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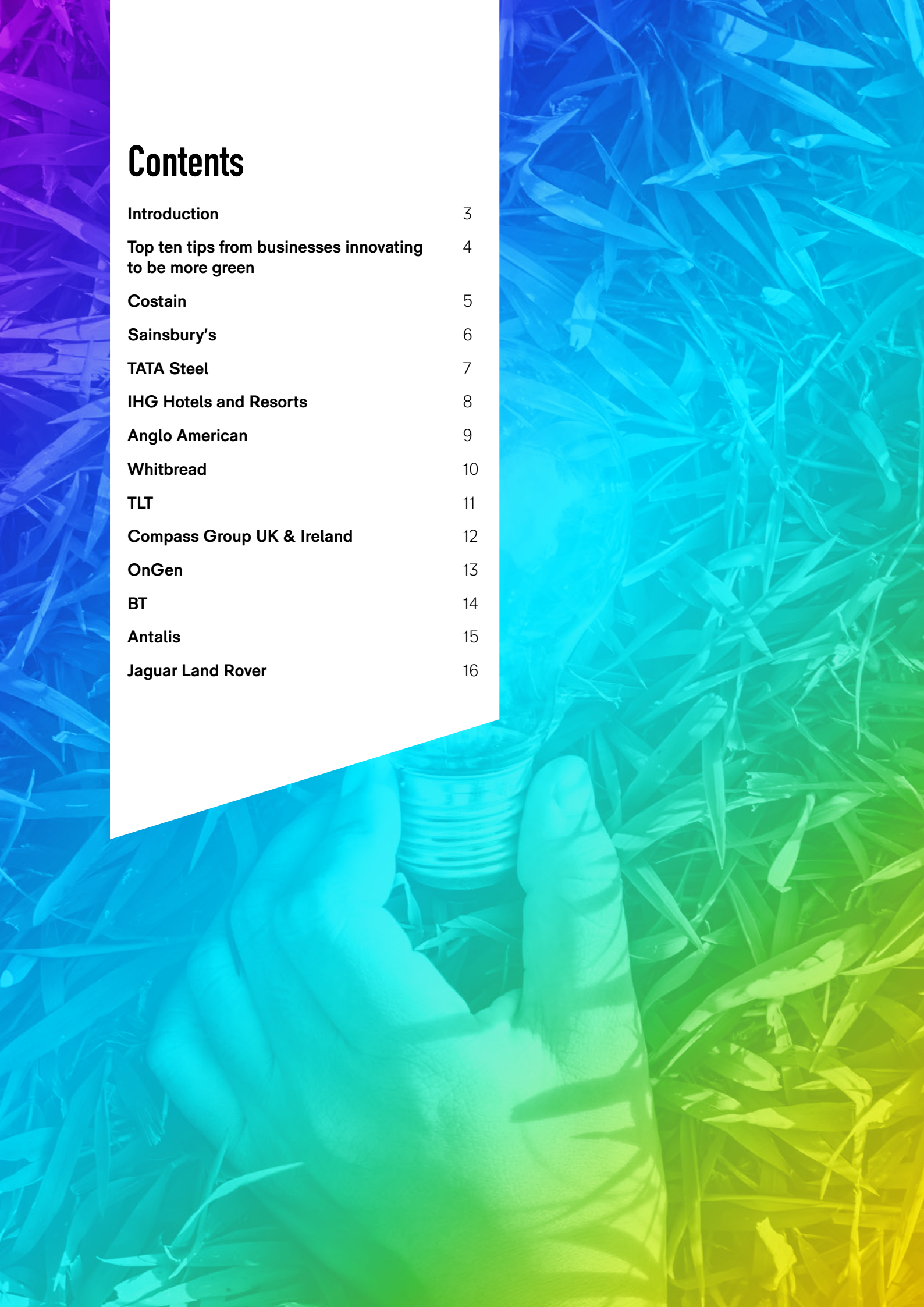


Be More Green: the business story

Discover the case study collection

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Introduction



In 2020, the Prime Minister set out his 10-point plan for a green industrial revolution, underlining the power of unleashed innovation for limiting the impacts of climate change and making the UK a global leader in green technologies.

Now is the time to be more green. Decrease your business' emissions and environmental impact; unlock economic opportunities, reduce operating costs, create jobs and attract talent; and increase your business's sustainability credibility, all through green innovation.

Discover the stories of businesses innovating to be more green. Find out:

- How they made the business case
- How they prioritise investment in innovation for decarbonisation
- The innovations they have developed or adopted
- The lessons they learned along the way.

Is your business innovating to be more green? [Get in touch](#) and tell us your story.

Top ten tips from businesses innovating to be more green

- 1.** **Understand** where your emissions and energy use are coming from and use this when building the business case to demonstrate the potential impact of your proposals
- 2.** **Start small**, don't become paralysed by how much there is to do, just start somewhere
- 3.** **Look around** at what technology is already available to help achieve your sustainability targets
- 4.** **Consider revisiting innovation** investments that didn't make sense previously – technologies could have improved or emerged, prices reduced, or changes in the external environment might mean that an investment is now worth making
- 5.** **Secure top-level buy-in** where you can to drive innovation and investment
- 6.** **Collaboration can be key** to your innovation success. [Use this CBI resource](#) to explore different types of partnerships
- 7.** Try and **streamline your internal processes**; bureaucracy can be a barrier to faster commercialisation
- 8.** **Empower people** from all parts of your business to come up with ideas. Some of the most practical suggestions come from those working on the frontline
- 9.** **Don't confuse** being serious with being solemn. People don't want to rally around the drumbeat of a dystopian future. By actively encouraging innovation, we can create hope for the future
- 10.** **Failure is part of the process**, just make sure to capture and learn from why it didn't work.

Costain UK Construction and Engineering PLC

What role has innovation played in your efforts to be more Green?

We are innovating to decarbonise infrastructure delivery and operations sits at the heart of our organisation. R&D and innovation is core to our work, from setting new standards, to committing to deliver low carbon solutions to every client by 2023.

How have you shifted your business' approach to innovation?

Collaboration with our supply chain, and growing smaller, local businesses, is essential as they make up 95% of our industry. We run a Supply Chain Academy, a free training programme to support industry sustainability through learning and development, and potentially grow local jobs and increase diversity in the sector. Our tier two suppliers Lynch and Speedy have shared their learnings from the academy with their supply chain on major projects such as HS2. Additionally, Costain can identify businesses with solutions that can address new challenges we face, for example through 'Costain Catalyst', our accelerator and venture programme. This programme partners local business with our Costain experts and clients to accelerate innovative business ideas to market. 35 organisations have completed the programme to date and have integrated new services into Costain or our clients' business.

How do you prioritise investment in Green innovation?

Innovative, sustainable thinking starts at the top. We have a group of directors responsible for sustainability performance. Every employee is also responsible for working in a sustainable way and is empowered to challenge and improve ways of working. Demonstrating the value of innovation to clients also helps us to make the business case. For example, concrete makes up 60% of global emissions from our industry. We have invested in research and facilitated the testing of low carbon materials in a safe and reliable way. In many cases these new products are now becoming mainstream.

Where have you innovated to be more Green?

- One example is our development of digital tools. A lack of data can be a barrier to businesses making the right decisions around carbon. As part of Department for Transport's 'Transport Infrastructure Efficiency Strategy Living Lab', Costain has developed a new cloud-based digital platform in partnership with SAP and Deloitte. The platform simplifies the collection and analysis of the vast quantities of data that UK infrastructure projects generate around carbon, cost, social value, asset, and telematics. It gives clarity on carbon which helps organisations make the right decisions
- Costain has also formed a five-year research partnership with National Highways and the University of Cambridge focusing on digital twins, data science, automation, and smart materials. This Centre will initially fund 48 researchers and collaborate with businesses in the supply chain to drive change aligned to National Highways strategic outcomes, including sustainability.

What advice would you give other businesses innovating to be more Green? Collaboration is key to our innovation success. Our top tips for collaboration with universities are:

- Visit the UKRI website to find a university that is a leader in your industry, locate Knowledge Transfer Partnership (KTP) advisors and explore funding options. Many universities also have industrial liaison managers – don't be afraid to approach them directly
- Participate in an MSc and/or fund a PhD to access top talent and latest insight. We have funded 28 PhDs over the past eight years in e.g., hydrogen, future transport and blockchain
- Get involved in collaborative research programmes. One business alone may not be able to undertake large-scale research projects, but a group can bring it to the market creating stage.

Sainsbury's Public limited Retail Company

What role has innovation played in your efforts to be more green?

We have set a target to be net zero across our operations by 2035 and need to invest in innovation across the business to achieve this. Engineering innovation sits firmly within our Better for Planet pillar of Sainsbury's 'Plan for Better' strategy. We are looking at decarbonisation initiatives across; carbon reduction, controls and metering, energy efficiency, on-site generation and storage, building envelope and water efficiency.

How have you shifted your business' approach to green innovation?

In 2010 Sainsbury's established a strategic partnership with Imperial College to research tackling the carbon footprint of retail. We first agreed that our objectives were aligned and strengths were complementary; we needed academic independence for our projects and Imperial benefitted from having real business data and problems to work with. The partnership has addressed sustainable operations in buildings, transport systems, and supply chains, and keeps our business aware of the latest innovations. Imperial's expertise has also supported Sainsbury's in developing innovative business models to inform our net zero investment programme. Our approach to new technologies is to identify potential solutions, undertake rapid testing, and conduct a detailed post-investment review. Once the trial period is complete, we then roll out across our estate.

How do you prioritise investment in green innovation?

Sainsbury's has pledged to invest £1bn to reach net zero by 2035. So, we have funding available for innovative projects that will help us get there. Operationally, our engineers work in close collaboration with our finance department. All spend is approved alongside other investments, with a post-investment review completed annually to ensure that capital is spent, and returns are generated as planned. Each project is appraised on its ability to deliver cost and carbon savings.

Where have you innovated to be more green?

For Sainsbury's one of the largest sources of energy usage, and therefore carbon emissions, is refrigeration. We have developed two projects to tackle this:

- Refrigeration Integrated Heating and Cooling (RIHC) - This project uses an innovative single system to meet all a store's refrigeration, cooling and heating requirements. The system's thermal storage unit recovers low grade heat from the fridge to heat the rest of the store, replacing the need for gas heating boilers. This has reduced our energy consumption by up to 30%, whilst maintaining a high-quality environment. The technology was developed by Sainsbury's internal teams and supply chain, ensuring it meets their requirements and delivers maximum benefits in real world use. It was then peer-reviewed by Imperial as part of our ongoing partnership
- Aerofoil - Sainsbury's were the first supermarket to install Aerofoil technology in our fitted fridges. Following extensive research on the positive impact of Aerofoil, we rolled the tech out, resulting in a 15% reduction in energy use in fridges across the estate. The technology was created by Aerofoil Energy and Williams Advanced Engineering, who pitched it to Sainsbury's. It was initially developed to divert air over and around race cars. We use it to prevent cold air leaving the cabinet, directing it back into the fridge, saving energy, keeping aisles warmer and reducing food waste.

What advice would you give other businesses innovating to be more green?

- Understand where your emissions and energy use are coming from and use this when building the business case to demonstrate the potential impact of your proposals.
- Decarbonising operations is not only good for the planet, it has a direct commercial impact
- Don't assume you need a large internal team to innovate. Sainsbury's only has a team of six engineers. Collaboration both with industry and academia allows us to keep the team small.

TATA Steel One of the world's most geographically diversified steel producers

What role has innovation played in your efforts to be more Green?

Our industry has high decarbonisation demands. All along the supply chain, products are now being selected on sustainability credentials. Making progress across our four pillars of sustainability: biodiversity; waste and material efficiency, asset decarbonisation on site; and products of the future, will be impossible without innovation.

How have you shifted your business' approach to innovation?

We follow a data-led approach. Our new energy efficiency governance process compares a site's energy performance to a benchmark. We then develop a roadmap to bridge this gap through new innovations. Internal targets for improvement are established first by taking measurements and understanding our data to establish a baseline (we are certified to report correctly on our CO₂), we can then establish what we need to do (and who we might need to partner with) and set timeframes for progress. This is reviewed by our CTO on a quarterly basis. Our strategies are developed in consultation with all relevant stakeholders, are simple to get behind, and our customers and clients want them.

How do you prioritise investment in Green innovation?

It is quite simple because it is very clear that this is what our industry wants and expects. To continue supporting customers and leading our industry, reducing emissions must be a priority. Additionally with the cost of energy and the EU Emissions Trading System (EU ETS) going up, why wouldn't we adapt and invest where we could save money?

Where have you innovated to be more Green?

A significant portion of the emissions from our Shotton site in North Wales comes from our paints, which contain solvents and require gas to cure. Our innovation challenge is to make paints with no solvents and to not cure them with gas, which would reduce the carbon emissions of the site by 70%. Following a year's work, we have just launched our programme for tackling this challenge. We have put together a project team that includes our paint manufacturer suppliers, our internal technical experts and engineers, and PhD students from the University of Swansea, all working together under NDAs. We have been working with the university for years. This relationship has many benefits for us including access to top-tier talent and equipment. In addition, testing new technologies on the scale we need is not cheap; so, access to pilot facilities at the university is indispensable.

What advice would you give other businesses innovating to be more Green?

- No one big thing is going to change everything, it is lots of little things that add up
- Change the mindset of how you measure carbon emissions. In our case, reducing paint and waste to landfills also means reducing CO₂
- Don't forget about the value of access to equipment when considering partnering with universities. When you are trying to develop and adopt new technologies you need to pilot them, but access to test facilities is not cheap. You could spend £0.5m just to trial something new. Access to university lab equipment allows us to develop proof of concept, which is needed to make the business case for wider investment.

IHG Hotels and Resorts British Multinational Hospitality Company

What role has innovation played in your efforts to be more green?

The hotel industry accounts for ~1% of global carbon emissions. As one of the world's leading hotel groups, we recognise the need to take decisive action on emissions. As part of our 'Journey to Tomorrow' we aim to reduce our scope one, two and three emissions by 46% by 2030. We are targeting 100% of our new-build hotels to operate at low/zero carbon emissions and want to maximise the role of renewable energy across our estate.

How have you shifted your business' approach to innovation?

Our commitment to operating sustainably comes from the top. Our Board is supported by Principal Committees, including the Responsible Business Committee, which reviews IHG's environmental impact and approach to sustainable development. We publish a Responsible Business Report annually, charting our progress against strategic objectives including driving energy efficiency, switching to renewable energy sources, developing zero-carbon hotels of the future, and pioneering the transformation to a minimal waste hospitality industry.

How do you prioritise investment in green innovation?

Our clients, investors and shareholders expect us to operate and grow our business responsibly. In a recent study of 10,000 participants, over 80% said it was important to choose a hotel brand that operates responsibly, and customers will spend an average of 31% more on accommodation that operates responsibly. So, there is a clear business case, and we know we cannot decarbonise without innovation. We also need to bring our hotel owners and managers with us by ensuring they have information on the opportunities for each property to reduce its carbon footprint.

Where have you innovated to be more green?

- Crowne Plaza Copenhagen Towers in Denmark is one our most innovative sites. Solar panels line the facade helping power the building, and a groundwater-based heating system keeps it cool in summer. Intelligent lighting, water and waste-saving measures are installed throughout, while the restaurant serves organic, locally sourced dishes
- IHG Green Engage™ system (2009) is an online platform, helping hotels measure and manage their use of energy, water, and waste, providing over 200 solutions to help IHG hotels make greener choices. This year we launched a new collaboration with Schneider Electric to provide an automated data-entry solution for the system. This will feed energy and water data directly from utility providers into Green Engage. Manual data entry has been a barrier for us, so this new process will provide insights at scale across our estate
- Our Hotel Energy Reduction Opportunities (HERO) toolkit, in collaboration with Arup, supports general managers review existing infrastructure and energy initiatives in a hotel and recommends measures to drive efficiency. It provides information on expected cost, indicative energy and cost-saving information. HERO is supported by a global decarbonisation training which is in the early stages but has already been completed by over 2,800 colleagues.

What advice would you give other businesses innovating to be more Green?

- Investors are not expecting you to have all the answers now. It is about making sure you are considering ESG in your decisions and thinking through corporate responsibility
- Goals need to be achievable, and we work with our hotels and franchisees to ensure they have the tools they need to reach these goals
- Look around at what technology is available to help achieve your sustainability targets
- Start small, it is easy to become paralysed by how much there is to do, just start somewhere.

Anglo American British listed multinational mining company

What role has innovation played in your efforts to be more Green?

At Anglo American, we have committed to carbon neutrality by 2040. To achieve this, we're shifting the way our business works, looking across our whole value chain to identify where we can innovate to decarbonise.

How have you shifted your business' approach to green innovation?

Anglo American's innovation group was founded in 2014 at the request of the CEO and Technical Director, on the principle that a 100% commitment to innovation is the only way to meet our carbon targets. In 2015, we created our Technology Open Forums to connect our teams to experts across other industrial and academic sectors to ideate on the major challenges facing the mining sector, including, of course, carbon emissions. Almost every successful technology project since can be traced back to the 11 events held between 2015 and 2021.

How do you prioritise investment in green innovation?

Our innovation budget is ring-fenced, which can be hard for businesses to do. Whilst our three largest innovation projects have significant budgets, we have de-risked them by investing at a smaller rate over three to four years. Our ringfence reflects the recognition of the importance of innovation at the top of our organisation. Buy-in from our CEO and Technical Director means that we have a wider spread acceptance of risk and licence for action.

Where have you innovated to be more green?

In areas of highest emissions: consumption of coal-generated electricity in South Africa, diesel fuel in heavy mobile equipment (HMEs), and ventilation air methane (VAM) in our metallurgical coal operations.

- No existing suppliers were able to provide the clean energy we needed in South Africa to tackle our consumption of coal-based electricity. We needed to start a green energy company. We have partnered with EDF to create a regional energy ecosystem of 3-5 GW of renewable electricity (solar and wind) and storage over the next decade. The ecosystem will supply 100% renewable electricity to meet Anglo American's operational requirements in South Africa by 2030, supporting the resilience and decarbonisation of the local energy systems
- For our diesel challenge we turned to breakthrough technologies. We have launched our pilot nuGen™ Zero Emission Haulage Solution: a hydrogen-electric powered ultra-class mine haul truck. This has been a significant investment for us, and a world-first innovation at this scale. Leveraging our work with EDF, we will produce our own green hydrogen using solar power onsite. The truck will run emission-free using this hydrogen instead of diesel. We plan to roll these out across our entire fleet over the coming decade.
- Ventilation air methane remains an ongoing challenge we are investing in.

What advice would you give other businesses innovating to be more green?

- Real innovation can only happen successfully when there is internal buy-in. We couldn't have shifted the way our business works without support from the top
- We have seen benefits of being more green beyond the reduction of carbon. In our recruitment for example, Anglo American's focus on sustainability has been a massive draw for talent in carbon and data analytics
- We have learned that innovation happens best when it is multi-disciplinary and system based. We know and embrace that not every idea will succeed; investment will be made in projects that fail. Accepting this risk is now embedded into our business model.

Whitbread British listed multinational hotel and restaurant company

What role has innovation played in your efforts to be more Green?

Under our Force for Good programme we have ambitious environmental targets from eliminating single-use plastics by 2025 to halving food waste by 2030. We are committed to being net zero (scope one and two) by 2040 and driving down our scope three emissions by 64% by 2050. After making straightforward carbon reduction improvements, we are now innovating to identify further opportunities. This exploration and trialling of newer technologies has taught us a lot as a business and given us opportunity to work with partners who are leading their field. We try to be open to all new opportunities; with such a large-scale operation, (owning and operating over 840 hotels across the UK) we know that small changes can make a huge impact when rolled out in full.

How have you shifted your business' approach to innovation?

We have internal specialists who screen inbound opportunities, allowing us to focus on those with the highest potential. We monitor the impact of new products over a fixed period before we commit to a full roll out. We follow up with post-investment appraisals to stay accountable to our ROI. This de-risks projects significantly, identifying snags early and establishing initial impacts.

How do you prioritise investment in Green innovation?

We are fortunate to have a budget for innovation investment so can deliver projects in-house. Our goal is to reduce energy use significantly and meet our net zero goal, so any innovation that can genuinely help us with this, we pay attention to. We put together carefully structured business cases internally to secure budget on a project-by-project basis. These business cases include: the background, technical explanation, strategic rationale (including potential carbon and cost savings), capital requirement and recommendation. Once the trial is approved, we implement the project, ensuring we continuously monitor performance. We know not everything will succeed, so keep looking at our pipeline for new ideas. We are also vigilant to opportunities requiring small investments that could have cumulatively large impacts across our sites.

Where have you innovated to be more Green?

Some of the key innovative technologies we have tested and deployed at Whitbread are:

- EndoTherm, an energy saving heating system additive used in our wet heating systems, which improves heating efficiency without major disruption. We are benefitting from ~10% reduction in gas used for space heating in restaurants.
- Synergy charrills, an innovative technology that uses a ceramic heat bed and atomises fat, using ~50% less gas than normal grills. These have reduced our emissions, our costs, strain on our ventilation systems, and our staff resource as these grills are quicker to clean as there is no fat residue. We have also seen the benefits of consistent cooking equipment across our estate, making menu design easier.
- When looking to reduce water consumption, we identified variability as part of the problem. Some fittings weren't performing to standard or had drifted from specification over time. We have invested in new valves for our toilets and are trialling tap connectors that halve water flow from 4-5 litres per minute to 2.4. These changes reduced water consumption by 15-30% (site depending), and gas use by 5-10%.

What advice would you give other businesses innovating to be more Green?

- Make the first step and reduce energy consumption; switch things off, swap to energy efficient options or generate your own green energy. Innovation can help with all three.
- Don't be afraid to talk to people and find partners; you can learn so much from others.
- Consider revisiting innovation investments that didn't make sense previously – technologies could have improved or emerged, prices reduced, or changes in the external environment might mean that an investment is now worth making.

TLT UK law firm

What role has innovation played in your efforts to be more green?

Innovation is essential to decarbonising at the scale and pace needed to meet the UK's net zero target. At TLT, innovation and sustainability are front-and-centre of our key values of "Challenging convention" and "Driving sustainable action". We began by making simple changes across the business – reducing printers, switching from desk to mobile phones, and moving services to the cloud. This reduced power usage from servers and air conditioning, and buying less kit also reduces end of life disposal. We must now innovate to meet our ambitious targets.

How have you shifted your business' approach to innovation?

Our Head of Future Energy and Real Estate, Maria Connolly, an executive board member, is responsible for sustainability and has overseen a significant overhaul of our business processes, setting us on an ambitious net zero journey. Moreover, our sustainability team sits within organisational development rather than facilities and the endorsement and active promotion of our sustainability strategy from the top empowers our people to be bold with their ideas on how we meet our targets. We worked with consultants, Carbon Intelligence, to formalise our net zero roadmap and agree science-based targets for emissions, and have been positively recommended for ISO 14001 to ensure our approach is ambitious enough to support the UK's net zero target.

How do you prioritise investment in green innovation?

By putting innovation and sustainability at the heart of our strategy we have committed to investing where needed. For example, we have significantly invested in people (including the recruitment of a senior sustainability manager and sustainability adviser), budget provision, policies, data gathering and reporting (including the search for a new technology partner) and internal governance (including the creation of a cross-firm sustainability committee).

Where have you innovated to be more green?

Buildings are responsible for 40% of global energy consumption and 33% of greenhouse gas emissions. In 2021, we announced a multi-million-pound investment programme to deliver a digital and physical workplace to support choice, inclusion, and sustainability. Involving the rollout of new telecommunication and IT tools, upgraded workstations, improved hybrid meeting technologies and new collaboration tools to enable a seamless hybrid working experience, this reduces emissions from commuting and travelling between offices. In 2021, we announced the launch of a new concept office in Glasgow to inform how we use our physical space to support our sustainability goals. The office, 'Cadworks', is one of Scotland's most sustainable. It is constructed from recycled materials, uses 100% renewable energy sources, includes electric vehicle charging points, and has 120 cycle rack spaces instead of parking spaces. We have also supported the uptake of electric vehicles (EV) in the community, working with Action Net Zero to produce a guide on sharing your EV charger. This can help individuals and businesses become a charging 'host' without worrying about any legal risks.

What advice would you give other businesses innovating to be more green?

- Work to set your science-based targets on emissions. Our early work with Carbon Intelligence has validated that our sustainability strategy is delivering real improvements.
- Consider the spill over benefits to your people strategy. Our innovative projects have generated excitement and career opportunities for people internally, such as opportunities to install an entire IT system in a net zero building in Cadworks or drafting climate-aligned contract clauses with The Chancery Lane Project that are then named after a child in that person's life. We were also named Law Firm of the Year at The Lawyer Awards 2021. As part of this, we were praised for our long-term reinvention and early targeting of the green sector.

Compass Group UK & Ireland British listed multinational food service company

What role has innovation played in your efforts to be more green?

If the world's food system isn't transformed in the next 80 years, its' emissions will be 3.5x greater than the global carbon budget for a 1.5-degree world. We have committed to being net zero by 2030. We are harnessing chefs' creativity, increasing use of local, seasonal, and plant-based ingredients to reduce the embodied carbon on our menus; rewiring the economics of our supply chain; reimagining how we tackle food waste; reviewing our packaging choices and inspiring wider societal decarbonisation through reducing the carbon footprint of our people.

How have you shifted your business' approach to innovation?

We are a very large multinational business with many internal controls and processes. These are critical to ensuring safety but can't become barriers to innovation or slow the collective agency of our people. In 1941, we were a start-up too, it is helpful to remember the innovative spirit that made us what we are today and encourage our people to embrace doing things differently. Operational net zero leads have been appointed across our sectors to champion change, and help embed sustainable, circular operating principles. We are also exploring how we can fund, incubate, and scale new innovations, with innovative start-ups and other organisations.

How do you prioritise investment in green innovation?

Our sector has small margins, pressured further still by current external challenges, including food price inflation. Without the financial headroom of other sectors, our innovation imperative becomes even greater and demands that we think creatively to redesign, not sacrifice, our commercial model. We repeatedly cement the business case for working differently championing sustainability as a commercial necessity, not an evangelistic pursuit. We need a dual focus of immediacy and putting in the hard yards, if we are to be in the strongest position to support our clients; many of whose climate commitments align with ours.

Where have you innovated to be more green?

Given 80% of our footprint is food, the menu is our greatest ally for meaningful change. We are rethinking the way menus are formulated to reduce the embodied carbon on the plate. Last year, at a large-scale event we hosted, we achieved a 66% reduction by applying simple, core principles: less animal protein, more plant-based ingredients, a local and seasonal sourcing policy. Additionally, in partnership with the University of Oxford's LEAP programme, we have been trialling eco-labels that highlight the environmental impact of meals; sharing the data we collect with behavioural researchers to explore the extent to which labels spark change; and progress conversations with academics and life cycle analysis experts in this space; enabling us to utilise their specialist expertise at scale, which will result in the roll-out of carbon foot printing across c.87,000 recipes.

What advice would you give other businesses innovating to be more green?

- Encourage innovative ideas from every part of your organisation. We are acutely aware that many of our best, most practical suggestions come from those working on the frontline
- Do the hard work of putting together a business case simply; make it as easy as you can for those making the tough decisions. People want to do the right thing and so we need to clarify how this is commercially attractive, not just "viable"
- Don't confuse being serious with being solemn. People don't want to rally around the drumbeat of a dystopian future. Actively encourage innovation to inspire hope for the future.

OnGen SaaS platform provider specialising in reducing overall business energy consumption

What role has innovation played in your efforts to be more Green?

Innovating to be more Green is the core of our business. We have developed a product that processes large amounts of energy consumption data to provide businesses with the case for switching to onsite renewables. It is easy to use and is particularly useful for businesses without capacity and resources to look at switching to low carbon technologies. We are constantly innovating to improve the efficiency and usefulness of our products for tackling the carbon emissions of both private and public sector customers.

Where have you innovated to be more Green?

OnGen was born from an identification of the key challenges businesses face when considering low carbon technologies: a lack of expert knowledge of how to use existing tools, knowledge of costing and funding options, and a lack of time and bandwidth to analyse internal energy data and investigate new technologies – or how existing technologies can be compounded for greater effect. We have three products: OnEfficiency, helps businesses identify how they can reduce energy consumption and improve energy efficiency; OnGen Expert creates the business case for onsite renewable options, and; finally OnSupply helps businesses find the cheapest green energy tariffs. We then work with our customers to make the case for renewables.

How do you prioritise investment in Green innovation?

Innovating and improving our products is our priority; we reinvest our profits back into the business. Additionally, with the help of our public sector clients we have secured £100m of funding through the Public Sector Decarbonisation Scheme (PSDS).

The decarbonisation of heat generation is a major challenge for UK business. We have been working with Heriot-Watt and Edinburgh Napier Universities, who conduct cutting-edge research in this area. The programme is part-funded by the Scottish Energy Technology Partnership., without both of these elements, OnGen would not have been able to develop our software at the same pace or scale. The engineering knowledge and facilities at both universities have been vital for the development of the OnGen platform, and the partnership has resulted in the launch of additional modules concerning air source heat pumps, ground source heat pumps and solar thermal.

What advice would you give other businesses to be more Green?

- That there are three ways to reduce energy use: turn things off when they're not needed; generate what you can onsite; find the best green energy supply contracts you can for remaining supply needs
- Businesses need to challenge any internal misconceptions they still have that going green is too expensive. Wholesale energy costs are continuing to rise and cost savings of up to 60% can be achieved with the correct mix of onsite renewable generation
- Businesses should approach onsite renewables with an open mind. Cost of solar deployment, for example, has reduced by 90% over the past 15 years and there are options for businesses to sign up to power purchase agreements if cost remains prohibitive. The renewable energy landscape is everchanging so technologies that were not viable five years ago may now have a good business case. It is always a good idea to revisit and rethink.

BT British Multinational telecommunications company

What role has innovation played in your efforts to be more green?

The third pillar of our corporate strategy is 'leading the way to a bright sustainable future,' a mission only achievable through innovation. In 2020, we launched the first iteration of our Green Tech Innovation Platform (GTIP) which aims to identify breakthrough technologies and partnerships that enable BT customers to progress to a net zero and circular world.

How have you shifted your business' approach to green innovation?

Whilst historically we have been sustainability led, the creation of the GTIP has marked a shift in our focus to green innovation. The GTIP takes an open innovation approach, in partnership with Plug and Play, to identify start-ups and scale ups we could work with to move their products towards a joint proof of concept (PoC) with BT. An ecosystem of partners across the value chain is created, generating mutually beneficial relationships for all parties; start-ups and scale ups provide their great propositions, products, and talent, and BT provides its' network connectivity and managed services, along with access to our extensive customer base. This accelerates the commercialisation and adoption of new products. The two iterations of the GTIP have proven their commercial viability; we are now planning to embed the process into business as usual for BT's operations. The GTIP programme has generated widespread interest in sustainability and as a result, an internal 'Enterprise Sustainability Forum' was formed within the organisation.

How do you prioritise investment in green innovation?

CEO Philip Jansen has backed GTIP from the start making prioritising investment easier. Every GTIP project requires evidence of commercial viability; and we ensure that customers and external stakeholders are involved in the process as early as possible – this approach validates the process and provides stability for the investment. Moreover, by moving funding of the GTIP to 'business as usual', we will no longer need to bid for separate funding, instead budget will be allocated as part of the normal financial planning process, fully embedding the GTIP operationally.

Where have you innovated to be more green?

In the GTIP's first iteration we identified three areas where we could support our public sector customers in their net zero transition: smart streets, smart buildings and remote diagnostics. Plug and Play identified possible partners who were then narrowed down. All chosen partners sign an NDA, are treated equally and have clearly outlined responsibilities. For example, we are partnering on smart buildings solutions with Glasgow based start-up, iOpt to deliver an Internet of Things (IoT) platform for social housing to increase energy efficiency, lower maintenance costs and reduce the need for engineers to travel to properties. We are still early in the process of evaluating our first PoC, but the early results are promising and there is a lot of interest from local councils and other housing providers. For the second iteration of the GTIP we are partnering with the Manufacturing Technology Centre to deliver technology solutions to help them decarbonise. Joint analysis with Accenture identified that carbon emissions from the sector could be reduced by 13% by 2030 by IT, such as 5G, driving process optimisation and innovation.

What advice would you give other businesses innovating to be more green?

- Failure is part of the process, just make sure to capture why it didn't work
- Get buy-in from CxO level for business wide innovation and support for investment
- Try to streamline internal processes; bureaucracy can be a barrier to quick commercialisation
- Involve external stakeholders and customers throughout the innovation process to validate your activities.

Antalis Paper, packaging and visual communications company

What role has innovation played in your efforts to be more green?

Antalis is committed to being a net-zero business by 2030. In Antalis UK and Ireland, we have reduced our carbon output by 75% since 2012 by tackling our scope one and two emissions. Innovation has been integral part to this, and we have brought several new products to market.

How have you shifted your business' approach to green innovation?

Innovation is core to our offer to customers. We work closely with our customers to gain a good understanding of their needs and challenges to develop innovative solutions that we then test and trial. We measure performance on metrics such as efficiency, cost, and customer experience, and increasingly on reducing environmental impact. We are partnering with NGOs and academia to look at what we do and how we help our customers embrace our vision and drivers themselves. In 2022, for example, we will bring the first packaging products made from ocean recovered plastics to the UK through these partnerships; and launch a global, green star system for our products. This will show the true impact of materials, with a rating of up to five stars for renewable, recycled, and recyclable materials. This will be embedded into our website, allowing customers to make informed choices when considering which products to source, making us the first business in our sector to clearly state the pros and cons of materials and thus avoid greenwashing.

How do you prioritise investment in green innovation?

Antalis is actively involved in new product development to bring more environmentally friendly products to the packaging market and reports CO₂ emissions as part of our annual account submissions. Our investment in new products over the last five years has exclusively been focused on green innovation and we have an R&D budget to reflect this.

Where have you innovated to be more green?

Here are some examples where we have worked with customers to create innovative packaging solutions that have had a positive environmental impact. For example:

- We supplied the first corrugated cartons in the UK made of grass paper rather than wood pulp. Paper is an inherently sustainable product but extracting wood pulp is relatively carbon intensive. Using grass paper from land that does not compete with human or livestock feed requirements instead, resulted in 75% lower energy use and carbon emissions compared to wood pulp
- We conducted a full packaging audit for a large fashion retailer, observing their processes over a two-day visit. Based on the data collected, we proposed a simple change to the dimensions of their boxes. Whilst not changing the cost or sustainability of each individual box, this solution increased the number of stackable boxes per pallet, ultimately reducing annual truck journeys from 958 to 718, reducing client transport costs and carbon emissions significantly
- Our clients were using a manual flame gun to shrink wrap its pallets. This was energy, cost and labour intensive. Our team visited the client site to better understand the packaging operation and specific issues to be addressed and proposed the use of the Lantech S-300 semi-automatic pallet wrapper. A film audit and trial were used to provide client with accurate information on cost savings and packaging waste reduction. This led to 75% reduction in waste, 70% faster wrapping times and a cost saving of 60%.

What advice would you give other businesses innovating to be more green?

Quite simply, start now! It's a long journey to become greener, but there are significant benefits to starting as soon as possible. Consumers and businesses now give a weighting of over 20% to green credentials when looking for a suitable partner. And this is only increasing.

Jaguar Land Rover British Multinational Modern Luxury Automobile Manufacturer

What role has innovation played in your efforts to be more green?

Innovation is an integral part of our business and touches all our operational areas: design, engineering, manufacturing, and beyond. Transitioning to a pure-electric modern luxury business, is core to us achieving our sustainability commitments – including reducing operational greenhouse gas emissions by 46% and value chain emissions by 54% per vehicle by 2030. Innovation will be central to delivering this.

How have you shifted your business approach to green innovation?

Our corporate strategy, Reimagine, is to become an all-electric business by 2030. We are undergoing a deep transformation to achieve this. We have appointed a new Global Sustainability Director to accelerate the delivery of our sustainability strategy and science-based targets commitments; and launched our Global Open Innovation strategy, which recognises the significant benefit of start-ups when adopting next-generation technology and sustainability solutions. Since April 2022, Jaguar Land Rover has launched two regional Open Innovation hubs. First, we partnered with Cubo Itau and Firjan in South America and then we launched the first-of-its-kind-in-the-UK mobility Open Innovation structure in partnership with Plug and Play, Warwick University, Advanced Propulsion Centre and Zenzic. We hope to use these regional hubs to scale up innovative businesses, and accelerate the journey to market and adoption of their technologies.

How do you prioritise investment in green innovation?

Sustainability sits at the heart of our strategy – Jaguar Land Rover has committed to becoming carbon net zero by 2039. To help deliver this commitment, our Open Innovation programme has a dedicated sustainability workstream that collaborates with our venture fund InMotion and our partner Plug and Play Tech Center. The result is flexibility to invest in technologies and businesses that can solve challenges related to sustainability and decarbonisation of our operations and value chain. To ensure business relevance and adoption, we have appointed more than 70 people from functions across the business, our 'champions', to make decisions on technologies and partners to work with.

Where have you innovated to be more green?

As the Open Innovation strategy was only launched this year, we are still in the early stages, but there are already examples of green partnerships between start-ups and Jaguar Land Rover:

- Circular: their business provides visibility across the whole value chain and allows us to demonstrate responsible sourcing, improvement in our ESG performance as well as managing supply chain risks
- Pramac: partnered to create a zero-emissions charging unit using second-life Jaguar I-PACE batteries
- UM1 (Brazil): who worked with our legal department to reduce paper by transferring all processes to digital. Everyday solutions can also be the most impactful.

What advice would you give to other businesses innovating to be more green?

- Collaborate with start-ups. They can provide solutions quickly and often don't have as many barriers as large corporations. Remember not all innovation is about breakthrough technologies. Start-ups can provide solutions to everyday processes and challenges as well
- We'd recommend that every company look to have a sustainability department linked to Open Innovation to accelerate business transformation and create a positive impact for people and planet. The Open Innovation framework can also build a global network giving mature markets access to developing markets innovations as well as helping these countries grow
- Act with integrity to ensure any claims about sustainability or green innovation are communicated in a truthful, accurate and robust way.



Check out more Be More Green resources:

- [Making the case](#) to innovate to be more green
- Your business [checklist](#) for innovating to be more green
- Could partnerships help your business to be more green? [Find out](#)
- Use the full [Be More Green toolkit](#).