Printwork's process results in increased innovation, enhanced technical capacity, increased productivity, and a wider skill base by:</li> <li>✓ Regular information exchange with different units within the company such as the design department and production department,</li> <li>✓ Close collaboration with research institutes and suppliers,</li> <li>✓ Ongoing internship programme specifically on eco-design to encourage innovation and bring external views to operations.</li> </ul>
<b>Resilience</b>	<p>COVID-19</p> <ul style="list-style-type: none"> <li>✓ Eco-innovation requires companies to continually innovate and react to evolving situations. As Nets Printwork's business model is about responding to market needs in an environmentally friendly way, during COVID-19 Nets Printwork looked at its capabilities, the market's needs, and their in-house skills and began producing paper-based packaging boxes for masks and gloves to meet consumer demands for ways to prevent contamination.</li> </ul>

Source: Soo Tyng Teh, Sustainability Director, Nets Printwork

# Case Study U10 Certified Ceylon Commodities & Consultants (Pvt) Ltd

Location	Size	Established
Kurunegala 60000, Sri Lanka	25	2008

Sector
Agriculture

<b>Introduction</b>	<ul style="list-style-type: none"> <li>✓ Sri Lanka is the world's leading supplier of Ceylon Cinnamon, which is considered healthier than the more common Cassia Cinnamon, due to its lower level of coumarin, an organic compound believed to have toxic effects when consumed in high doses. The industry in Sri Lanka must compete with lower cost Cassia cinnamon, while international demand for cinnamon increases.</li> <li>✓ U10 is a consortium of 10 farmer-owned cinnamon plantations that pool resources to process cinnamon collectively, in order to retain control over quality while reducing costs. Previously, the U10 consortium processed only cinnamon quills and cinnamon leaf oil. It now also processes pepper, clove, moringa, and Ceylon Cinnamon outer bark scrapings.</li> <li>✓ In 2017, U10 implemented UNEP's eco-innovation methodology with the assistance of the Sri Lankan National Cleaner Production Centre. The company diversified their business model from a traditional cinnamon processing and export into a diversified operation incorporating value added cinnamon products and diversified spice production. Further, waste streams of the factory were considered as a resource to manufacture high value compounds which are now sold in the export market with high profit margin.</li> <li>✓ Eco-innovation works most effectively when multiple ideas are generated and tried, and U10 is an example of adapting to evolving situations, demand, and financial constraints.</li> </ul>
<b>Business Strategy</b>	<ul style="list-style-type: none"> <li>✓ To expand into different markets</li> <li>✓ To diversify offerings, namely spice production, and services</li> </ul>
<b>Business Model</b>	<ul style="list-style-type: none"> <li>✓ Offers smallholder cinnamon farms more autonomy over efforts to implement eco-innovation through its consortium model that pools resources and risk.</li> </ul>
<b>Organizational Structure</b>	<ul style="list-style-type: none"> <li>✓ Exportation of products is done by the marketing arm of the consortium, which consolidates products from all 10 plantations and sends as bulk exports, as well as direct exports to individual buyers.</li> </ul>
<b>Product Innovation</b>	<ul style="list-style-type: none"> <li>✓ To increase biodiversity and reduce the need for inorganic fertilizers, U10 planted other spices (pepper, clove, and moringa) in the plantation, which added an additional income stream and broadened the product range and boost the natural ecosystem.</li> <li>✓ Through applying UNEP's eco-innovation methodology, U10 identified the opportunity to capitalize on growing tourism in the area. U10 planned to sell demonstration tours to local and international tourists, which would also bolster their direct-to-consumer sales. Due to the downturn in tourism during COVID-19, U10 has paused their plans to offer eco-tourism visits.</li> </ul>
<b>Process Innovation</b>	<ul style="list-style-type: none"> <li>✓ Inefficient cinnamon leaf oil extraction was identified as a hotspot, and U10 initially hoped to buy an extraction and distillation facility, which would have required a high amount of additional external financing. Instead, U10 looked at its current processes, and saw that 8000kgs of outer bark scraping waste was produced per month. U10 found a way to process this waste to extract more valuable compounds, which has commercial value for pharmaceutical companies.</li> <li>✓ In 2019, U10 exported approximately 60 metric tons to pharmaceutical companies.</li> </ul>

Source: Ruwan Abeysirigunawardena, U10

eco-innovation **opportunities**  
**customers** optimization  
sustainability  
processes **productivity**  
business **model**  
**value** companies  
operations **efficiency** strategy  
networks quality  
collaboration **product**  
**durability** segments  
suppliers **service** market  
**profit** solutions  
product reputation  
collaboration  
**access** **life-cycle**  
innovation capacity  
competitiveness **resilience**

# Glossary of Terms

**Business strategy** describes the long term goals of the company and the markets in which the company will operate (i.e. vision and mission)<sup>135</sup>.

**Business model** describes how a company does business. It is the translation of strategic issues, such as strategic positioning and strategic goals into a conceptual model that explicitly states how the business functions. The business model serves as a building plan that allows designing and realizing the business structure and systems that constitute the company's operational and physical form<sup>136</sup>.

**Life cycle** refers to the consecutive and interlinked stages of a product (good or service), from the extraction of natural resources to the final disposal<sup>137</sup>.

**Life cycle thinking** (LCT) is about going beyond the traditional focus on the production site and manufacturing processes to include environmental, social and economic impacts of a product over its entire life cycle<sup>138</sup>.

**Market analysis** is the activity of gathering information about the size, growth, profitability, target groups and existing products of a market, which is used to inform decision making at a strategic level. This specific activity would fall under the broader umbrella of **marketing** activities.

**Organization structure** refers to the range of activities and key resources (human and financial) within the company, in addition to those relating directly to production, that are dedicated to supporting the business model. These include procurement processes,

distribution, key partnerships, customer relationships and interfaces, research and development, internal communication, and revenue generation.

**Partners** refer to parties in the **value chain** that provide or receive value including suppliers, outsourced workers, contractors, customers, consumers, clients, members, and others<sup>139</sup>.

**Stakeholder** is any group or individual who can affect, or is affected by, an organization or its activities. Also, any individual or group that can help define value propositions for the organization<sup>140</sup>.

The **supply chain** is a system of organizations, technology, activities, information and resources involved in moving a product or service from supplier to customer<sup>141</sup>.

**Value** is understood to involve creating economic value (the revenue that a firm gets in return for its goods or services) in a way that also creates positive outcomes for society by addressing its needs and challenges, taking into account economic, environmental and social considerations<sup>142</sup>.

A **value chain** is the entire sequence of activities or parties that provide or receive value in the form of products or services (e.g. suppliers, outsourced workers, contractors, investors, R&D, customers, consumers, members<sup>143</sup>). See also Partners definition above.

**Value proposition** refers to the products or services that an organization offers to a specific market segment that the organization believes will create value for that specific market segment.

135 Adapted from Andrews, K R, 1997

136 Osterwalder et al, 2005

137 Adapted from ISO 14040:2006

138 <https://www.lifecycleinitiative.org/starting-life-cycle-thinking/what-is-life-cycle-thinking/>

139 ISO 26000:2010

140 Stakeholder Research Associates Canada Inc., United Nations Environment Programme, AccountAbility: Stakeholder Engagement, 2005

141 Michael Porter 1985

142 Adapted from Porter & Kramer, 2011

143 ISO, 14001 CD2, 2013

The UNEP approach to eco-innovation means embedding sustainability into the core decision making of a company and integrating it throughout all business dimensions, enabling the creation of novel solutions to satisfy market needs. As part of this process, a company should be looking beyond its gates to assess sustainability risks and opportunities throughout its value chain, and in cooperation with the key partners.

*The Business Case for Eco-innovation* is for a business audience. It provides an overview of growing market trends and indicators, presenting real examples that demonstrate a compelling business case. Primary research was carried out directly with companies ranging from start-ups to larger companies worldwide to evaluate the tangible benefits from eco-innovation and the processes undertaken. This information was complemented with research from annual reports, academic journals and business reports. The findings demonstrate considerable business benefits including: increased market access, value creation and business growth along with increased technical capacity and productivity. These have been presented as the five drivers of eco-innovation.

With global resource scarcity and environmental degradation presenting growing challenges for business along with related market and regulatory pressures, companies need to think strategically about their business sustainability. Eco-innovation can help to turn these challenges into new market opportunities.

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