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# Industry Approaches to the Sustainable Development Goals

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**Abstract:** The Sustainable Development Goals (SDGs) were designed to effect a transition to a more sustainable future, covering the period up to 2030. The United Nations called on all governments to pursue these ambitious goals, but also acknowledged the role of the private sector in addressing them. This article assesses the different approaches of eight major industry sectors to the SDGs, and wider issues for the future delivery of the SDGs are identified and discussed.

Keywords: SDGs; sustainability; industry sectors; circular economy

## Introduction

The United Nations [1, para.1] described the SDGs as "a plan of action for people, planet and prosperity", designed to "shift the world on to a sustainable and resilient path". The seventeen SDGs (Table 1) have been portrayed by the Institute for Human Rights and Business [2, p.12] as encompassing "the wellbeing of every individual to the health of the planet, from infrastructure to institutions, from governance to green energy, peaceful societies to productive employment". The SDGs were developed from the United Nations' Millennium Development Goals (MDGs), which date from 2001. Some authors have suggested that the MDGs were only partly successful. PricewaterhouseCoopers [3, p.6], for example, noted that "business, for the most part, didn't focus on the MDGs because they were aimed at developing countries", and Fehling et al. [4, p.1109], although acknowledging that "remarkable progress has been made", also argued that "progress across all MDGs has been limited and uneven across countries".

There are 169 targets associated with the SDGs, and, for every target, there are one or more indicators, 241 in all [5]. The United Nations called on all governments to develop national strategies to pursue the SDGs but also acknowledged "the role of the diverse private sector ranging from micro-enterprises to cooperatives to multinationals" [1, para. 41]. The role of the private sector has been emphasized by the United Nations Global Compact. This is a "call to companies to align strategies and operations with universal principles on human rights, labour, environment and anti-corruption, and take actions that advance societal goals" [6, para. 1]; and by the formation of the World Business Council for Sustainable Development (WBCSD), a global, CEO-led organization of over 200 leading businesses working together to accelerate the transition to a sustainable world. The WBCSD aims to "target the realization of the Sustainable Development Goals (SDGs) through six work programs to achieve systems transformation" [7, para. 2].

Similarly, the Institute for Human Rights and Business [2, p.5] noted that, for the achievement of the SDGs, "the private sector has been highlighted as a partner with the potential to contribute in multiple ways to development objectives: by stimulating economic growth and job creation, providing investment and finance and sharing the resources and knowledge needed to shape innovative solutions to global challenges". In similar vein, the United Nations Global Compact and KPMG [8, p.2] reported that governments in the post-2015 era "call on all businesses to apply their creativity and innovation to solving sustainable development challenges". Indeed, as PriceWaterhouseCoopers [3, p.6] have observed, with the advent of the SDGs, "sustainability is moving from the corporate sidelines into the mainstream", and many business organisations across the private sector accept the SDGs [9].

This article outlines the concept of sustainable development and the origins and characteristics of the SDGs with two main objectives: first, to investigate the response of different industry sectors to the challenges set by the SDGs; and second, to assess the key

themes arising from the varying approaches to the SDGs adopted by different industry sectors. Appau and Mabefam [10, p.243] argue that "it is too early to evaluate whether the SDGs will live up to their potential promise", and what follows is a survey of industry attitudes and approaches and a discussion of emergent issues.

**Sustainable Development and the SDGs**

The most widely used definition of sustainable development, proposed by the World Commission on Environment and Development [11, p.12) is "development that meets the needs of the present without compromising the ability of future generations to meet their own needs." Yet the concept of sustainability is contested. Hudson [12, p.241] for example, argued that definitions range from "pallid blue green to dark deep green". The former, in Hudson's view, centre on "technological fixes within current relations of production, essentially trading off economic against environmental objectives, with the market as the prime resource allocation mechanism", but for the latter "prioritizing the preservation of nature is pre-eminent" [12, p.241]. A distinction is often made between "weak" and "strong" sustainability and Roper [13, p.72] suggested that "weak sustainability prioritizes economic development, while strong sustainability subordinates economies to the natural environment and society, acknowledging ecological limits to growth".

As some authors [14,15] have pointed out, the ideas underpinning sustainable development are not new. In the wake of the publication of the World Conservation Strategy [16] and Our Common Future [11], the concept of sustainable development began to attract attention from the 1980s onwards. This reflected growing concerns about a range of major problems worldwide at a variety of spatial and temporal scales. These include continuing population growth - more pronounced in less economically developed countries - and urbanisation and the pressures this is putting on natural resource consumption and food

supplies; climate change; growing levels of pollution; the loss of natural habitats; and the increasing scarcity of water resources because of climate change.

In agreeing the SDGs in 2015, the United Nations looked to guide thinking and policy for sustainable development to 2030. The SDGs have been described as "the blueprint to achieve a better and more sustainable future for all" and they look to "address the global challenges we face, including those related to poverty, inequality, climate, environmental degradation, prosperity, and peace and justice" [17, para.1). The 17 SDGs (Table 1), along with their associated targets and indicators, "offer an inspiring and inclusive vision of the future: a world free from poverty, injustice and discrimination and a healthy planet for present and future generations. It is a vision that requires a global partnership of nations and peoples – from the poorest communities to the richest countries – and it is a vision that demands unprecedented changes in both thinking and behaviour" [2, p.5].

| No. | Goal |
|---|---|
| 1 | End **poverty** in all its forms everywhere |
| 2 | End **hunger**, achieve food security and improved nutrition and promote sustainable agriculture |
| 3 | Ensure healthy lives and promote **well-being** for all at all ages |
| 4 | Ensure inclusive and equitable quality **education** and promote lifelong learning opportunities for all |
| 5 | Achieve **gender equality** and empower all women and girls |
| 6 | Ensure availability and sustainable management of **water and sanitation** for all |
| 7 | Ensure access to affordable, reliable, sustainable and modern **energy** for all |
| 8 | Promote sustained, inclusive and sustainable **economic growth**, full and productive **employment** and decent work for all |
| 9 | Build resilient **infrastructure**, promote inclusive and sustainable industrialization and foster innovation |
| 10 | Reduce **inequality** within and among countries |
| 11 | Make **cities and human settlements** inclusive, safe, resilient and sustainable |
| 12 | Ensure sustainable **consumption and production** patterns |
| 13 | Take urgent action to combat **climate change** and its impacts |
| 14 | Conserve and sustainably use the **oceans, seas and marine resources** for sustainable development |
| 15 | Protect, restore and promote sustainable use of **terrestrial ecosystems**, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss |
| 16 | Promote **peaceful and inclusive societies** for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels |
| 17 | Strengthen the means of implementation and revitalize the **global partnership** for sustainable development |

Table 1. The Sustainable Development Goals (based on United Nations [1])

## Research Methodology

The research methodology for this article is based on an extensive review of relevant material; including company annual reports and sustainability reports published by the leading players in a number of major global industries, reports published by a number of industry bodies and related organizations, and academic papers. This approach is recommended by Saidani et al. [18, para.5]; the inclusion of peer reviewed academic papers "ensures scientific

soundness", and corporate and industry body reports can be seen to "reflect current industrial reality and needs". This article examines how different industry sectors have been responding to the challenges posed by the SDGs. This provides the basis for a broader discussion of a number of key themes and critical issues for the continued business support and delivery of the SDGs.

In regard to the private sector, the authors chose eight industry sectors, namely financial services, information and communications technology, the automobile industry, the hotel industry, marketing and media, the pharmaceutical industry, retailing, and the energy industry, in the belief that these would provide a representative picture of businesses' responses to the SDGs. The authors identified ten leading companies or industry bodies within each sector for more investigation in the belief that focusing on large companies should reveal some of the best and most innovative corporate practice in meeting the SDGs. The authors then undertook an Internet search, over the period January 2018 to September 2019, using the company names, SDGs and sustainability, as key terms. Follow-up Internet searches were carried out in 2020 to assess the latest company reports.

The information from these extensive searches was analysed using what Miles and Huberman [19, p.11] term a "data display and analysis" approach, which Saunders et al. [20, p.505] note is "suited to an inductive strategy to analyse qualitative data". This systematic process facilitates the identification of the relevant responses. By using visual utilities such as matrices in a tabular form, key passages from the relevant documents were identified and cross-referenced. Here, "data display is designed to assemble organized information into an immediately accessible, compact form (e.g., types of matrices, graphs or charts) so that the analyst can see what is happening and draw justified conclusions" [19, p.11]. The authors are

aware that their findings reveal only a very general picture of how businesses are addressing the SDGs at an early stage in their 15 year lifespan.

**Results**

The researchers found marked variations in companies' commitment to SDGs across the chosen sectors (Table 2). The majority of the leading companies and industrial bodies within those sectors reported on, and publicly emphasised, their commitment to the SDGs. SDGs 8, 12 and 13 were the most supported across the eight industry sectors overall, with SDGs 1, 2, 14 and 16 being the least favoured. SDG13 was supported by 85% of all companies in the study, 71% supported SDG8 and 70% supported SDG12. At the other end of the spectrum, only 30% or less of all companies gave their commitment to SDGs 1, 2 and 16 (Table 2). Only in the retail industry were more than a third of the 17 SDGs supported, on average, by the ten organizations reviewed. After retail, the most supportive industry sectors were pharmaceuticals and energy. The least supportive were the marketing and media, and the automobile industries.

These findings illustrate a number of key points. The widespread support for SDG13 reflects the global concern for the impact of climate change. SDGs 8 and 12 were the next most supported, and this arguably reflects what is considered to be most within the scope of private sector operations. Those SDGs concerning poverty, peace and justice, and hunger were the least well supported, perhaps reflecting stakeholder priorities and what is thought to be realistically achievable.

| SDG | % | Goal |
|---|---|---|
| 13 | **85** | Take urgent action to combat **climate change** and its impacts |
| 8 | **71** | Promote sustained, inclusive and sustainable **economic growth,** full and productive **employment** and decent work for all |
| 12 | **70** | Ensure sustainable **consumption and production** patterns |
| 3 | **64** | Ensure healthy lives and promote **well-being** for all at all ages |
| 5 | **57** | Achieve **gender equality** and empower all women and girls |
| 7 | **50** | Ensure access to affordable, reliable, sustainable and modern **energy** for all |
| 6 | **47** | Ensure availability and sustainable management of **water and sanitation** for all |
| 9 | **46** | Build resilient **infrastructure**, promote inclusive and sustainable industrialization and foster innovation |
| 11 | **46** | Make **cities and human settlements** inclusive, safe, resilient and sustainable |
| 17 | **45** | Strengthen the means of implementation and revitalize the **global partnership** for sustainable development |
| 4 | **45** | Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all |
| 10 | **37** | Reduce **inequality** within and among countries |
| 15 | **36** | Protect, restore and promote sustainable use of **terrestrial ecosystems**, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss |
| 14 | **31** | Conserve and sustainably use the **oceans, seas and marine resources** for sustainable development |
| 2 | **30** | End **hunger**, achieve food security and improved nutrition and promote sustainable agriculture |
| 16 | **30** | Promote **peaceful and inclusive societies** for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels |
| 1 | **26** | End **poverty** in all its forms everywhere |

Table 2. Percentage of companies and organisations supporting each SDG [9, p.126]

Although some companies within each of the sectors said they were addressing all seventeen SDGs, many have targeted a number of specific SDGs. These are seen as aligning with their corporate goals and business strategies, and where companies feel they can make the most valuable contribution to the SDGs.

In the pharmaceutical industry, all ten companies supported SDG3; e.g., Johnson & Johnson [21, para.5] noted that "we are dedicating our expertise, ideas and ingenuity to catalyze

efforts toward achieving SDG3, Good Health and Well-being, which is at the heart of the Sustainable Development Goals and the core of our business". Sanofi [22, p.2] noted that, in support of SDG3, "in 2019, Sanofi conducted 74 healthcare access programs that benefited nearly 98 million people in more than 84 countries. Over the same period, more than 363,000 health professionals were trained". More specifically, as regards fighting infectious diseases, Sanofi is engaged in "an innovative partnership with the non-profit Drugs for Neglected Diseases initiative (DNDi)" which "has resulted in the development of a new oral treatment called fexinidazole. The drug received marketing approval from the Democratic Republic of the Congo in December 2018. A year later, in December 2019, the first orders of fexinidazole arrived in the country's capital, Kinshasa. In order to support international efforts, Sanofi donates the drug".

In the energy sector, Chevron [23, para.13] noted that in support of SDG3, their Australia business unit partnered with Telethon Speech & Hearing "to improve ear health among aboriginal children across the West Pilbara. Since the partnership began in 2011, the number of aboriginal children under the age of 7 affected by middle-ear diseases in the Pilbara has dropped from 51 to 33 percent". In the context of SDG4, the company note "Chevron Philippines launched the Caltex Training in Occupational Opportunities for Life Skills (TOOLS) to provide skills training on welding and scaffolding to disadvantaged youth from the San Pascual, Batangas community" [23, para. 14].

In the context of SDG4, Fujitsu helped special-needs students through designing creative teaching methods, which include simulated or virtual experiences. The company notes that they worked with Kansei Gakuin University to field test "remote learning and virtual experience-based learning that uses new technologies such as 5G-based high-resolution image transfer, virtual reality (VR) and web conferencing systems. Fujitsu provided the ultra-high

speed 5G mobile network as the core technology to connect the Soyokaze Classroom in the Tokyo Metropolitan Koumei School for Children with Disabilities, part of the National Center for Child Health and Development and the Okinawa Churaumi Aquarium in Ocean Expo Park" [24, para 16]. In this way, disabled students could experience remote learning and enjoy the Virtual Reality aquarium without leaving their special medical classroom. The company "will continue contributing to the provision of high-quality education for everyone using advanced ICT technologies, including 5G, local 5G and high-resolution image transfer" [24, para.17].

In support of SDG5, the Unstereotype Alliance, a thought and action platform, launched its UK National Chapter in 2020, with a core group of 28 leading UK advertisers and creative agencies, with the objective of securing commitments from over 100 brands [25]. The coalition is championing the advertising industry to act as a force for good, depicting progressive portrayals of women and men and ensuring that diversity is a priority throughout the entire creative process. The founding members included WPP who in 2018 announced that their gender equality project was to be piloted across six countries namely US, UK, India, Turkey, Thailand and Mexico. Lindsay Pattison, Chief Transformation Officer at WPP claimed "together with UN Women, our mission is to empower women and raise awareness of important gender equality issues. As the world leader in communications services, WPP has the power and creative capability to help make the lives of women better across the world" [26, para.7]. In both 2019 and 2020, WPP was named in the Bloomberg Gender-Equality Index (GEI), for meeting the global threshold established by Bloomberg to reflect the comprehensive disclosure of gender-related metrics and investment in workplace gender equality and the communities in which it operates.

Many of the energy companies identified SDGs 7 and 13 as their primary focus, and these two goals were supported by all ten energy companies in the study. As BP [27, p.78] commented, “our core business of delivering energy to the world contributes directly to goals 7, 8 and 13”.

In the finance sector, Allianz [28, p.60] claimed to have “been carbon-neutral since 2012 by investing in projects that offset its operational emissions”. As regards specific investments, the company holds a 10 percent share in Wildlife Works Carbon, the world’s leading developer of Reducing Emissions from Deforestation and Forest Degradation (REDD) projects. “This investment supports forest protection in Kenya and the Democratic Republic of Congo (DRC). The Kenyan Kasigau Corridor REDD project aims to offset 1 million tons of carbon emissions per year, while the DRC REDD+ project achieves an average of 5.7 million tons of carbon reductions per year”.

All ten companies in the automobile sector also supported SDG13, and in the context of SDG11, Ford [29, paras.18-20] claimed that “our mobility services and solutions will help the cities of tomorrow address a host of challenges. These range from traffic congestion to poor air quality” and that “our research and development of global mobility solutions and services, from self-driving vehicles to the technology needed for smart cities, will give people greater freedom of movement in the future”. The company also highlights its role in “Project Better World” which “is rooted in Ford’s belief in social business – being intentional about the business of making the world a better place”. This project enables Ford to work with “government agencies, corporations, civil society, impact investors, social entrepreneurs and academia to find ways to improve the human condition”. The project centres on health, education and driver safety in India, Nigeria and South Africa, in conjunction with four major partners – World Vision, Riders for Health, George Washington University and Global Water

Challenge. The project has been the catalyst for the provision of mobile clinics and libraries, water, sanitation and hygiene training, and vaccination programmes, where services have been delivered by Ford vehicles.

In the retail sector, SDG12 received support from all ten companies, as did SDG8. In addition, in support of SDG7, Tesco [30, p.3] note "group-wide, 68% of electricity comes from renewable sources" and, as regards SDG13, there has been a "37% reduction of GHG emissions across the Group since 2015/16". In the finance sector, Allianz [28, p.10] note "the financial sector has a crucial role to play in enabling society to tackle the climate crisis - including by taking responsibility for its part in limiting global warming to 1.5°C, compared to pre-industrial times". In September 2019, the U.N. launched the U.N.-Convened Net-Zero Asset Owner Alliance to bring together the world's largest financial services companies who have committed to reduce GHG emissions of their investment portfolios to net-zero by 2050. The Alliance includes "16 asset owners from across the globe, who are collectively responsible for more than 3.8 trillion U.S. dollars of assets under management. Members are working to set intermediary decarbonisation targets every 5 years for their portfolios starting with a 2025 target. They are also engaging with portfolio companies and advocating for sector-wide transition to a low carbon economy". In the hotel industry, Marriott Hotels [31, p.1] note that their 2025 goals "include reducing water by 15%, carbon by 30%, waste to landfill by 45% and food waste by 50% (from a 2016 baseline; for water/carbon/waste on an intensity basis)"; and as part of the company's Serve 360 initiative, "Marriott is also committing to achieve a minimum of 30% renewable electricity use by 2025, and to analyze the opportunity to set a science-based carbon target".

Many companies did not explicitly address the SDGs, but said that they had aligned their sustainability goals to the SDGs, or had integrated the SDGs into their business or sustainability strategies. Within UK retailing, for example, John Lewis and Partners [32, p.26]

identified nine SDGs as their priorities and emphasized that these priorities were aligned with a number of its corporate goals, which look, for example, to "source and sell with integrity", "unlock partner potential" and "deliver more with less". The marketing company Publicis [33, para. 2] chose to focus its energies on 10 of the SDGs, noting, "our approach is pragmatic and directly linked to social, societal and environmental responsibilities that are already part of our Groupe strategy".

SDG17 was supported by 45% of the companies, and the need for partnerships was noted in a number of reports, arguing that national governments, in particular, have a vital enabling role in allowing the private sector to make their contribution. In the energy sector, Shell [34, para. 3] have suggested that "governments are responsible for prioritising and implementing approaches that meet the SDGs" (para.3), but although there is widespread support for this view, it is clear that this is a complex issue. Nevertheless, Chevron [35, p.3] claim "our partnership initiatives around the world strengthen local economies through programs that provide microloan services, support enterprise and workforce development, and improve education. Among these are the Niger Delta, Appalachia, Bangladesh and Thailand partnership initiatives".

**Discussion**

A number of wider themes emerge from the study of the selected eight industry sectors and merit discussion. Firstly, the concept of shared value is important. It can be seen to provide a rationale for industry's contribution to the SDGs and more generally to corporate sustainability. Porter and Kramer [36, p.2] defined the concept of shared value as "corporate policies and practices that enhance the competitiveness of the company while simultaneously advancing social and economic conditions in the communities in which it sells and operates", and this represents the approach to the SDGs of the companies studied here. The varied support for specific SDGs noted above is undoubtedly related to the business community's conception

of sustainability. In contributing to the achievement of the SDGs, companies can also be seen to be driving business efficiencies, which can, in turn, offer them a source of competitive advantage. In pursuing actions to combat climate change and its impacts, by reducing carbon emissions, energy and water consumption and waste generation, for example, companies are also reducing costs.

Retailers' SDG commitments to decent work, gender equality and good health and wellbeing all help to promote stability, security, loyalty and efficiency within their workforce. Company commitments to their employees, focusing on, for example, empowering employees, and health and safety, also help to promote stability, security, loyalty and efficiency in the workforce.

Secondly, there are issue about the strategic prioritisation of SDGs by some companies. Companies argue that in pursuing this approach they are concentrating on where they can make their most significant contribution to the SDGs. But, a survey carried out by PWC [37, para.2] concluded that "many companies are engaging at a more superficial level, showing that they are still struggling to identify how and why individual SDGs are relevant to their business. As a result, they are failing both to prioritise goals that need corporate support the most, and to address those that could cause them the biggest problems in the future".

Nevertheless, some companies are using a materiality matrix to help develop priorities. The concept of materiality can be traced to the auditing and accounting processes associated with traditional financial reporting, but it is seen to be vitally important in sustainability reporting, and that it includes a wider range of issues and actions than just financial reporting. Several companies have included the pursuit of the SDGs in their Corporate Social Responsibility (CSR) reports. Mitsubishi [38, para.9], for example, "has specified CSR materiality and defined individual targets and KPIs, and is pushing ahead with initiatives to achieve the targets". The company adds that it "will specify and revise our CSR materiality

with a focus on how we can contribute to resolving social issues as a company, and seek to contribute to realizing the SDGs through the initiatives we apply to the CSR materiality".

Thirdly, there is an issue about how companies report their progress in addressing the SDGS. On the one hand, there is no generally agreed framework for companies to report on the SDGs, and so companies report on their contribution to the SDGs in a variety of ways. It is difficult not only to make comparisons between companies and sectors, but also to make assessments of the aggregate contribution of sectors or the overall contribution of the business community. On the other hand, there are problems about the credibility, transparency and reliability of the various frameworks companies employ to report on their contribution to the achievement of the SDGS, and here independent external assurance could play a more significant role.

The most widely used approach to CSR assurance is the commissioning of an assurance statement by an independent external organization to provide credibility to the reporting process on progress against SDG-related targets. There is some evidence of independent external assurance in the sustainability reporting process. NH Hotels, for example, employed KPMG to undertake an "Independent Limited Assurance on Corporate Responsibility Report" for their 2018 report [39], and many companies regularly commission independent external assurance but it is often limited to selected activities rather than comprehensive.

Fourthly, digital technologies are playing a key role in facilitating the SDGs and this will increase. The rapid pace of technological development may revolutionise how the SDGs can be achieved [40]. GeSI [41], with particular reference to SDG12, noted the future significance of "smart manufacturing", encompassing the Industrial Internet of Things, 3-D printing, data analytics, cloud computing, drones and robotics, and embedded system production technologies; and of "smart agriculture", including automated irrigation systems, real time weather information, and enhanced traceability and tracking systems. Similarly, in

addressing SDG3, Microsoft [42, p.4] reported on its role in aiding governments and health care providers to "understand how to apply technologies like advanced data analytics and cloud solutions to transform healthcare"; and Wynn and Jones [43] have highlighted the importance of new technologies in implementing the SDGs in a number of local authorities in western Europe and developing world countries.

The unprecedented nature and pace of technology development may provide sustainable solutions to seemingly elusive environmental and social challenges, and make a major and lasting contribution to the SDGs. Heeks [44, p. 1] notes that the scope, reach and depth of digital technologies in developing countries is changing apace and he foresees the emergence, prior to 2030, of a "digital development paradigm in which ICTs are no longer just tools to enable particular aspects of development, but the platform that mediates development". If Heeks is correct, there will be a significantly different technology and business framework within which industry sectors can support the SDGs in both the developed and developing worlds.

Fifthly, there are tensions between economic growth and sustainability, and attempts to reconcile the two are often couched in terms of decoupling and of the role of technological innovation. Decoupling generally means pursuing forms of economic growth that do not lead to increased pressure on environmental resources. Technology innovation aims to increase energy efficiency, cut greenhouse gas emissions and reduce waste. Both of these approaches are embraced in the concept of the circular economy, which "can be loosely defined as one which balances economic development with environmental and resource protection" [45, p.10). A related issue concerns sustainable consumption. The European Environment Agency [46, para. 1] claimed that "unsustainable consumption" was the "mother of all environmental issues". Sustainable consumption can be seen to be at the heart of the SDGs, but there is little

consensus in defining sustainable consumption, particularly in the context of the retail industry and SDG12 [47].

The growing commitments to the circular economy may offer a business solution to sustainable development and sustainable consumption, but a transition to a circular economy will both drive and demand major changes in consumer behaviour and consumption patterns. This could see, for example, the growth of a larger service economy with a greater accent on consumers leasing products, rather than on purchasing and owning products. Retailers would need to reframe their relationships with both end-consumers and industry clients, which may require, for example, digitally monitoring the performance of products and enabling customers to repair products easily. For example, Fiat Chrysler Autos [48, p.77] claim the company "leverages the potential to reduce the environmental footprint of our products by embracing the concept of the circular economy" and interweave the circular economy concept through the different stages of their product life cycle (Figure 1). "Our design approach addresses the environmental footprint of products throughout their life cycle, and integrates eco-compatible materials and design choices that maximize recovery and recycling for end-of-life vehicles".

The tensions between the achievement of the SDGs and corporate business objectives are perhaps most apparent in corporate commitments to continuing economic growth, and the impact of such growth on the levels of natural resource use. The majority of the companies are certainly committed to continuing business growth; economics generally favours growth. Although some companies do not publicly recognize the tensions between sustainability and economic growth, others view such tensions creatively rather than destructively. Eccles [49, para. 1], for example, recently noted "the SDGs are about making the world a better place. That is not the primary reason companies exist, although the state of the world matters to them. Thus, they should work to create a better world while still delivering the expected returns to their shareholders".

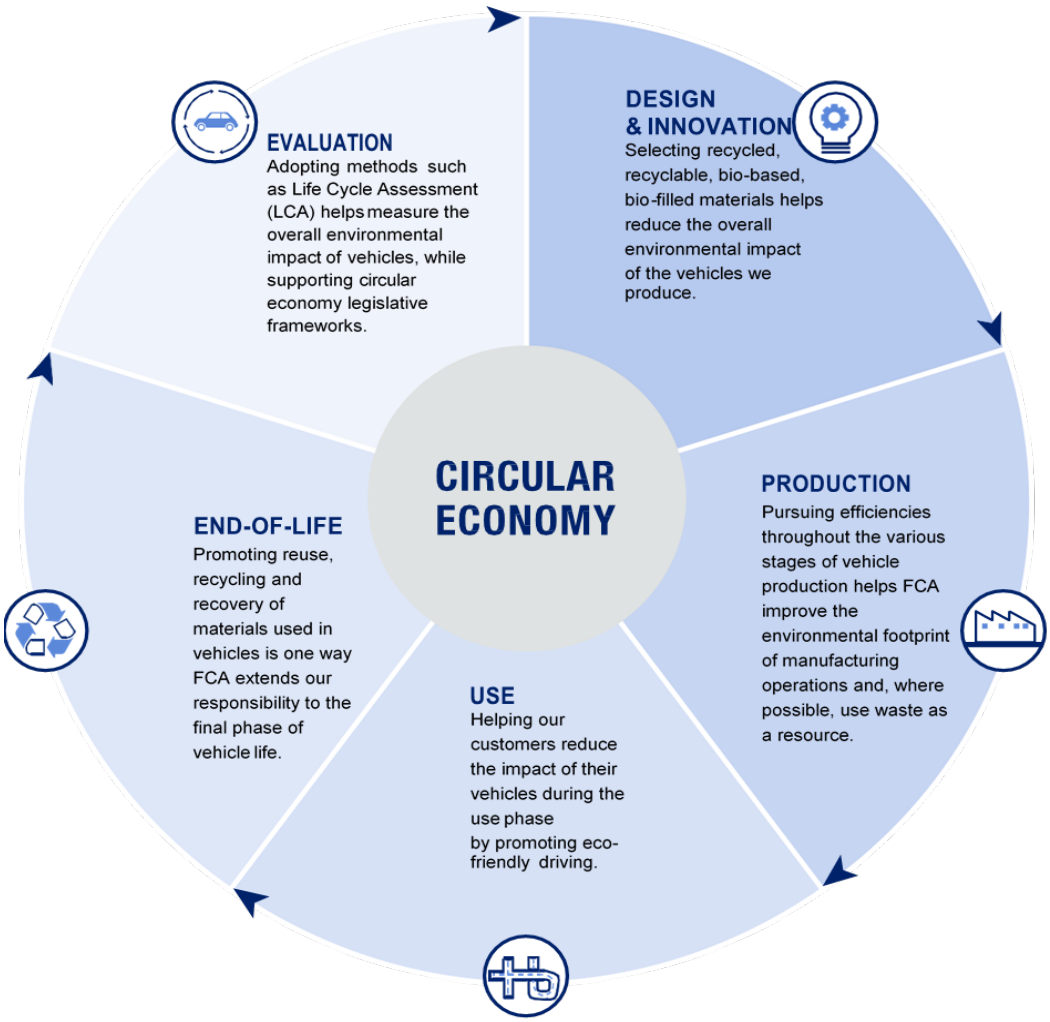


Figure 1. Applications of the Circular Economy at Fiat Chrysler Automobiles [48, p. 78]

Finally, in the wake of the COVID-19 crisis, there is also the issue of the importance and role of sustainability in preventing future pandemics and global crises. Such events, thankfully rare as they are, have not yet been included in approaches to sustainability. Di Marco et al. [50, p. 3889], for example, drew attention to the links between the environmental, social and economic elements of sustainable development, but they pointedly observed that "little attention has been paid to the interactions between environmental change and infectious disease emergence".

More specifically, Di Marco et al. [50, p. 3889] stated that the emergence of diseases "is driven by anthropogenic changes such as deforestation and expansion of agricultural land

(i.e., land-use change), intensification of livestock production, and increased hunting and trading of wildlife". The same authors maintained [50, p.3891] that human health could be more effectively integrated within sustainable development planning but argued this required "a cross-disciplinary research approach". Further, they conclude "without an integrated approach to mitigating the disease…….countries' abilities to achieve SDGs and the Global Health Security Agenda will be compromised" [50, p. 3888]. Most businesses cannot undertake such research, but their operations are often central features of the environmental, social and economic interactions within fragile environments. Such businesses may be able to facilitate scientific research, which may contribute to sustainable development by helping to enhance awareness and understanding of the relationships between environmental change and the emergence of diseases.

**Conclusion**

There is a widespread belief that the business community has a vital role to play in contributing to the achievement of the SDGs. Yet the Sustainable Development Solutions Network (linked to the United Nations to assess progress towards SDG achievement) and the Institute for European Environmental Agency (a sustainability think tank), concluded that no Member State of the EU was on track to meet their SDG targets, and that "Europe must take the lead in exploring a new model of consumption which does not compromise the needs of others or of future generations, nor damage the environment" [51, para. 3].

Large companies, in all sectors, face major challenges if they are to make a significant contribution to the achievement of the SDGs. The energy industry, in particular, is in a unique position to contribute to the SDGs. Its core business is central to a number of the SDGs and the industry can make a significant contribution to their implementation; but empty rhetoric is common, as may be seen in some of the material cited above. A number of companies link

their activities to the SDGs without specifying how they will make any significant impact. Good Energy [52, para. 9] recognizes this when they conclude, “to really make a difference, this has to be much more than a tick box exercise”. This understanding is a key theme that emerges from the above industry examples.

This paper has drawn on corporate information posted on the Internet, rather than on discussions with company executives responsible for drawing up corporate policy. Future research might include detailed assessment of other industry sectors, as well as case studies of individual companies focusing on both the forces driving the pursuit of the SDGs and on the opportunities and challenges of integrating the SDGs within their corporate sustainability strategies. Public commitment to the SDGs must be evident in public initiatives. Whether corporate executives and investors are prepared to face up to such challenges remains to be seen. Although the increasing incidence of extreme weather events shows climate change to be real, these events can be easily forgotten. In truth, it may require a truly cataclysmic global event to trigger collective, rather than individual, self-interest, to precipitate widespread corporate engagement with the SDGs, and the current Corona virus pandemic and its consequences for food production and consumption, global trade and supply chains, may indeed prove to be that event.

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