



# Sustainability Talks

## An Audience with James Close

Head of London's Low Carbon Circular Economy Programme

### The Role of the Circular Economy in Addressing Climate Change

The 2015 Paris Agreement's central aim was to strengthen the global response to the threat of climate change by restricting the increase in global temperature to well below 2 degrees Celsius above pre-industrial levels. There is growing concern that many countries are not on a trajectory to meet their Nationally Determined Contributions (NDCs<sup>1</sup>) or greenhouse gas emissions targets. This could result in international groups, including the Intergovernmental Panel on Climate Change, recommending new policies to stimulate a stronger response. Given the lag between policy and practice created by the planning and capital cycle, time is running out to close the gap between the current and the targeted climate change trajectories. The national responses could become more immediate, more forceful, and less co-ordinated, increasing the risk of a disorderly transition to a low carbon economy. The risk of a disorderly economic transition is increasingly attracting the attention of macro-prudential bodies, such as financial regulators and central banks, which have the power to stimulate change through other means.

So far, efforts to reduce emissions have largely focussed on energy transition and efficiency. However, given the significant proportion of global emissions related to the production of goods, the value of a more circular economy is becoming increasingly obvious. The circular model promotes resource management focussed on designing out waste and pollution, increasing the longevity of products and materials in use, and encouraging the regeneration of natural systems. Lazard Asset Management met with James Close, Head of London’s Low Carbon Circular Economy Programme, to discuss how these solutions are likely to become of increased importance in tackling climate change.

*“The scale of the transformation required to get us to net-zero emissions is extraordinary. It presents opportunities and threats for all actors, and investors have a key role to play to ensure that we finance activities that can deliver the transformation and avoid locking ourselves into an unsustainable future. We believe that the circular economy is a way of enabling the transition by addressing the 45% of emissions that relate to the creation of products rather than energy systems.”*

– James Close, Head of London’s  
Low Carbon Circular Economy Programme

In this article, we summarise the key points from James’ presentation and highlight the role that active asset managers can play in identifying which companies are supporting the transition from linear value chains to closed loop ones, and those that are benefitting from it. Supporting the transition to a circular economy could be an increasingly relevant credential over the next few years. Some of the world’s largest pension funds and insurers, some countries, and many companies have already pledged to achieve carbon neutrality by 2050. Scrutiny on asset managers to demonstrate they are incorporating their clients’ climate goals in their investment decisions, and adequately tracking the carbon intensity of their portfolios, is growing.

## The Push for Net Zero

The Carbon Neutrality Coalition represents a group of countries that have agreed to develop ambitious strategies to meet the long-term objectives of the Paris Agreement and to promote the creation of climate-resilient economies. While more than 60 countries have pledged to reduce carbon emissions to net zero by 2050, the United Kingdom is among the few that have codified the net-zero goal into law. Other countries have proposals under consideration. A slew of companies have also announced intentions to achieve carbon neutrality by 2050, or sooner, including Qantas, Amazon, Nestlé, and Bosch, among others.

Some of the world’s largest pension funds and insurers have also committed to achieve carbon-neutral investment portfolios by 2050. The new United Nations-convened alliance of 12 international asset owners<sup>2</sup>—responsible for directing more than \$2 trillion in investments—is seeking to accelerate the implementation of the Paris Agreement on Climate Change by directing capital towards companies that are decarbonising their business models and actively contributing to global climate goals.

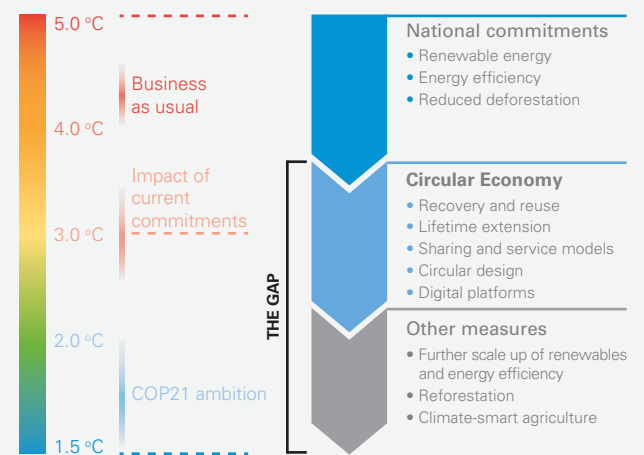
## What Is “Net Zero” Emissions?

Having a net-zero carbon footprint, or carbon neutrality, refers to achieving net zero carbon dioxide emissions by balancing carbon emissions with carbon removal (often through carbon offsetting, removal or sequestration of carbon dioxide from the atmosphere) or simply by eliminating carbon emissions altogether by employing processes that do not produce carbon emissions at all.

## The Road to Net Zero

Transitioning to renewable energy sources, alongside increased energy efficiency, is expected to only address 55% of current carbon emissions<sup>3</sup>. Producing food and the other items we use every day, such as clothing and cars, contributes to the remaining 45% of emissions. It is here that circular economy strategies are expected to help bridge the gap in meeting the Paris Agreement’s climate goal while enabling the population to meet their material needs (Exhibit 1). Reducing emissions in these products will require different responses to those that help transition economies by using renewable sources of energy.

Exhibit 1  
The Impact the Circular Economy Could Have in Reducing Emissions



For illustrative purposes only

Global greenhouse gas emissions amounted to 48 billion tonnes CO<sub>2</sub>e in 2010. When continuing on a ‘business as usual’ pathway, emissions could reach 65 billion tonnes CO<sub>2</sub>e by 2030. To limit climate change by the end of the century to the 1.5°C ambition expressed by the Paris Agreement, annual emissions need to stay below 39 billion tonnes CO<sub>2</sub>e per year by 2030 compared to the ‘business as usual’ scenario that creates a gap of 26 billion tonnes CO<sub>2</sub>e. Climate policies already in place and committed to under the Paris Agreement can deliver a reduction of 11–13 billion tonnes CO<sub>2</sub>e. Of the remaining emissions, it is estimated that circular economy strategies could contribute to further mitigating the emissions gap by about half.

Source: Ecofys

Many industries’ current methods of production and individuals’ patterns of consumption follow a linear economic model. Materials are extracted, goods are produced from them, and then the goods are used and disposed of at the end of use. To meet climate change targets, a fundamental shift is needed in the way the economy functions and businesses create value.

Circular economy models rely on designing out waste and pollution from processes, increasing the longevity and utilisation of products and materials, and supporting the regeneration of natural systems. In doing so, emissions are identified, reduced, and ideally eliminated along the value chain. A circular economy is specifically targeted in the UN Sustainable Development Goal 12 (SDG 12)—responsible consumption and production.

Demand for energy-intensive materials centres on cement, plastics, aluminium, and steel. These industries account for 66% of industrial CO<sub>2</sub> emissions<sup>4</sup>. Applying circular economy strategies to these key industry materials could help reduce global emissions by 40% by 2050<sup>5</sup>, highlighting how impactful these measures could be. Carmakers and the construction industry are the biggest users of these materials, accounting for 60%–70% of steel, cement, and aluminium use, and 30% of plastics<sup>6</sup>.

The European Commission has a strong focus on supporting Europe's transition to a circular economy. In 2015, it put forward a package of measures for the implementation of its Circular Economy Action Plan, with the aim of protecting the environment and generating sustainable growth. As part of the plan, the European Commission is committing to have all plastic packaging reusable or recyclable in a cost-effective manner by 2030<sup>7</sup>. To understand how circular economy principles may apply across different industries, we share our insights on practices relating to plastics among carmakers and construction companies, and identify where the gaps currently lie.

## Closing the Loop: Zeroing in on Plastics

The use of plastics has come under heavy scrutiny over the past couple of years. However, eliminating the use of this material will be a great challenge, given its ubiquity in the modern world. For instance, by volume, cars and planes are 50% plastic, while more clothing is made out of polyester and nylon than non-plastic materials, such as cotton or wool. While regulations on plastics are uneven across the world, the general direction is clear. Many countries have put in place bans on single-use plastics and, more recently, on the use of microplastics in products—and the focus is likely to broaden.

However, plastics have different applications in different industries. Close inspection is required to fully understand the purpose of its use in the manufacturing process and how it is managed at the end of life. For example, in the automotive sector plastics enables the light weighting of vehicles, which improves their fuel efficiency and helps vehicles meet fuel efficiency standards and reduce emissions in use. The beneficial properties of plastic, including its plasticity and strength-to-weight ratio, mean that its mass within a new passenger car is estimated to reach 350kg by 2020, which represents a substantial increase from around 200kg in 2014<sup>8</sup>. Plastic can also improve the durability of vehicles owing to its contribution to wear resistance. In Europe, the average age of road vehicles has increased to just over 11 years for a modern passenger car from six years in 1980<sup>9</sup>, partly due to the use of plastics.

Closing the loop on the use of plastics in the automotive sector will have to focus on measures at both ends of the value chain—on the raw materials that are used to produce them and recycling measures at a car's end of life. The loop is closer to closure in the European automotive industry than in many others, however the management and recycling of the inputs of components going into cars remain a clear area for improvement. In Europe, closed-loop manufacturing for autos is determined by the European Union's (EU) end-of-life vehicles (ELV) directive, which aims for 95% of a vehicle's weight being recovered or reused. The directive<sup>10</sup> seeks to address end of life, by making the dismantling and recycling of ELVs more environmentally friendly. It sets clear quantified targets for reuse, recycling, and recovery of ELVs and their components.

The directive also considers inputs to the process by pushing producers to manufacture new vehicles without hazardous substances (in particular lead, mercury, cadmium, and hexavalent chromium), thus promoting the reuse, recyclability, and recovery of waste vehicles. By way of example, the EU is looking at ways to recycle all plastics from ELVs and is currently examining the environmental impacts of polyvinyl chloride. Polyvinyl chloride, otherwise known as PVC, has wide application in cars. It is used in sealants, as part of the cladding of interior parts, such as dashboards and door panels, and as the principal protector of a car's underbody. PVC can be recycled at end of life after sorting into a single material stream. However, more needs to be done to address the management of other plastic components used in cars.

*“The recycling of cars at the end of their life has been driven by legislation. Regulatory focus on the origin of raw materials could start to create significant cost inflation for companies that fail to establish a recyclable material supply ecosystem. The next industry challenge will be to recycle batteries, as an increasing number of cars are electrified.”*

– Alistair Godrich, Research Analyst, Lazard Asset Management

Plastics are also used extensively in building construction, albeit in lower quantities compared to the primary materials, which include cement, steel, timber, insulation, and plasterboard. Plastic can be found in piping, guttering, tanks, membranes, and insulation. Construction companies are trying to increase their use of recycled polymers, such as PET milk bottles, which actually have a slight cost advantage over other plastics. The price of recycled polymers is also less volatile than virgin plastics. However, there are some limitations to how extensively recycled plastics can be used in the construction of buildings.

In the United Kingdom for example, current regulations mean that any plastic pipe intended to carry drinking water needs to be made from virgin plastic. While the penetration of recycled polymers in applications such as plastic piping will be limited by these regulatory barriers, there are still further opportunities to use more recycled plastics in construction. For example, Kingspan is increasing its use of recycled PET bottles to create insulation for buildings.



*“There are a wide range of building materials companies operating in different product categories. We are actively identifying those companies that will benefit from the transition to a circular economy, as we believe that this could be a key driver of growth and returns in the future.”*

– William Parry, Research Analyst, Lazard Asset Management

To fully close the loop, plastics used in construction need to be easy to recycle at the end of life. The extent to which building materials can be recycled at the end of life is determined by the recycling infrastructure in place in that geography. This is largely out of the control of the building materials companies. The main way in which building materials companies can close the loop at the end of a product’s or building’s life is to ensure that the materials used are suitable for recycling. Products that are laminated with multiple materials (i.e., papers, plastics, and metals) are more difficult to recycle, as are nylon carpets, which are made of polymers, glues, and latex.

## The Role of Investors

Asset owners are increasingly focussing on the impact of investee companies on climate change through disclosure about direct and indirect emissions, using recommendations set by bodies such as the Task Force on Climate-related Financial Disclosures. Investors are also becoming more cognisant of the contributions their investments make to global emissions across the product life cycle. Therefore, understanding how companies can operate within their respective value chains in a way that helps reduce emissions is becoming more important. This is a very complex exercise—value chains cross industries and geographies and scope 3 emissions (those related to a product over its life cycle and not

those directly and indirectly generated in its production<sup>11</sup>) are hard to measure and prone to double-counting. Nevertheless, we believe that companies that take positive steps could enjoy stronger financial performance over time and a higher valuation than those that do not. We believe that companies that take opportunities to adapt their business models now will be better positioned to adapt to changing climate policies.

*“Supply chains cross industries and geographies—understanding how companies can operate within their vertical to reduce product life cycle emissions is a very complex exercise. Lazard Asset Management is a global asset manager with experienced industry analysts all over the world. Without them, and the excellent corporate access they enjoy, we wouldn’t be able to identify the companies that can benefit from the transition to a circular economy.”*

– Nathan Cockrell, Co-Director of Global Research, Lazard Asset Management

We believe that a global perspective is required to understand supply chains and the impact that changing environmental regulations and environmental change could have on them. Deep sector knowledge is required to understand how industries and the companies within them can support the transition towards a circular economy. Cross-industry and cross-geography collaboration is required to see the whole picture. Meeting with company management is a central part of our investment process—it enables us to ask detailed questions about strategy and implementation, and to assess the short- and long-term trade-offs between financial productivity and sustainability. We believe that fundamental insight is required to understand the role of the circular economy in addressing climate change.

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## Notes

- 1 See United Nations Climate Change explanation <https://unfccc.int/process-and-meetings/the-paris-agreement/nationally-determined-contributions-ndcs>
- 2 UN-convened Net-Zero Asset Owner Alliance, published 23 September 2019: <https://www.unepfi.org/news/industries/investment/at-climate-action-summit-today-12-of-worlds-largest-investors-make-unprecedented-commitment-to-net-zero-emissions/>
- 3 Ellen MacArthur Foundation, Completing the Picture - How the Circular Economy Tackles Climate Change, published 23 September 2019: <https://www.ellenmacarthurfoundation.org/publications/completing-the-picture-climate-change>
- 4 Material Economics, The Circular Economy – A Powerful Force for Climate Mitigation, Transformative Innovation for Prosperous and Low-Carbon Industry, published 5 June 2018: <https://www.sitra.fi/en/publications/circular-economy-powerful-force-climate-mitigation/>
- 5 Ellen MacArthur Foundation, Completing the Picture - How the Circular Economy Tackles Climate Change, published 23 September 2019: <https://www.ellenmacarthurfoundation.org/publications/completing-the-picture-climate-change>
- 6 Material Economics, The Circular Economy – A Powerful Force for Climate Mitigation, Transformative Innovation for Prosperous and Low-Carbon Industry, published 5 June 2018: <https://www.sitra.fi/en/publications/circular-economy-powerful-force-climate-mitigation/>
- 7 European Commission, EU Strategy for Plastics in the Circular Economy, published 7 August 2019: <https://ec.europa.eu/environment/circular-economy/>
- 8 IHS Markit, published 6 September 2016: <https://www.plasticstoday.com/automotive-and-mobility/average-vehicle-could-incorporate-350-kg-plastics-2020/39227525825149>
- 9 European Automobile Manufacturers Association (<https://www.acea.be/automobile-industry/passenger-cars>) European Environment Agency, as at 19 April 2016: (<https://www.eea.europa.eu/publications/ENVISSUENO12/page031.html>)
- 10 European Commission, Directive 2000/53/EC (Directive 2000/53/EC - the "ELV Directive"), first published 18 September 2000: <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:02000L0053-20130611&qid=1405610569066&from=EN>
- 11 See Greenhouse Gas Protocol definition: [https://ghgprotocol.org/sites/default/files/standards\\_supporting/FAQ.pdf](https://ghgprotocol.org/sites/default/files/standards_supporting/FAQ.pdf)

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