

Share the Future

Birla Carbon Sustainability Report 2023



Our progress on sustainability in FY2023

At Birla Carbon, we have been sharing our expert knowledge of carbon black and its applications for over a century, all the time advancing our commitment to sustainable progress. We are an environmentally conscious supplier and aim to protect the environment by driving material efficiencies and reducing our emissions.

We are proud to share our 11th sustainability report in 2023 and continue this journey with our stakeholders. By doing so, we are enabling our stakeholders to share in the strength of our product as we continue to drive sustainability in the carbon black industry.

About our 11th report

Our eleventh report includes performance highlights from April 2022 to March 2023 (FY2023) covering the full scope of our global operations. It contains a detailed analysis of performance against our Share the Future sustainability strategy and goals over the past year and highlights specific targets for the future.

Since FY2013, through our annual sustainability report, we have documented our journey to promote transparency while continuing to learn through ongoing monitoring and evaluation of our approach.

We welcome suggestions and feedback from our stakeholders – including customers, employees, and suppliers – as we work to fully embed sustainability-led thinking throughout our global business.

This report is approved by Birla Carbon's Senior Management Team (SMT) and has been produced in accordance with the GRI 2021 Standards.

- 📄 [Read our Global Reporting Initiative index 2023 \(PDF\), including references to the relevant Sustainable Development Goals \(SDGs\).](#)
- 📄 [Visit \[www.birlacarbon.com\]\(http://www.birlacarbon.com\) for additional information, including our detailed materials map.](#)



CONTENTS

2	Introduction	47	Social
13	Our approach	68	Governance
21	Innovation	87	Appendix
30	Environment		

FY2023 Highlights



Birla Carbon is refinancing existing debts through a **\$750 million** loan linked to our sustainability performance.

[Committed to protecting our planet](#)



The 4Rs – Research, Reduce, Replace and Repurpose – lead our strategy for lowering GHG emissions **to achieve net zero by 2050**.

[Reducing our GHG emissions](#)



Upon completion of Circtec’s new facility, **73,000 tonnes of Continua™** SCM will eliminate 228,000 tonnes of direct and indirect CO₂ emissions annually when compared to the conventional carbon black process.

[The circularity of carbon black](#)



We received the International Sustainability & Carbon Certification (ISCC) Plus Certification for our manufacturing plant in Italy.

[Global recognition FY2023](#)



Creation of the Innovation Ambassadors Network (IAN) including 23 individuals from diverse functional areas and locations to help drive sustainable culture at Birla Carbon.

[Employee engagement](#)



We have been awarded a **Gold Rating** by EcoVadis, placing us in the top 5% of rated companies for our advanced sustainable practices.

[Global recognition FY2023](#)



We worked with partners in 2022 to develop sustainable sources of graphite for use in lithium ion batteries, or Biocrude Derived Anode Material (BDAM), helping address increased product electrification.

[Developing carbon black for a sustainable future](#)



We updated our previous SOE strategy leading our focus to the future with bold commitments and initiatives for a more sustainable tomorrow.

[Our sustainability strategy](#)



Repurposed 72% of waste, reducing the amount of waste sent to landfill.

[Waste](#)



In FY23, we invited our employees to innovate and help improve engagement. The Birla International Innovation Gathering (BiiG) is an event which recognized innovators from across the organization to help us learn from each other, inspire creativity, and encourage growth internally.

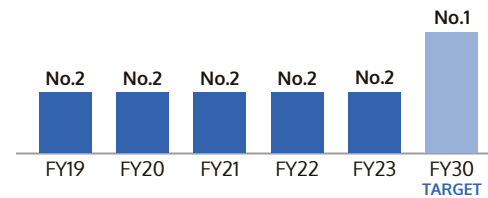
[Inviting innovation from everyone](#)

Targets and progress

To meet our Vision to be the most respected, sustainable and dynamic global carbon black business, we have set key performance indicators (KPIs) to track our progress towards FY2030.

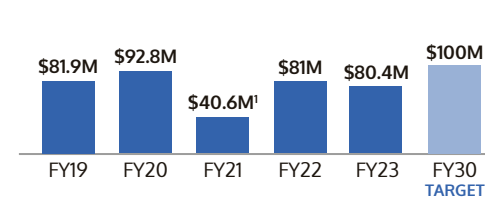
Business continuity/reputation

- TARGET:** Improve our leadership position in terms of carbon black production capacity
- STATUS:** On track to meet target



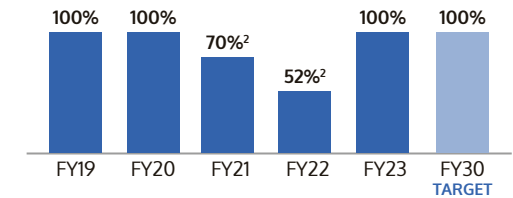
Business continuity

- TARGET:** Approximately double our annual capital spending against FY2012 baseline to reach \$100M
- STATUS:** On track to meet target



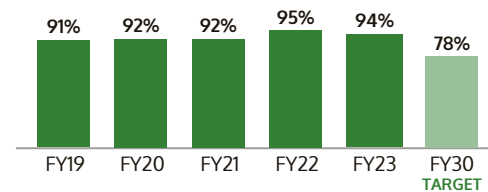
Ethics

- TARGET:** 100% of active employees to receive Code of Ethics training
- STATUS:** Target met



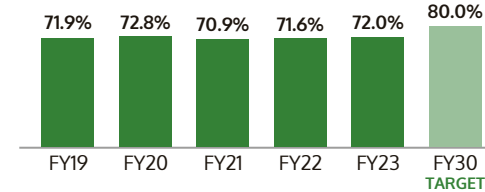
Emissions

- TARGET:** Reduce our direct CO₂ emissions intensity by more than 22% against the 2005 baseline
- STATUS:** Behind schedule



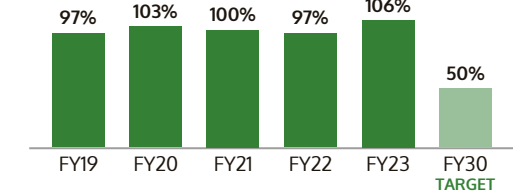
Energy

- TARGET:** Increase our absolute energy conversion efficiency to 80%
- STATUS:** On track to meet target



Water

- TARGET:** Reduce our water withdrawal intensity (m³/t_{carbon black}) by 50% versus FY2013 baseline at our high- and medium-risk sites³ (water withdrawal intensity by year)
- STATUS:** Behind schedule



¹ FY2021 capital spending was lower than normal due to the COVID-19 pandemic.

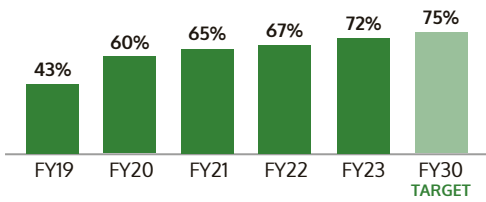
² FY2021 and FY2022 saw a drop in the percentage of our employees receiving Code of Ethics training due to the COVID-19 pandemic. We were unable to roll out the training to employees with no access to a computer.

³ KPI includes Hickok, Cubatão, Gummidipoondi, Alexandria, Weifang and Bahia.

Waste

TARGET: 75% waste repurposed, including recycling, reuse and recovery, by 2030

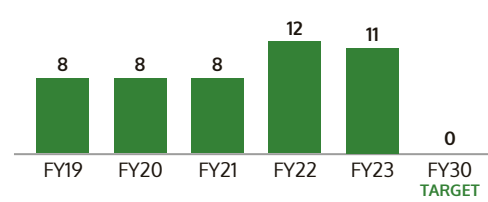
STATUS: On track to meet target



Environment

TARGET: Record zero environmental releases year on year

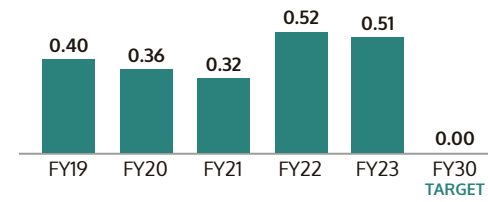
STATUS: Behind schedule



Safety

TARGET: Achieve zero recordable injuries year on year (employee and contractor Total Recordable Incident Rate (TRIR))

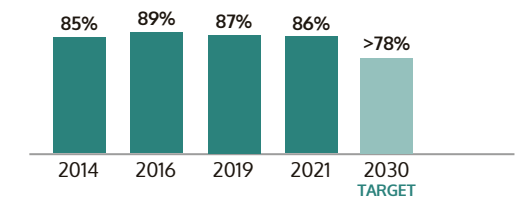
STATUS: Behind schedule



Employee engagement

TARGET: Remain above the chemical industry annual benchmark for employee engagement⁴ (%)

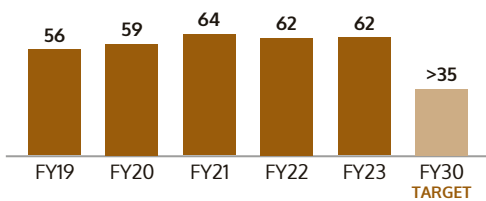
STATUS: Target met



Customer loyalty

TARGET: Remain above the Net Promoter Score threshold of 35⁵ (score by year)

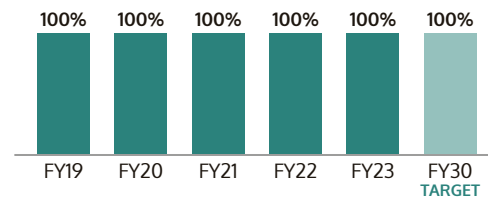
STATUS: Target met and retained



Community engagement

TARGET: 100% of our facilities participate in community engagement

STATUS: Target met and retained



⁴ This KPI was amended in FY2020 to exclude the results of the Team Vibes survey. It has also been modified to show results for calendar year rather than financial year, in line with Vibes survey timings.

⁵ Net Promoter Scores range from -100 to +100.

A message from our CEO

Share the Future

Welcome to our 11th annual sustainability report for 2023 – Share the Future. From the creation of the modern Birla Carbon after the Columbian Chemicals Company acquisition in 2011, through the launch of our Purpose to “Share the Strength” in 2018 and the publication of this report in 2023, we have made great progress as a business driven by our focus on sustainability.

The past year can be characterized by the cautious outlook most have taken on the global economy. The impact of the ongoing conflict between Russia and Ukraine from both a human and economic aspect, the rapid rise of inflation and the steps taken by central banks to tame this through interest rate increases, and the volatility in the currency markets have all led consumers, companies and governments to be tentative. As a result, global growth expectations have moderated.

According to the latest projections in the June 2023 [Global Economic Prospects report](#) by the World Bank, global growth is expected to slow from 3.1% in 2022 to 2.1% this year before a very modest increase to 2.4% in 2024. Beyond this tepid outlook, diverging trends are developing across regions, with slow growth in advanced economies, stronger growth in key developing regions like South Asia and a slower long-term outlook for China following this year’s recovery.

Nearly a third of emerging markets and developing economies (EMDEs) are expected to have lower per capita incomes in 2024 than the year preceding the COVID-19 pandemic, with the number rising to two thirds for those considered “fragile and in conflict-affected situations.” Their more limited resilience and ongoing economic challenges will make these nations even more exposed to the extreme effects of climate change.

For a truly global business like ours, the slower and regionally divergent growth environment reinforces the need to be agile while maintaining the long-term focus on sustainability as a key driver. This year, we revisited the question, What does sustainability mean to us and how do we approach everything we do, keeping the long-term future needs of our planet in mind?



Climate change is taking center stage, making it incumbent on all companies to make a real difference. Birla Carbon will be a leader on this front, as evidenced by being the first in our industry to commit to net zero by 2050.”

We see the following as the way to focus on the key pillars to meet our aspirations and those of our stakeholders:

- **Environment** – Embed circularity into our business with a relentless focus on net zero.
- **Social** – Make people the center of everything we do.
- **Governance** – Uphold the highest ethical standards to inspire trust. Simply “Do the right thing.”
- **Innovation** – Nurture a culture of innovation that inspires ideas from everyone and leverage this as a true differentiator.

Ultimately, the proof of our approach will become evident in the years to come. New sustainability disclosure standards will ensure accountability to deliver on our promises, while stakeholders are forced to consider the increasing risk of ESG-related litigation.



Our aspiration to achieve net zero is closely linked to our drive for circularity in the value chains we serve. Continua™ SCM (Sustainable Carbonaceous Material) has made significant inroads into applications as diverse as tires, MRG, plastics and coatings, including our latest offerings for powder coating applications, Continua™ 8000 SCM and Continua™ 8510P SCM.

We are committed to transparently measuring our progress on the journey to net zero. To this end, we are supporting industry efforts to develop Chemical Sector Guidance from SBTi (Science Based Targets initiative) for modeling science-based targets in the unique chemical industry.

Underpinning our strategy to drive sustainability through innovation is the foundation of Operational Excellence where continuous improvement in our factories delivers lower carbon emissions. Day in, day out, our team is focused on making our units operate more safely, efficiently and effectively. While all of these efforts are important, only one can rise to the top: safety. For us, safety is more than engineering design, procedures and PPE; it is about trust, where everyone knows we look out for each other and are empowered to ensure a safe environment for all.

Beyond Continua™ SCM and the efficiency gains driven through operational excellence, innovation in our C-Cubed effort (Carbon Capture and Conversion) will yield the breakthroughs necessary to reach net zero. We are actively working on a variety of technologies with our sister companies across Aditya Birla Group in this critical endeavour along with technology startups and academia. While these efforts are long term in nature, we are already seeing the path to commercialization and scale.

Our diverse team of more than 2,500 employees is the heart of our business and the driver of our culture of innovation. While we are committed to achieving diverse representation that mirrors society broadly, providing an equitable and inclusive environment where everyone can succeed and drive our strategy is the path to reaching

“

Our aspiration to achieve net zero is closely linked to our drive for circularity in the value chains we serve.”

our potential. This is the vision we have for diversity, equity and inclusion (DEI) to be the hallmark of our organization.

Our vision is to be the clear leader in our industry with a strategy to drive growth through ESG-focused innovation. I invite you join us in the journey and enjoy our 2023 sustainability report – Share the Future. Together, we will build a brighter future for all.

All the best,

John Loudermilk,
Chief Executive Officer,
Birla Carbon



A message from our Chief Legal, Risk and Sustainability Officer

We completed a decade of sustainability reporting in 2022.

It has been an eventful journey of living and upholding our vision to be the most respected, sustainable and dynamic global carbon black leader. In all of these years, we have stood strong on the foundation of our sustainability strategy. We have always put our people, our products and the planet at the forefront of everything we do at Birla Carbon.

Keeping this in mind, in FY2023, we built upon the foundation of our SOE (Sustainable Operational Excellence) strategy by developing a new strategy focused on the future. [Share the Future](#) leads this focus with bold commitments, like net zero by 2050, and initiatives to scale circularity, like Continua™ SCM.



We continue to focus on building a strong culture of innovation across our global operations. It is the foundation and the path towards a more sustainable future for us."

Our sustainability strategy is now rooted by the three pillars:

Environment

Circularity is the "how" we will contribute to a more sustainable environment/planet in the future. Circularity is a key pillar of our net zero strategy, but also drives reduced waste, water, and energy consumption.

Social

For our employees, we support a diverse and inclusive workplace – safe, welcoming environments where people can develop and thrive and for the communities in which we operate to have a positive impact on their lives.

Governance

We ensure we have the correct systems, policies, checks and engagement mechanisms – demonstrating to all stakeholders that they are in safe hands.

We continue to focus on building a strong culture of innovation across our global operations. It is the foundation and the path towards a more sustainable future for us.

We define innovation in a very concise way; we urge everyone at our organization not to innovate and think "outside" the box but, rather, innovate in what they do and think "inside" the box. We are building a culture of innovation within our business that goes beyond products and services and encourages our employees to share their ideas from any area of the business.

Innovation is not limited to technical and R&D functions, and it is our endeavour to ensure that we embed the seeds of innovation across all functions. Keeping this in mind, we conducted our first ever BiiG Innovation (Birla International Innovation Gathering) in 2022 with the theme: Recognize. Learn. Inspire. And following that, a series of roadshows were conducted (through 2022–2023) where our teams visited each of our global locations, with our senior leadership members, to emphasize the importance of innovation and the application of its tools for their respective functions and locations.

This culture of innovation, going forward, will prepare our business to lead the path towards a sustainable future. As we completed the roadshows, we urged employees to share their innovation successes with each other, to make thinking BiiG and innovating a reality for us.

All of our global efforts – manufacturing, supply chain, procurement etc. – have had an underlying element of sustainability in their functioning. Staying close to our sustainability strategy and living our Purpose to Share the Strength with our stakeholders, our customers and the communities in which we operate is key to our goal of becoming the global leader in our industry.

Safety and health continue to be core to our sustainability efforts. We take safety very seriously and zero is the only acceptable number to us when it comes to safety-related incidents at any of our locations, globally. Zero incidents is our goal and we strive to ensure that our employees and contractors are all safe at our facilities and offices, wherever they operate from. At Birla Carbon, safety is certainly a key leadership focus area, but it goes beyond that. It is an integral part of our DNA as a business.

We believe that safety begins with a shift in the mindset of each individual. It is having the courage to speak up and stop an unsafe behavior or practice, no matter the circumstances or who the person is. The idea that “If you see something unsafe, say something” is a behavior that we reinforce every day.

When it comes to adherence to global and regional safety norms, all of our locations strictly adhere to the regulations and laws laid down by the specific regions/countries. Our aim is to make sure that we apply the most stringent requirements to ourselves because the most stringent requirements anywhere become our bare minimum everywhere.

From an environmental perspective, we have developed methods to significantly reduce waste and implement technologies to optimize our production processes in an efficient manner this year. We provide value to our customers by developing innovative products that benefit our common sustainable value chains; constantly strive to make our operations more sustainable so that we minimize our environmental footprint; and ultimately, give back to the communities in which we operate.

Our journey to achieving our bold ambition of net zero carbon emissions by 2050 is well on its way. One of the ways in which we aim to get closer to this goal is by our Carbon Capture and Conversion (C-Cubed) technology. There’s more to read about this in our report this year.

“

The most stringent requirements anywhere become our bare minimum everywhere.”

As I end my note, looking back at the last decade, I feel a sense of pride in being associated with a business like Birla Carbon. We have been nimble and agile when needed, we have lived our purpose and we continue to do so in all aspects of our business practices. We have adopted innovation as a strong focus area as we march into an extremely volatile future which propels us to becoming a dynamic and successful enterprise. And finally, we did not take our eye away from our North Star – sustainability encapsulated in the ESG trio.

Sustainability is here to stay, and we are committed to do whatever it takes to ensure the long-term future of our business.

With that, I hope you enjoy reading and learning from our 2023 sustainability report, Share the Future, and I look forward to your views and reflections. Share your ideas with us and together, let’s fuel our imagination to make Birla Carbon not just the leader in the carbon black industry, but a global leader in providing sustainable solutions.

Thank You.

Joe Gaynor,
Chief Legal, Risk and Sustainability Officer,
Birla Carbon



Who we are

We are driven by our Vision and Strategy, leveraging the power of carbon-based solutions to create social value. For centuries, carbon black has played a vital, but often overlooked, role in making our lives better, advancing agriculture, aiding safer travel and improving the performance of everyday products.

We are sharing our knowledge with customers, finding new and sustainable carbon black solutions that support their business goals and our own.

Building a global legacy

As the world's largest carbon black producer and supplier, we serve customers from across the globe and have an operational footprint that is just as large.

2 corporate offices

2 technology centers

8 offices

16 manufacturing sites



12 countries of operation

>2,400 employees
across five continents

Over 2 million tonnes of carbon black
annual production capacity

Our Vision and Purpose

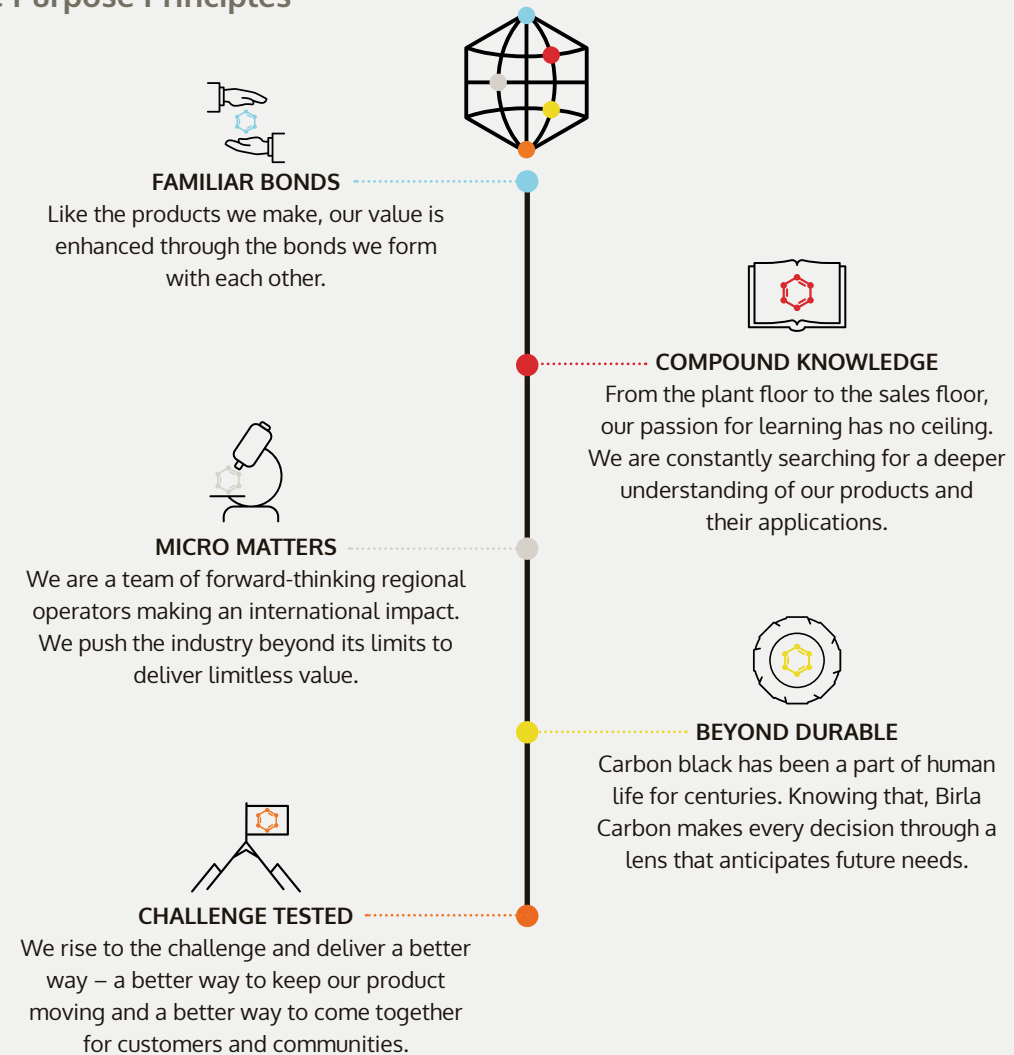
Our Vision is to be the most respected, sustainable and dynamic global carbon black business. As signatories to the United Nations Global Compact (UNGC), we aim to use both our scale and our diversity to fulfil this Vision.

Our Purpose: Share the Strength

Our global collaborations focus on what we can do for our customers and for our customers' customers. We exchange ideas and aim to communicate with humility so that we continue to stand strong as industry leaders and responsible members of society.

Through our long history of balanced and shared leadership, we maximize the strength that carbon black brings to products and the dependability and stability we bring to employees, customers and communities.

Our five Purpose Principles



Global recognition FY2023

We are making progress on our journey towards Share the Future. While this is internally driven, we take pride in the external recognition we receive for our achievements.

Global



We were:

- Recognized for our initiative, in partnership with UNICEF, to build restroom facilities in government-funded schools; and
- Awarded EcoVadis Gold Rating for our commitment to sustainable practices.

EMEA



Birla Carbon's EMEA Sales team achieved a positive result, with zero non-conformities, following their ISO IATF audit of quality management.

Renukoot, India



We are proud of the work happening in our Renukoot plant to forward our sustainability agenda, with recognition including:

- The Uttar Pradesh government recognizing our CSR team for supporting their local Anganwadi (rural childcare) center and related community work;
- Receiving the 2023 CSR excellence award from the Uttar Pradesh government for "Excellence in social and sustainable livelihood;"
- Recognition by the Press Association of Birla Carbon's work in productivity and community development; and
- Receiving the CSR Pride Award 2022-23. Awarded by the district magistrate, it recognizes our work in providing "Excellence in Education, Health, Skill Development and Social Work."

Trecate, Italy



We received International Sustainability & Carbon Certification (ISCC) Plus Certification in 2023. A voluntary scheme, it certifies companies based on their performance in contributing towards a sustainable bioeconomy and circular economy in chemicals, plastics, packaging, textiles and other areas.

Jining, China



In FY2023, the Jining local government bestowed an honor on us for the plant's winter energy conservation and emission reduction efforts which contributed to environmental protection in the region.

Our approach

IN THIS SECTION

- 14 Focusing on what matters
 - 16 Our sustainability strategy: Share the Future
 - 17 Stakeholder engagement
 - 19 Contributing to the Sustainable Development Goals
-



Focusing on what matters

Our sustainability strategy guides us to work in ways that not only benefit our customers but also empower employees and local communities and preserve our planet. This is built on the foundation of our company Purpose: Share the Strength.

Assessing sustainability

We have identified the areas where we can have the greatest positive impact, focusing our efforts on what matters most to our stakeholders.

To effectively consider internal and external impacts, we continually review the challenges that are most relevant to our business. Our Sustainability Steering Committee (SSC) uses quantitative analysis (such as employee surveys and Health, Safety and Environmental (HSE) metrics) and qualitative analysis (of customer feedback and community input) to determine the materiality of each issue. They consider the influence of stakeholder assessments and the significance of our economic, environmental and social impacts.

The issues shared are the outcome of our FY2022 materiality assessment. They have been ranked according to the level of interest of our major stakeholder groups and business impact for Birla Carbon.

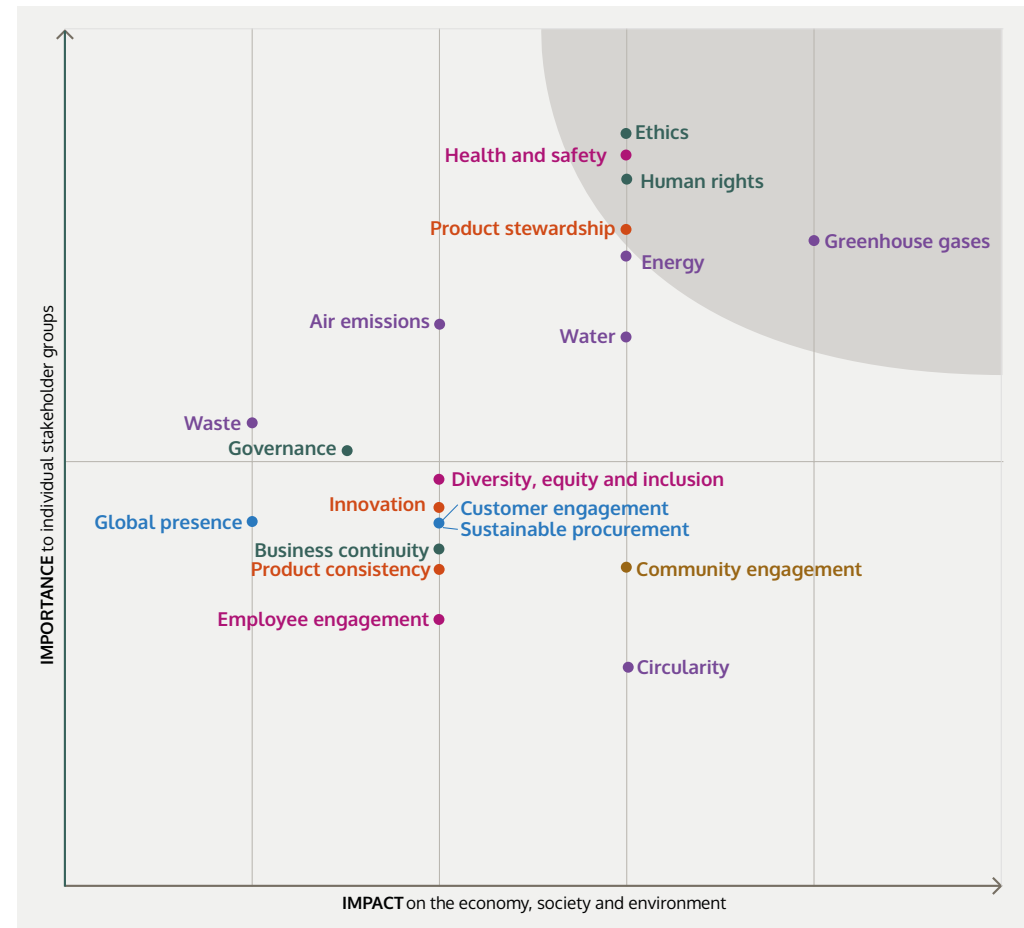
To validate our assessment and ensure our reporting achieves the Global Reporting Initiative (GRI) principle of completeness, we updated our materiality based on stakeholder engagements from the two years previous to the assessment. We held materiality review sessions with subject matter experts from various business functions to understand the nature and insights from stakeholder engagements, including customer meetings, conferences, employee satisfaction surveys, HSE perception surveys and customer queries.

As per the GRI Standards, the SSC attributed each issue to a material topic, whether internal or external, relevant to the organization. Results were subsequently approved by the Chief Legal, Sustainability and Risk Officer, on behalf of Birla Carbon's SMT.

- Product consistency Business continuity
- Water Human rights Employee engagement
- Product stewardship Air emissions
- Diversity and inclusion Global presence
- Sustainable procurement Ethics Waste
- GHG Health and safety Circularity
- Community engagement Energy Innovation
- Governance Customer engagement

Our materiality matrix

As a result of a formal materiality assessment, we have identified the key issues for Birla Carbon, as defined by our major stakeholder groups.



Future issues and trends

Future-proofing is a key stage in our Share the Future strategy, helping us to adapt to long-term global and social megatrends while building the resilience of our international business.

We use horizon scanning and scenario planning to identify external factors that could potentially impact our business, considering the risks and opportunities as we shape our future strategy. As part of this process, we also monitor how our business could impact them.

Over 170 years, we have cultivated an efficient and flexible future-proofing approach. As we look forward, we understand the value in applying an increasingly structured way of thinking about risks and opportunities.

In FY2017, we worked with international sustainability nonprofit Forum for the Future to identify trends and issues most relevant to Birla Carbon. In FY2023, we continued to apply Forum for the Future's findings, and our Sustainability team regularly discussed issues with our Enterprise Risk Management (ERM) team. We then undertook long-term risk mapping, looking at these challenges beyond five years. Our Sustainability and ERM Committee will continue to monitor these issues on an annual basis.

Here we present several external factors that may impact the global carbon black industry between now and 2030.

 [Read more about our governance approach](#)

Disruptive innovation

Future of mobility

Three transformative mobility revolutions have kicked off: sharing, electrification and automation. Electric cars may have positive implications for our industry as they wear through tires more quickly and use carbon black in battery technology.

The effect of driverless cars is more uncertain, especially as they may enable a transition to fleet models of shared mobility, replacing ownership and leading to fewer cars and thus reduced carbon black demand.

There is also a growing demand for walkable and bikeable cities, with visible efforts worldwide to reduce car use and congestion. By 2030, fleets of on-demand, shareable, driverless electric vehicles may also reduce traffic. The various stakeholders we engaged with on this topic are divided as to whether this will affect carbon black demand or not. Changes to urban planning will, however, undoubtedly generate challenges.

Digitization

The increasing tethering of devices to the internet will create a wide network of intelligence nodes that will result in a highly connected world. Connectivity and convergence of new technologies will unleash the full potential of the Internet of Things (IoT) and the launch of multiple innovative applications that will change the way we live, communicate and conduct business. Machine learning, big data and blockchain technologies are expected to take center stage by 2025. Over 7 connected devices will exist per human in the world by 2025, and over 5 billion mobile internet users in 2025 with 1.2 billion 5G subscribers.

Automation

Machines learn faster than humans and personal data is a valuable commodity. Nearly two-thirds of all occupations could see a third or more



of their constituent activities automated. Anything that moves will be autonomous. Products and processes across logistics, industry, aerospace, smart home infrastructure and vehicles will become fully automated and intelligent. Advancement in digital infrastructure, manufacturing and autonomous products will likely transform daily life.

Climate change

In response to the Paris Agreement, climate change policy could profoundly shift transportation away from cars by 2030, resulting in a marked impact on our business. Potential carbon taxes could influence oil prices, affecting the availability of our feedstock. However, as a material impact there could be more demand for carbon black as tire components that improve efficiency are prioritized.



Demographic shifts

Growing middle class

The popular definition of a growing middle class implies more consumption in emerging economies. However, premature deindustrialization is already visible in some African and Asian countries, leading to a different, less affluent model of "middle class" that prioritizes access over possession. For Birla Carbon, the fact that a rising middle class may not mean a rise in consumption is a challenge.

Millennial consumption patterns

A new way of living that values access over ownership is emerging. This lifestyle is driven by millennials. A key indicator of this is changing car use: using car-sharing services in place of ownership.

As millennials will be the dominant generation by 2030, this represents a significant challenge for Birla Carbon.



Resource scarcity

Oil and gas

Oil availability will inevitably have an impact on our business, as carbon black production requires feedstock that is a byproduct of oil. There is a need for Birla Carbon and others to consider alternative sources over the next decade, particularly in the face of other attractive materials such as silica.

Energy

The global shift from fossil fuels to renewables may impact oil demand and pricing and affect electricity generation or transportation. Any change from traditional energy and transportation systems represents both challenges and opportunities for Birla Carbon in terms of resilience and adaptation.

Circular economy

Carbon black is a highly engineered material requiring carbon-rich feedstock. As such, using renewable or recycled sources which contain elements besides carbon in our production process presents significant emissions and environmental challenges. Once incorporated into finished articles made out of rubber or plastics, carbon black is difficult to separate from other materials, making it impossible to recover at the end-of-life stage. However, through partnerships and by focusing on areas where we can be more flexible in our processes, Birla Carbon seeks to lead the industry in Sustainable Carbonaceous Material (SCM), curving the linear model of our value chain.

Water

This is a key area for all industries – nearly half the global population is expected to face shortages by 2030. Use reduction and recapture will become increasingly important for Birla Carbon in this timeframe.



Our sustainability strategy: Share the Future

We approach everything we do with the future in mind: from employee training and product development to reducing emissions and scaling circularity.

Our new strategy builds on our previous SOE strategy, leading our focus on the future with bold commitments and initiatives for a more sustainable tomorrow – to bring you the products and services we've always delivered, with our impact in mind.

Through innovation and collaboration, Share the Future is a roadmap to results, driving forward our actions to achieve net zero carbon emissions by 2050. We seek to reduce our impact beyond direct operations by supporting, and collaborating with, customers and suppliers to achieve similar sustainable progress.

[Read more about our approach in the Birla Carbon Sustainability Policy](#)

To contribute to a more sustainable future for our planet, we are embedding circularity into our operations. Not only does this support our goal to achieve net zero carbon emissions by 2050, it also drives reduced waste, water and energy consumption.

We are building a culture of innovation that goes beyond products and services; one that inspires ideas from everyone at Birla Carbon – irrespective of their function or location. This culture is the foundation for our business and our journey towards a more sustainable future.



We uphold the highest ethical standards across our business to inspire the trust of our employees and our customers and expect the same of our suppliers. We ensure we have the correct systems, policies, checks and engagement mechanisms – demonstrating to all suppliers that they are in safe hands.

People are at the center of everything we do – our workforce, our stakeholders and the communities around us. For our employees, we support a diverse and inclusive workplace – safe, welcoming environments where people can develop and thrive.

Stakeholder engagement

We are stronger when we work together, sharing knowledge and innovative new solutions with our global customers. We engage with a variety of stakeholders from across the world, building on the knowledge of others and bringing together diverse ideas to advance our operations.

As a responsible leader, we work collaboratively with our stakeholders to align our sustainability strategy more closely with theirs. We have built strong relationships and improved our understanding of the future trends that could affect us by conducting product Life Cycle Assessments (LCAs) and sharing information with peers.

Our engagement with those that have the greatest impact on our business is important for our success, and we are shaping our strategy based on what is material to them.

Customers

How we engage



We aim to develop long-term relationships with customers and, based on our excellent service and high-quality product, become the carbon black provider of choice. One way we achieve this is by engaging with customers on key sustainability issues and aligning our sustainability agenda with theirs. Our Global Engagement Managers engage with customers regularly through our Key Account Management program.

Employees

How we engage



We conduct biennial employee feedback surveys to encourage a continual dialogue between managers and employees.

We also provide a hotline for our people to anonymously report any concerns or grievances.

We hold internal conferences across various functions to enhance communication and collaboration.

Examples of engagement in FY2023

We perform satisfaction surveys using the Net Promoter Score® methodology, through which we compare our performance with that of our peers.

We regularly hold dialogues and meetings with customers to align sustainability strategies and initiatives. We also train our customer-facing employees on sustainability issues, with increasing customer interest in circular products, greenhouse gas (GHG) emissions and sustainable supply chains.

We also share our expertise on carbon black and sustainability through [our blog](#) and white papers. The following blogs are a selection of

those published by Birla Carbon employees:

- [Disentangling the Definitions of "Circular Economy," "Sustainability," and "Eco-Friendly"](#)
- [Circularity Profoundly Affects the Auto Industry – Choice of Black Pigment](#)
- [Nanocellulose Dispersion Composite \(NDC™\): A New Sustainable Alternative for the Rubber Industry](#)

Our Technical Services, Sales and Product Development teams participate in a range of technical conferences as an opportunity to interact with our customers. [Past and upcoming events](#) can be found on our website.


Examples of engagement in FY2023

We continue to issue an internal KPI report quarterly for discussion at board meetings. These are the same KPIs that we report publicly, except that within the internal report we provide detailed breakdowns by plant. This is to encourage sharing of best practice and stimulate further site engagement with regards to KPI performance. This process has initiated benchmarking and discussions between facilities on their performance, leading us to begin developing internal KPIs to drive further improvement.

We conducted training for individual business groups (e.g. Sales and Marketing and Finance)

and globally on GHG emissions and our net zero strategy. We also introduced several more Hype innovation campaigns globally, inviting employees to put forward ideas for innovation in safety and net zero carbon.

Informed by global research and stakeholder interviews, we ran diversity, equity and inclusion workshops to support our managers and SMT on their inclusive leadership journeys. To date, over 300 managers have undertaken our two-day managerial workshop, with the SMT creating an action plan informed by their collective learnings.

 [Learn more about our Employee Engagement section of our Birla Carbon Sustainability Report 2023.](#)

Suppliers



How we engage

As our business depends on suppliers, we work closely with them to develop strong relationships. Our suppliers' behavior reflects on us, so ensuring that they uphold our high ethical standards is vital.

Examples of engagement in FY2023

Our Code of Ethics includes contractual terms and conditions that we expect every supplier to uphold. We review our global feedstock suppliers and encourage them to audit their own operations. In FY2023, we continued to implement our supplier compliance and sustainability screening and assessment systems through NAVEX Global's RiskRate® and EcoVadis.

Aditya Birla Group



How we engage

Our parent company, the Aditya Birla Group (ABG), follows a three-step sustainability agenda: responsible stewardship, stakeholder engagement and future-proofing.

Examples of engagement in FY2023

We have aligned our sustainability strategy with the Group's three-step agenda. We participate in a Group-wide monthly sustainability webinar, during which businesses and outside experts present on current sustainability topics. We regularly communicate our progress through this channel.

We also participate in several working groups with other ABG businesses to facilitate sharing of best practices and problem solving. Working groups cover topics such as decarbonization, waste, health and safety, water, risk management, product stewardship and sustainable supply chains. We also participate in the annual ABG Sustainability Conference.

Communities



How we engage

We take a local approach to building community relationships to ensure we understand the unique priorities of our global communities. We focus on delivering long-term socioeconomic benefits through our engagement – namely health, education, social support and charitable giving.

Examples of engagement in FY2023

See our [Community Engagement section](#), where we describe our community engagement in greater detail, for example, how we support local healthcare, education, livelihoods and infrastructure.

NGOs, civil society, academics



How we engage

We continue to interact with nongovernmental organizations (NGOs) and wider social institutions that are particularly relevant to our business.

This engagement takes the form of meetings and participation in events where we share knowledge with our peers.

Examples of engagement in FY2022

We participate in the Sustainability Leadership Forum, where business leaders from a range of industries collaborate to overcome sustainability challenges.

In FY2023, Birla Carbon joined the Decarbonization Leaders Network to connect with other hard-to-abate industries and technology providers with the goal of identifying collaboration opportunities for our Net Zero by 2050 Roadmap.

As part of the wider dialogue on how companies can help achieve global sustainability targets, we have aligned our Share the Future strategy with the UN SDGs. In FY2021, we also became signatories of the UNGC.

Many of our facilities are involved in local chemical industry associations. For example, in Brazil we participate in several Brazilian Chemical Industry Association committees, covering topics such as health and safety, sustainability, and emergency response. Our Corporate Health and Safety Managers participate in the American Society of Safety Professionals, the largest professional safety society in the world.

We are engaged with both the World Business Council for Sustainable Development and the Ellen MacArthur Foundation on measuring the circularity of our production processes.

Contributing to the Sustainable Development Goals

We first mapped our efforts to the UN SDGs in FY2016 and continue to align our progress to global development targets by becoming signatories of the UNGC. This ensures our sustainability progress is coordinated at a global level.



WE SUPPORT THE FOLLOWING SDGS THROUGH OUR WORK



SDG 9 Industry, innovation and infrastructure

Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation.

Our aim is to ensure sustainable and resilient infrastructure in developing countries and enhance local technology, research and innovation through the use of carbon black. Products like Continua™ SCM promote a circular carbon economy by enabling the extraction and repurposing of carbon black from end-of-life tires into new products, such as rubber compounds.

Sustainable development requires the adoption of clean and environmentally sound technologies. To ensure we are in line with the latest emissions-reduction targets, Birla Carbon has been engaging with the US Environmental Protection Agency. Informed by incoming requirements, we are investing in the seawater scrubbing facilities at our North Bend site.

As a product, carbon black connects and brings additional value to many key areas and industries within our lives. Found within everyday items such as our clothes and the

ink on bank notes, it is also a critical element of transportation sectors. Carbon black increases the durability and safety of tires on the road. It also prevents leaks and provides UV protection for water used to irrigate crops. An enabler, carbon black is a key component for its own development as it is found within electrical wires, computers and the technologies that make our lives easier.

In the interest of fostering innovation, our approach to research and development is to empower all our employees – building on our Share the Strength ethos. This open culture has allowed us to expand our product offerings and technologies within our research portfolio.

[📄 The social value of carbon black](#)

[📄 Committed to protecting our planet](#)



SDG 12

Responsible consumption and production

Ensure sustainable consumption and production patterns.

Efforts to address our resources' sustainability include developing their circularity to reduce our reliance on virgin resources, such as with Continua™ SCM. While our feedstock is a byproduct of another industry, it is also a limited and non-renewable resource, which, in the long term, may have an impact on our consumption. Ensuring our feedstock comes from suppliers close to our facilities reduces our production chain's associated emissions. These commitments to responsible procurement practices support our customers' ambitions to include more renewable or recycled materials in their own products.

Our approach to circularity is aligned with the Ellen MacArthur Foundation and their [Circulytics](#) tool. This method has three guiding principles that ensure Birla Carbon's efforts are holistic in their application along the chain of procurement, production, use and end-of-life, as well as research and development. Our strategy to reach net zero GHG emissions supports circularity: Research, Reduce, Replace and Repurpose.

Our process starts by giving someone else's waste a second life, and we continue this sustainable approach across resources

during the production stage: utilizing energy recovery (70% of our plants are net energy positive), harvesting water for reuse (100% of our sites used recycled process water and/or rainwater in their operations) and reducing and repurposing waste (we repurposed 72% of our material waste in FY2023).

We know our responsibility doesn't end at our facilities. That's why we conduct LCAs by evaluating all the environmental impacts in a product's life cycle, from raw material extraction through to end-of-life. To achieve a more circular economy, we collaborate with our entire value chain to understand our impacts and reduce waste in any form.

We also work closely with our suppliers to ensure the high ethical and sustainability standards within our [Supply Chain and Procurement Policy](#) are met. This policy guides our sites to ensure compliance with the relevant legislation and the Birla Carbon Code of Ethics as part of our worldwide approach to sustainable procurement.

[How we are developing a sustainable supply chain](#)



SDG 13

Climate action

Take urgent action to combat climate change and its impacts.

Our approach to combating climate change and its impacts is to focus on carbon stewardship. This encompasses our emissions-reduction efforts and our aim of being net energy positive, which we have been achieving globally since at least FY2016.

Our operations continue to generate emissions. We are always working to reduce these as a priority by focusing on optimizing processes for converting carbon to carbon black. This includes our circularity and sustainable supply chain efforts, with actions such as updating the LCA status of all our products – a process we intend to complete by FY2024.

We also have key water usage and waste reduction goals, with ambitions to have zero waste going to landfill by 2030, and a 50% reduction in freshwater consumption intensity by 2025 from our 2015 baseline year.

Since establishing our energy conversion KPI, we now recover more energy from our own facilities and consume less energy per tonne of carbon black produced. Much of this energy is used in our manufacturing process, while any surplus is sold to neighboring facilities and local grids. Our [Energy and Carbon Policy](#) sets out our commitments to exceed regulations by reducing our energy intensity and carbon footprint.

As part of our commitment to act on climate change, we annually report on these and our wider sustainability efforts.

[The steps we are taking to reduce our CO₂ footprint](#)

Innovation

IN THIS SECTION

- 22 At the heart of every solution
- 23 Evolving together
- 26 Research and development

We support the following SDGs through our work:



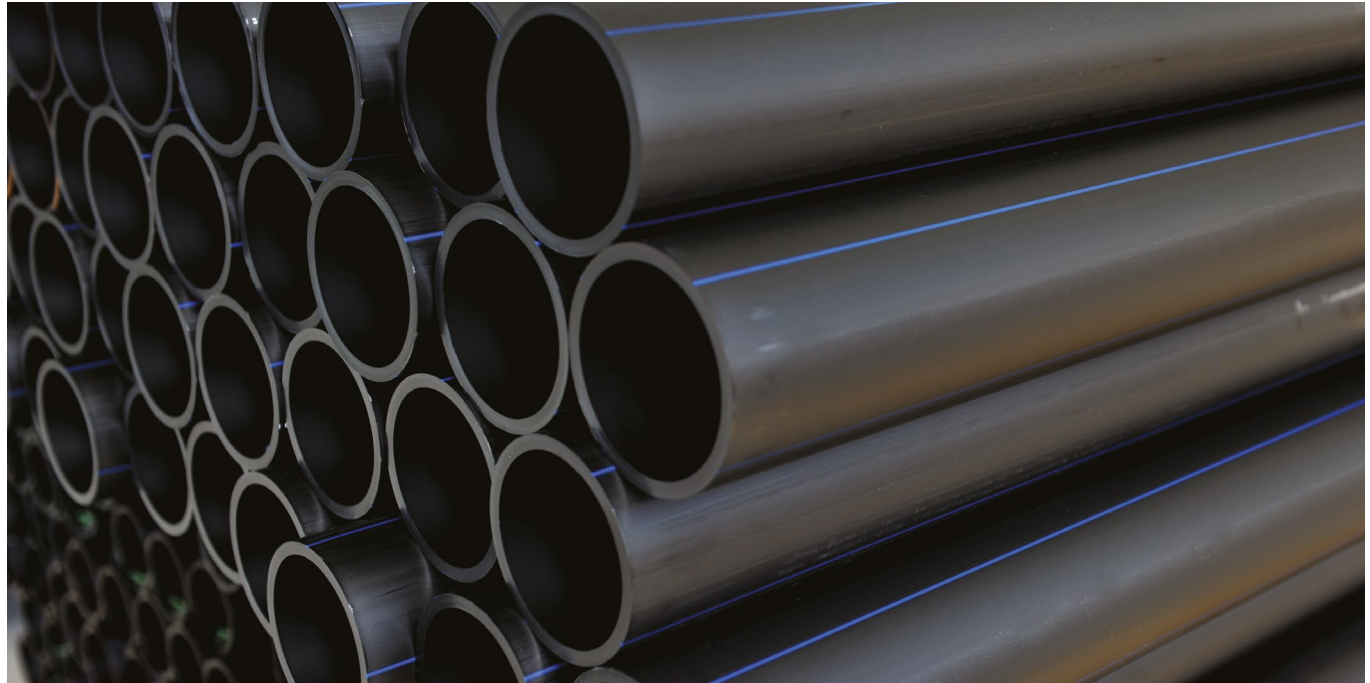
At the heart of every solution

We are building a strong culture of innovation at Birla Carbon. This is critical in helping us drive sustainability throughout our value chain while delivering on safety, stakeholder priorities and safeguarding our future.



R&D is critical to deliver on our growth ambitions. Our focus on R&D ensures we continually deliver innovative, sustainable carbon black solutions that address customers' evolving needs, growth beyond carbon black and development of technologies to deliver on our 2050 net zero carbon emissions aspiration. From our team of expert scientists to cutting-edge facilities and technologies, we are investing to be a leader in our industry."

DR. ANN SCHOEB,
Chief Research &
Development Officer,
Birla Carbon



BEYOND DURABLE

Carbon black has been a part of human life for centuries and will continue to be integral to our lives in the future. This is why we are taking a long-term view of innovation, and why sustainability must be central to our growth strategy.

[Find out more about our five Purpose Principles](#)



COMPOUND KNOWLEDGE

From the plant floor to the sales floor, our passion for learning has no ceiling. We are constantly searching for a deeper understanding of our products and their applications.

Evolving together

Our dedication to innovation started a century ago and continues today, as we increasingly develop products and processes with circularity in mind. It's how we will continue to lead the industry while meeting our customers' evolving needs.

We collaborate with our customers to deliver products that meet or exceed their sustainability requirements, while sharing our expert knowledge of the various applications of carbon black. We invest in robust health and safety measures to meet regulatory requirements, effectively communicating our efforts to our customers. This allows us to continue delivering high-quality carbon black with added social value. We are evolving our stewardship approach, developing our products to address evolving customer needs while raising the bar for the industry.

[Find out more about the social value of carbon black.](#)

Inviting innovation from everyone

While our innovation program has continued to grow from its inception in 2019 to present, ongoing employee engagement is the key factor in determining the success of the journey. To drive this continued engagement, Birla Carbon went BiiG in FY2023. The Birla International Innovation Gathering (BiiG) concept emerged from our Purpose to Share the Strength and our innovation challenge.

This gathering recognized innovators across the organization, enabled us to learn from our past, helped us future-focus today's perspectives and inspired us to strive for continuous growth.

To build on the momentum of the event, we have continued to go BiiG during our roadshow campaign, which was launched in July 2022 in Santander, Spain.

By Q3 of FY2024, we will reach employees across 11 countries, 16 manufacturing sites, two technology centers and two corporate offices. The BiiG Show will engage employees across all levels of the organization, inspire them to be the leaders of tomorrow and safeguard the future of our organization by demonstrating our innovation spirit and mindset.

So far, the roadshow has reached 18 locations and engaged more than 500 employees representing all levels of the organization. One of the key aspects of each roadshow is working with site leadership and local Innovation Ambassadors to identify the current site challenges related to our strategic goals. This enables participants to work on real-life challenges and identify

implementable site-specific solutions. One idea is recognized and selected from each roadshow for implementation. Each roadshow has been attended by members of the Senior Leadership Team who act as sponsors, helping eliminate barriers and demonstrating the organization's commitment to innovation and continuous improvement.

Going forward, our Innovation Ambassador Network (IAN) will be an integral part of driving a sustainable culture of innovation at Birla Carbon. The network is made up of 23 individuals from diverse functional areas and locations. These champions of innovation serve as representatives for their sites and will help shape the business of tomorrow.



Developing close bonds

Focusing on the present while imagining what is next fuels our motivation and ignites our inspiration to Share the Strength. We yield our best results when we are open to other perspectives and work together to make a difference. That is why we aim to develop relationships with our customers and suppliers, ensuring we all meet high ethical standards and align our sustainability strategies to enable us to go “Beyond Durable” for the long term.



Being among the world’s largest producer of carbon black, it is vital we lead the way on sustainability and drive the industry towards a cleaner future. As a sales leader, I am proud to say that we are extensively collaborating with our customers in giving an impetus to their sustainability ambitions, in addition to helping our partners attain global recognition as ethical suppliers.”

VIVEK SHARDA,
Senior Vice President, Sales, India Subcontinent, Birla Carbon



Working to create value for our customers and suppliers

In an ever-changing business landscape, we must learn to adapt as the needs of our customers evolve. This includes not only asking for and acting on customer feedback to improve the products we offer, but also ensuring we are transparent about our ongoing sustainability efforts. Through our Continua™ SCM offering, we are reaching the collective circularity goals with our customers by collaborating throughout our common value chains.

We strive to ensure we act ethically and responsibly throughout our operations. This involves working with our complex supply base to make sure they adhere to our strict Code of Global Business Ethics and Compliance Standards (Code of Ethics). In FY2023, we were awarded a Gold rating by EcoVadis for our advanced sustainable practices.

We support the following SDGs through our work:

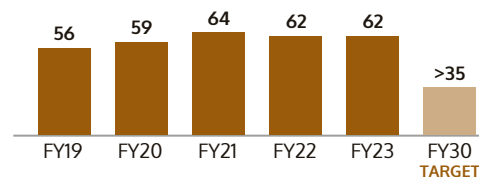


Customer engagement

Closely collaborating with our customers and partners around the world helps us achieve our Purpose to Share the Strength with the world. By consistently delivering high-quality products, excellent services and global supply security, we maintain and nurture open, trusting relationships with all stakeholders. And by building agile and responsible businesses and institutions people can trust, we are helping deliver on our parent company’s purpose.

Progress towards our target

- TARGET:** Remain above the NPS threshold of 35⁶
- STATUS: ON TRACK** Our NPS score remains well above our benchmark; however, an increased demand for carbon black in FY2023, paired with a tight supply, led to increased Detractor ratings related to supply.



How we engage with our customers

We aim to develop long-term relationships with our customers so that their businesses, and ours, can succeed. Our cross-functional engagement model is spearheaded by our Global Engagement Management (GEM) program. GEM is designed to increase points of contact across customer organizations to establish valuable and lasting partnerships.

We track the success of this by measuring customer loyalty and how attractive our products are to our customers. These engagements also enable us to continue developing new products to meet customer needs.

Measuring our customer loyalty

Our customer satisfaction KPI is based on the well-established Net Promoter Score (NPS), which asks our customers around the world to rank Birla Carbon’s performance against that of our peers.

NPS is calculated based on how customers respond to a single question: “On a scale of 1 to 10, how likely are you to recommend Birla Carbon to a business partner or a friend?”

Through the NPS process, our sales teams contact a minimum of five customers per month, and those that respond, are divided into three groups: Promoters, Passives and Detractors.

- **Promoters (score of 9 or 10)** – loyal and continuing purchasers
- **Passives (score of 7 or 8)** – customers who are satisfied yet vulnerable to competitive offerings
- **Detractors (score of 0 to 6)** – customers whose unhappiness can damage our reputation and impede growth

Our NPS score is considered excellent for a business-to-business company such as ours, and we aim to keep our score above 35. Although this is still considered to be a ‘good’ score, dropping to this value would alert us to the need to improve our performance; our historical results suggest that this threshold would correspond to a 10-point drop from our quarterly low.

⁶ NPS range from -100 to +100. NPS is calculated by subtracting the percentage score of Detractors from the percentage score of Promoters.

Turning feedback into action

We use customer feedback to drive continual improvements. For customers providing us with high NPS scores, we work to maintain, and ultimately improve, our score. To those who rate us lower, we respond through the appropriate department (Sales, Marketing or Functional Presidents).

It is important for our customers to know that we respond quickly to their feedback through a range of strict processes and procedures. If a product-related issue is brought to our attention, scientists from our technology centers assess the problem before producing a detailed report. We thoroughly review all customer dissatisfaction, whether it relates to products, sales or the supply chain, before responding to the customer. We respond quickly, acknowledging receipt of customers' concern, but review thoroughly before providing a final response.



MICRO MATTERS

We believe that by encouraging forward-thinking operations on a regional level, we can create value at an international level. By working with local customers and suppliers in the countries where we operate, we can communicate local learning throughout a worldwide network, creating innovative and industry-leading solutions.

[Find out more about our five Purpose Principles](#)

Developing our customer complaint resolution methodology

To strengthen our customer complaint process, we implement the "5 Whys" methodology, which is built into our Salesforce Case Management system. We also developed Case Prevention Training to add to this process. During this training, past cases from all 16 plants are reviewed and sorted into major categories to help us analyze the root causes and determine prevention methods for the future.

To ensure we address customer concerns in the most efficient manner, we have developed a new resolution methodology based on Eight Disciplines (8D):

1. Establish a team
2. Describe the problem
3. Immediate measures
4. Determine root causes
5. Choose corrective actions
6. Implement and validate corrective actions
7. Take preventative measures
8. Congratulate your team

The 8D process is a collaborative effort that brings together employees from our customer services teams, plants, lab services, and global quality and technical services teams. Through following these eight steps for each customer complaint we receive, we endeavor to respond in a targeted and timely manner every time.

Our Net Promoter Score in FY2023 is 62

Sharing sustainability strategies with stakeholders

Transparency is key to building joint strategic approaches with our customers and other stakeholders, advancing sustainability performance across our supply chains.

Our customers constantly work to assess and improve the sustainability of their own products. We engage with their sustainability teams to share our carbon black LCA approach, and we have developed a Carbon Footprint Statement for our customers to easily reference and incorporate into their own analyses. When designing new products, we meet with partners to better understand their expectations and sustainability goals related to their growing use of renewable and recycled materials. We can then use this feedback to inform the sustainability attributes we prioritize in our carbon black as we help our customers meet their goals.

Our Continua™ SCM offering represents an exciting opportunity to work closely with customers, developing sustainable products that advance industry-wide sustainability.

[Our Carbon Footprint Statement](#)

[Continua™ Carbon Footprint Statement](#)

Entering the energy systems market

In 2021, we entered the energy systems market with our *Conductex i* and *Conductex e* conductive carbon solution series – a new portfolio of carbon blacks made possible by our focus on understanding the needs of our customers.

The demand for higher performance for lithium ion and lead acid batteries is growing as auto manufacturers strive to meet more stringent CO₂ emission requirements. Our carbon black can further the energy savings of these batteries by 5–15%.

As we continue to sharpen our focus on innovation, we expect these products to signify the first of many developments in the battery application segment as we continue the journey towards cleaner energy.



Next generation battery applications offer an exciting new horizon for advanced carbon products that will impact our daily lives. Birla Carbon has made a commitment to provide customers with high-performance solutions that lead towards a greener, electrified future."

DR. ZACHARY COMBS,
R&D Director, Energy Systems,
Birla Carbon



Research and development

Our approach to R&D inspires us to look beyond carbon black, empowering our employees, and takes advantage of the knowledge available in the world today. Focusing on manufacturing technology, analytical services and quality, product development, process innovation and material innovation, we are expanding beyond carbon black to encompass new materials and technologies.

We encourage an open culture of innovation, looking for ideas beyond our principal and supporting R&D centers from any area of our organization, as we prepare our business to lead the path towards a sustainable future.

Promoting our culture of innovation – spearheading new technologies

To lead the sustainable transformation of our industry, we depend on leading scientists dedicated to advancing our industry. It has been over 75 years since our historic installation of one of the world's first industrial electron microscopes. Decades later, our laboratories and product-development scientists continue to use this tool to gain insight into current and future carbon blacks.

To facilitate this process, we provide our scientists with state-of-the-art research facilities, bringing together our R&D and

manufacturing teams from around the world. Our two principal R&D Centers, in Taloja (Maharashtra, India) and Marietta (Georgia, USA), are supported by a regional satellite laboratory in South Korea where our scientists are developing solutions for our products and processes.

Our R&D Centers are dedicated to five areas of expertise:

- Manufacturing technology
- Analytical services and quality
- Product development
- Process innovation
- Material innovation

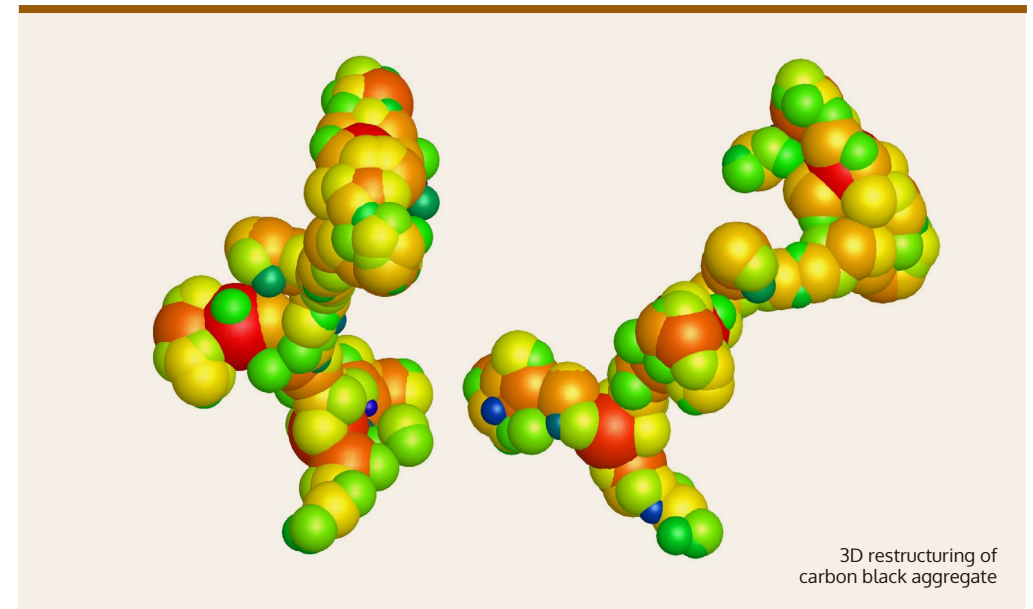
Our R&D centers employ around 80 leading scientists and technological experts in materials science, analytical chemistry, nanocomposites, physics and process engineering. They utilize computational fluid dynamics for engineering and product design and development.

Our technology is at the forefront of performing tomographic and three-dimensional reconstruction of carbon black aggregates via electron tomography. This is yielding deep insight into carbon black morphology, which we are implementing into the design and development of new reactor technology and products. Our engineers continually investigate and develop new approaches to carbon black production and improved efficiency, while minimizing its impact on the environment.

Our laboratories include a range of sophisticated instrumentation, including electron microscopes, along with advancements in automation and robotics.

For instance, robotics has been used in our rubber labs for testing purposes in dynamic mechanical analysis, stress-strain testing and cure rate analyses. The automation of laboratory testing improves throughput, consistency and repeatability of tests. All of these facets of our R&D team, overlaid by an inspiring culture of innovation that extends beyond our core, provide a strong foundation for discovery and practical development to meet the megatrends and ongoing challenges of the 21st century.

[How we are promoting a culture of innovation across Birla Carbon](#)



Exploring opportunities beyond carbon black

Over the years, our research into improving carbon black for our existing customers has remained a priority. However, we are also dedicated to exploring novel areas of products. Areas adjacent to where we currently work, such as tire materials, coatings, inks and plastics, all hold potential for increasing value for our business and our customers.

Thanks to our R&D efforts, we have expanded beyond carbon black, discovering new sustainable solutions for three types of agent – reinforcing, conductive and colorant – in the form of materials and technologies. This is an expanding field for us as we work to bring new technologies to the market.

4% of profit

reinvested in R&D in FY2023



Advancing our circular supply chain

In 2021, we launched the Continua™ brand of Sustainable Carbonaceous Material (SCM), products that help us drive industry-leading circularity at scale. Not only does it increase the recyclability of products such as tires, Continua™ SCM offsets 0.73 tonnes of CO₂ for every tonne produced.

Working closely with our partner, Cirttec, this bespoke solution⁷ is empowering customers to reduce their emissions by providing sustainable alternatives to traditional materials – all while shrinking our environmental footprint.



Offering Continua™ 8000 to our customers provides them a solution that helps fulfill their sustainability requirements. At the same time, it supports Birla Carbon in our efforts to minimize our carbon footprint. By combining the enhanced performance of Continua™ 8000 with our expertise in carbon black, we can augment our appeal as an innovative, environmentally responsible carbon black supplier.”

FRAUKE SCHARFF,
Regional Sales Manager,
EMEA, Birla Carbon



⁷ Birla Carbon has 3 commercially available Continua™ SCM grades to address the needs of different applications: Continua 8000, Continua 8510P, and Continua 8671P.

Capture and conversion: Making CO₂ useful

We're working with our sister company, Novelis, to explore various solutions for capturing CO₂ – including chemical solutions such as amine and metal-organic frameworks, and physical options such as membrane-based technologies. We have also taken some R&D activities in-house to develop promising carbon technologies.

Externally, we are working with other companies and startups to assess the potential technologies that could further support our future carbon capture and conversion efforts.

Innovating with circularity in mind

As we continue to explore new product possibilities, circularity is not just something we aspire to, but a key R&D consideration.

We conducted open innovation campaigns on seeking sustainable feedstocks for carbon black, inviting ideas from inside and outside the company. We are pursuing new processes and products that these new feedstocks enable.

As well as designing for circularity, we are always on the lookout for other ways we can reduce our environmental footprint. We are currently partnering with start-ups in this domain, including US Department of Energy grant winners, allowing us to capture and convert our CO₂ emissions into novel, solid-carbon products, including carbon nanomaterials, that we could then use to replace or improve existing products.




Supporting sustainability in the tire and rubber goods markets

Currently preparing to launch to market, our breakthrough Nanocellulose Dispersion Composite (NDC™) rubber masterbatch is the result of a four-year joint development program between Birla Carbon and GranBio. We invested in this development because this innovative material not only enhances in-service performance of tires, but also environmental performance, being derived from renewable biomass resources. This helps our customers advance against their sustainability goals and Birla Carbon to further drive our commitment to Share the Future.

The US Department of Energy awarded GranBio an \$80,000,000 grant for its proposed AVAP Biorefinery: Enabling Net Zero™ project. As part of this, they will construct a demonstration plant that will generate the equivalent of 1.2 million gallons per year of sustainable aviation fuel and renewable diesel in biomass.

This sustainable biomass plant will also produce valuable secondary products, such as second-generation cellulosic sugars for conversion to biochemicals and a nanocellulose rubber masterbatch, the Nanocellulose Dispersion Composite, for the tire and rubber goods industries.

This partnership has further been awarded \$730,000 in grants to advance full-scale factory and on-road tire trials by global partners within the tire and mechanical rubber goods industries. The funding also supports the commercial introduction of NDC™, as the companies will prepare an engineering package, market analysis and financial modeling for the first NDC™ commercial plant.

 [GranBio Technologies in Partnership with Birla Carbon announcement](#)

 [GranBio](#)



Developing carbon black for a sustainable future

The Product Technology group works with our customers and global Technical Service teams to ensure customer needs are understood and addressed. Part of their work is to develop new grades of carbon black to improve the performance and sustainability of our customers' products. For instance, we propose new carbon black products that are less energy demanding during the incorporation phase in rubber, plastic, ink or paint formulations. We have also developed new grades of carbon black that are helping our coatings customers create safer products with water-based coatings rather than traditional, solvent-based products. This new carbon black will achieve unseen levels of quality, superior performance and improved formulation costs.

Rolling resistance is a key focus for our tire customers, who are concerned with the environmental credentials of their products. Our objective is to develop new carbon black grades and sustainable materials to further lower the rolling resistance for the next generation of tires. By enhancing the durability of tires, we are reducing the consumption of raw materials and further improving the environmental credentials of products.

Working with partners to develop graphite for lithium ion batteries

The increase of products powered by electricity, such as the adoption of electric cars, is primarily fueling the lithium ion battery market. Portable electronic devices, power tools, residential energy storage and grid-level storage, are all becoming increasingly dependent on this technology. lithium ion batteries are reliant on graphite – a material within these batteries that stores lithium – and therefore must be produced at large scale.

In this context, Birla Carbon has collaborated with our partners to develop a more sustainable method of graphite production. In 2022, we collaborated with North Carolina State University,

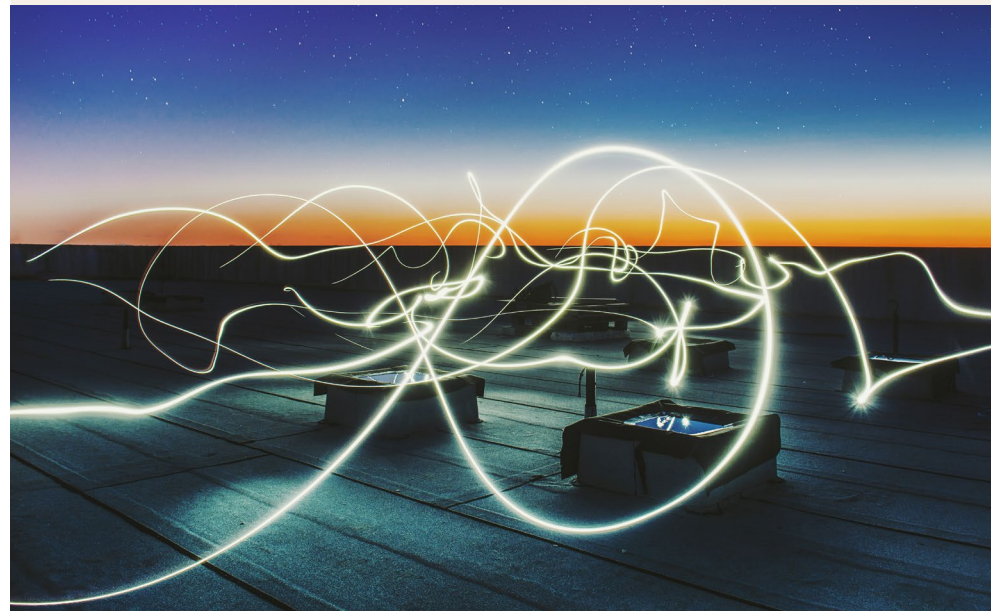
the National Renewable Energy Laboratory (NREL), Ensyn, the Battery Innovation Center (BIC), and Yale University to develop and scale up the production of biocrude-derived graphite for lithium ion batteries – Biocrude Derived Anode Material (BDAM).

By utilizing BDAM to produce battery-grade graphite, we (and our partners) can offer a more sustainable pathway towards producing these valuable materials. This project aims to produce graphite more sustainably using renewable feedstocks and aligns with Birla Carbon's goal to be the first global carbon black company to announce its aspiration to reach net zero carbon emissions by 2050.



The demand for lithium ion batteries is rapidly increasing and is only expected to accelerate over the next decade. With this project, Birla Carbon aims to establish itself as a key player in the energy systems domain by walking a path of sustainability towards producing these integral materials. As a key player in this collaboration project, Birla Carbon will convert the biocrude-derived coke to battery-grade graphite using a new-to-the-world graphitization technology, which greatly improves the sustainability of battery materials production by both increasing product output and decreasing energy usage."

DR. ANN SCHOEB,
Chief Research and Development Officer,
Birla Carbon



Environment

IN THIS SECTION

- 31 Committed to protecting our planet
- 32 Circularity and our value chain focus
- 35 The circularity of carbon black
- 37 Reducing our GHG emissions
- 42 Water
- 44 Waste
- 46 Air emissions

OUR MATERIAL TOPICS

- Greenhouse gases
- Energy
- Water
- Air emissions
- Waste
- Sustainable procurement
- Circularity

We support the following SDGs through our work:



Committed to protecting our planet

As an international business, with customers and operations spanning the globe, we recognize our responsibility to safeguard the environment. This means taking a long-term view and continuously adapting and investing in our environmental stewardship to use resources more efficiently and minimizing our adverse impacts.

To contribute to a more sustainable future for our planet, we are embedding circularity into our operations. Not only does this support our goal to achieve net zero carbon emissions by 2050, it also drives reduced waste, water and energy consumption.

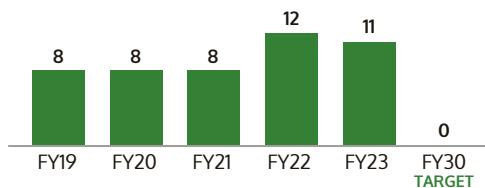
Progress towards our target



TARGET:
Record zero environmental releases year on year



STATUS: BEHIND SCHEDULE
Birla Carbon strives for continuous improvement for all HSE efforts. In line with this, we have remained focused on reducing and eliminating carbon black releases. For several of our facilities located close to populated areas, Birla Carbon has proactively notified authorities any time there is a visible release of carbon black, regardless of how small it may be. This increased reporting rigor has helped sites in these situations focus on operator training and operational controls that can help eliminate the visible emissions. However, there are times when equipment malfunctions unpredictably and thus results in a minor release.



Sustainability-Linked Loan

In 2021, we secured a \$750 million Sustainability-Linked Loan (SLL) with a syndicate of more than 15 banks. Following the launch of our Continua™ Sustainable Carbonaceous Material (SCM), the SLL challenges us to further explore sustainable and innovative solutions that will support our 2050 net zero carbon emissions goal and those of our customers.

Linking our borrowing programs to sustainability and innovation – two of Birla Carbon’s key pillars responsible

for our leadership in the industry – has brought immense synergies of shared aspirations with all our business partners and stakeholders to give us a real competitive advantage in the years to come.

Main KPIs for the facility include direct CO₂ intensity, bringing circular products to the market and an external sustainability rating.



BEYOND DURABLE

Carbon black has been a part of human life for centuries and will continue to be integral to our lives in the future. This is why we are taking a long-term

view of innovation, and why sustainability must be central to our growth strategy.

[Find out more about our five Purpose Principles](#)

Circularity and our value chain focus

Embedding circularity in our value chain is a key component of our overall sustainability strategy. By designing reusability and recyclability into our products, we reduce waste while mitigating the need to buy new, virgin materials that cost the earth. Not only does this approach enable our business to be more efficient, it can also reduce our overall environmental footprint.

Our approach to considering the environment every step of the way

Leading the way for the industry, LCAs cement our sustainability approach by evaluating all environmental impacts in a product life cycle, from raw material extraction through to end-of-life. We know our responsibility doesn't end at our facilities. To achieve a more circular economy, we collaborate with our entire value chain to understand and reduce our impacts.

Aligning our projects with sustainability

We have an internal process for evaluating the sustainability impacts associated with projects throughout the planning, development and financing stages.

Stage-gate evaluation

At early phases of a project, the stage-gate process begins, with the Corporate HSE team providing an evaluation of the proposed project. The team reviews against regulatory requirements for safety, environmental and product stewardship issues and against existing Birla Carbon HSE standards.

Project development

Once a project receives the stage-gate approval, the Corporate HSE team continues to work with the appropriate subject matter expert, depending on the topical area. During this phase, concerns around health, safety, environmental or product stewardship are evaluated with a focus on minimizing impact on the environment, the community, employees and customers.

Appropriations request review

All HSE, product stewardship, sustainability and expansion projects are reviewed by the Global Director for HSE. This review includes evaluation of the legal, regulatory and internal standard requirements.

Understanding our impact from cradle to gate

We measure the impact of every step of our production process. Our "cradle-to-gate" LCAs follow International Organization for Standardization (ISO) 14040 guidelines – from the moment the raw materials are extracted to the moment



the product is delivered to our customers. Through regular LCAs, we can better understand our environmental impact, including a range of emissions, land use, and mineral, fossil and renewable resource depletion. LCAs also highlight human risks such as toxicity. This process helps us to identify opportunities to improve our environmental performance and quantify our ongoing contribution to circularity.

[🔗 Learn about the variety of environmental impact categories we assessed through our LCA in our GRI Index.](#)

Promising results Lower-than-average impact

We have compared our LCA results with those of the general carbon black industry, which are recorded by ecoinvent. While their process is not fully representative of our manufacturing process, it does represent impacts for carbon black production globally. The results show that our production impacts are lower than industry averages.

Our emissions, water and waste reduction methods

We are responsible for ensuring we monitor and minimize the emissions our processes produce. Our methods include investing in pioneering air emission control technologies,

increasing energy efficiency at our plants, sourcing local feedstock oil and recovering energy to be recycled back into our operations or sold on to neighboring facilities.

We monitor our emissions and continue to invest in new technologies to guarantee compliance with local regulations in the areas where we operate. We are committed to ensuring our production facilities do everything possible to prevent the release of carbon black dust into the atmosphere.

Although the quantity is relatively small, we generate waste at all stages of our industrial process, from manufacturing to packaging, and we are implementing strategies to reduce, reuse and recycle this waste. We work in areas where water scarcity is an issue, so we have developed a strategy that identifies where we can improve usage and where we can reduce the strain on potable water sources.

[📄 Reducing our GHG emissions](#)

Our Environmental Policy, published in FY2018, outlines our commitment to continually improving the performance of our sites and products through compliance, transparent engagement and innovation.

[🔗 Our Environmental Policy](#)

Promoting transparency and collaboration

From the results of our most recent carbon black and Continua™ SCM LCAs, we developed Carbon Footprint Statements. These statements are publicly available as a tool to help our customers determine the complete carbon footprint of their own products. They also ensure we are communicating transparently on our impacts.

[🔗 Our Carbon Footprint Statement](#)

[🔗 Continua™ Carbon Footprint Statement](#)

In FY2015, we began to disclose our performance through CDP, which we continue to do annually through its online platform. CDP is a nonprofit organization that works with companies and shareholders to disclose carbon emissions and the use of natural resources. We voluntarily respond to CDP's Climate Change questionnaire yearly. In FY22 we received a B rating and replied to specific customer requests for information on our carbon footprint through our Supply Chain response.

Green Finance Framework

We have developed a Green Finance Framework to outline criteria and provide guidelines for Birla Carbon to enter, identify eligible assets for, manage the proceeds of and report on Green Finance Transactions (GFTs).

GFTs include debt-financing instruments whose proceeds are applied towards eligible green projects or assets including green loans and bonds. Ultimately the framework

demonstrates best market practices and requirement management under GFTs in relation to international principles and our approach to sustainability.

We successfully concluded the first GFT under this framework in the form of a green loan of \$50 million. This loan will refinance a part of the capital expenditure for installing state-of-the-art air emissions control technology at our plant in North Bend, Louisiana.

Seawater scrubbing innovation – North Bend, USA

In 2012, we began to engage with the US Environmental Protection Agency (EPA), Department of Justice and various state agencies to understand anticipated emissions reduction targets. Internally, we started evaluating technologies that would reduce our nitrogen oxide (NO_x) and sulfur dioxide (SO₂) emissions levels.

As part of this evaluation process, we considered other environmental impacts beyond just air emissions and how we could reduce these as much as possible through our technology selection, design and construction. For instance, if we were to utilize the wet flue gas desulfurization process, the site would have to dispose of approximately 1.44 million pounds each week forever. We estimate that this extra generation of gypsum solid waste in the area would have reduced the life of the local landfill from over 30 years to less than 12 years.

We therefore explored a novel technology that was not being used anywhere in the US to remove SO_x using seawater. We engaged consulting firms to research regulatory permits and water sources for seawater scrubbing at our North Bend site. Its proximity to the Gulf of Mexico and the Gulf Intracoastal Waterway and the absence of any threatened or endangered species in the area made it a viable water source.

Following the required public notice, we began our engineering and construction efforts. Where safe to do so, we continued to work on the development during the pandemic. The scrubbing facilities commenced operation in FY2022. Through use of the innovative seawater SO_x scrubbing system at North Bend, they are avoiding millions of pounds of gypsum going to landfill per year and reducing SO₂ and NO_x emissions by over 95% per year.



Our investment in seawater scrubbing facilities is representative of our commitment to innovative technologies on our drive towards circularity as we strive to not only meet compliance requirements but exceed them."

DALE CLARK,
Chief Manufacturing Officer,
Americas, Europe & Africa,
Birla Carbon



The circularity of carbon black

Over the next five years, by putting millions of tires through the pyrolysis recycling process, we will introduce over 70,000 tonnes of SCM to the market annually.

As important to us as it is to our customers, we design products with sustainability in mind – working closely with our customers to increase value chain circularity.

Our approach to circularity

Within our manufacturing, guided by our Share the Future strategy, circularity is built into processes from the recovery of energy to water harvesting and waste reduction.

Utilizing the Ellen MacArthur Foundation’s Circulytics tool, we measure our efforts against three principles:

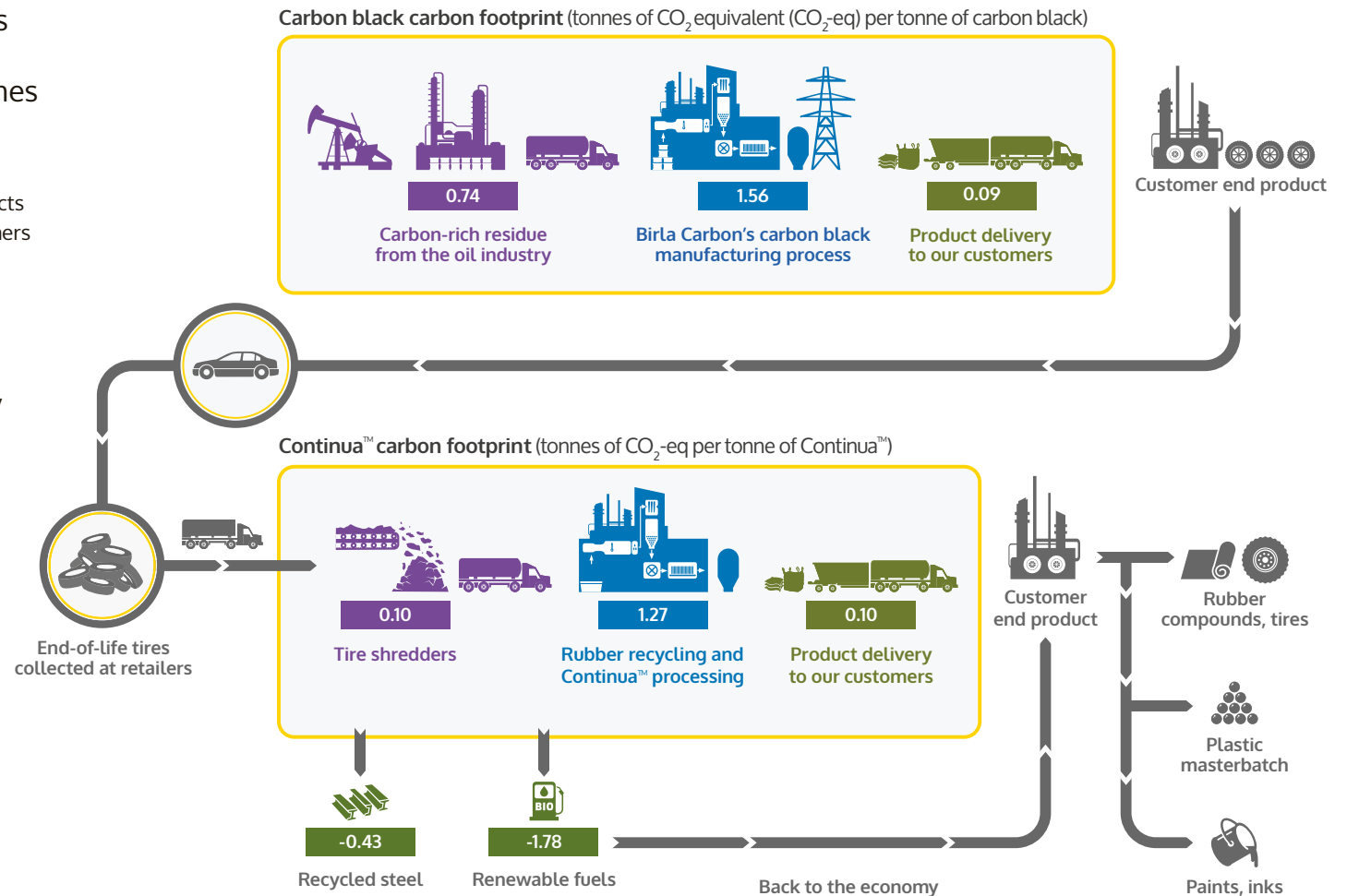
1. Design out waste and pollution
2. Keep products and material in use
3. Regenerate natural systems

From creation to Continua™


Our LCAs of carbon black and Continua™ SCM provide the data in this infographic. For more information on this methodology and timeline see our publicly available Carbon Footprint Statements.

[Our Carbon Footprint Statement](#)

[Continua™ Carbon Footprint Statement](#)



Carbon black: How it's made

 Watch our video to learn more about how carbon black is made.



1 We produce carbon black in a reactor through a tightly controlled flame-synthesis process that uses carbon-rich oil residue, and sometimes natural gas, as feedstock. This process gives a waste product a valuable second life, as oil residues have limited usage and would otherwise be burnt as bunker fuel.



2 Water is then injected into the reactor, reducing the temperature of the smoke stream, which is routed to a baghouse that separates the light, powdered carbon black from the reactor. This powder is mixed with a binding agent and water to form pellets that allow for efficient transportation to our customers.



3 Carbon black, created by repurposing a carbon-rich byproduct, brings numerous benefits to finished articles, including strength, durability and the ability to lower tires' rolling resistance.



4 End-of-life tires are collected by retailers to be recycled by our partner CIRCtec into Continua™ SCM. By using this material, the rubber, plastics and coatings industries reduce the carbon footprint of their common value chain.

Continua™ SCM: How carbon black is recycled

Continua™ SCM is an innovative and sustainable solution for the recovery of end-of-life tires at scale.



5 The overall recycling process begins by removing the majority of the steel content from end-of-life tires, which are then shredded. The tire shreds are then pyrolyzed.



6 The pyrolysis process involves feeding the shredded tires through a series of high-temperature reactors, which produces several valuable outputs, such as renewable fuels and SCM. The renewable fuels are refined on-site and transported to customers. The SCM is milled and beaded, ready for transportation to customers.



7 The use of SCM by the rubber, plastics and coatings industries increases the volume of sustainable materials used in products and reduces the overall carbon footprint of our common value chain.



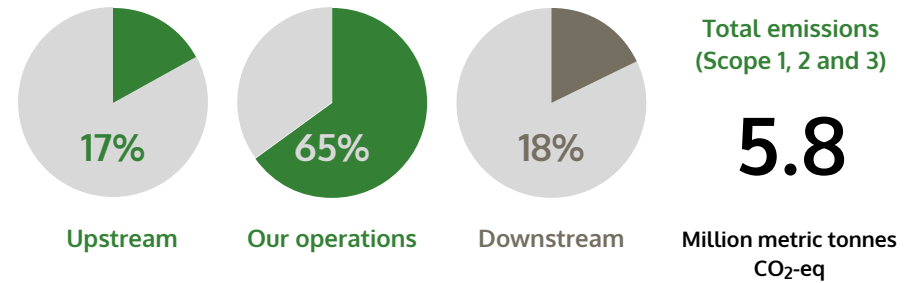
Continua™ SCM requires collaboration and shared innovation with our customers to explore further application possibilities of this new family of carbonaceous material.

We are taking risks, embracing uncertainty and stepping out of our comfort zones through accelerating our commitments to make circularity a reality.

 [Read more about our circular economy partnership with CIRCtec](#)

Reducing our GHG emissions

Our approach to carbon stewardship extends throughout our entire value chain, from raw material extraction to manufacturing, product delivery and product end-of-life. Across each of the following points we look to monitor and reduce our carbon footprint.

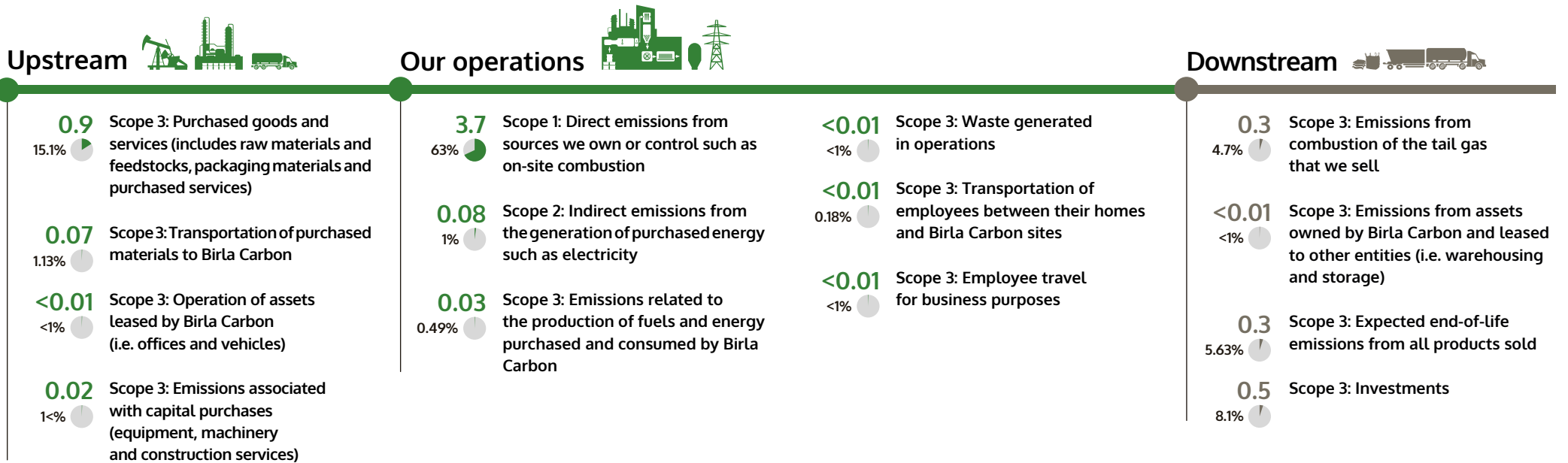


Measuring our carbon footprint

Progress towards our net zero commitment (see page 38) is measured against our 2023 greenhouse gas (GHG) emissions (developed in accordance with global standards).

Our GHG emissions across our value chain

Million tonnes of carbon dioxide equivalent (CO₂-eq), in FY2023⁸



⁸ Figures have been rounded.

Our emissions scopes

Our Scope 1 and 2 emissions have been prepared in accordance with the GHG Protocol Corporate Standard and third-party validated. In FY2023, all Scope 3 category emissions were calculated following the Corporate Value Chain Scope 3 Accounting and Reporting Standard and utilizing US EPA Supply Chain Emission Factors.

For some higher impact Scope 3 categories including purchased goods and services, fuel and energy related activities, and end-of-life treatment of sold products we conducted a more detailed assessment. We created an environmental impact inventory for these categories using a combination of spend- and unit-based primary data.

We excluded processing of sold products, use of sold products, downstream transportation and distribution, and franchises emissions from our final inventory. Downstream transportation and distribution emissions are captured under other Scope 3 categories, and Birla Carbon does not own any franchises.

Emissions associated with the use of sold tail gas will be included, but emissions from the use of carbon black will not. This is allowed per the GHG protocol, and we are choosing to exclude processing of sold product and use of carbon black emissions due to the diversity of end products that carbon black goes into and the lack of information regarding their processing.

Cutting our Carbon Footprint

We aim to reach net zero GHG emissions by 2050

Following a natural progression in our circularity and LCA approach, we are pledging to lower our carbon emissions to net zero by 2050. This is a first for the industry, as we work to fulfill our vision of becoming the most respected, sustainable and dynamic global carbon black business.

Developing emissions reduction targets

In FY2023, we developed a comprehensive Scope 3 GHG inventory and underwent third-party validation of our Scope 1 and 2 GHG emissions. It is our intention that these inventories will inform our decarbonization roadmap and interim target setting as we progress to net zero by 2050.

We are working with partners to model these Scope 1, 2 and 3 targets in alignment with Science Based Targets initiative (SBTi) guidelines. These goals will be informed by upcoming decarbonization target guidance for chemical companies published by the SBTi.

The 4Rs roadmap

Our 4Rs roadmap (see graphic on next page) has been developed to support our emissions reduction. In an unusual challenge, Scope 1 is our largest source of emissions; this is reflected in the nonlinear decrease projected by our roadmap. Reducing these emissions will take time as we invest and innovate to overcome the challenges of our industry.

Progress towards our target



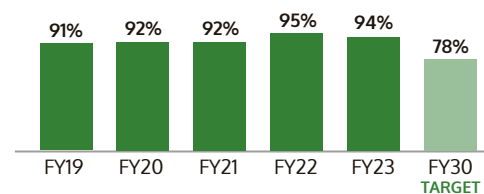
TARGET:

Reduce our direct CO₂ emissions intensity by more than 22% against the 2005 baseline.



STATUS: BEHIND SCHEDULE

This year we saw a decrease in our emissions intensity because of improvements in the efficiency of our processes.



Our direct emissions

Direct CO₂ emissions from our carbon black manufacturing account for the majority of our emissions. That is because we primarily use fossil-fuel-based feedstocks that are transformed into carbon black. The more carbon we capture out of the feedstock, the more we can put into carbon black, and the less we emit as CO₂. While it is impossible to convert all the carbon in our feedstock to carbon black, we focus on optimizing efficiency, grade mix and feedstock quality to improve our direct emissions.

[Our Carbon Footprint Statement](#)

[Continua™ Carbon Footprint Statement](#)

Taking steps to reduce our CO₂ emissions at Patalganga

Each of our sites is on its own path to sustainability. To help them along, we are establishing teams through our Share the Future strategy, focusing efforts on our sites which have the most room for improvement.

One site identified as such was our factory in Patalganga, India, where several opportunities were noted for improving CO₂ emissions performance. To address this, a cross-functional, global team consisting of employees from Engineering, IT, Plant Operations and the Regional Technology Manager group was created. Performing gap analysis, data collection, evaluation and testing, the team produced an action plan for the site with 16 areas for improvement and 55 actions.

The team remained on site for the first two weeks, following which they performed weekly calls and week-long visits on a monthly basis. Through a range of actions such as faster data analytics and equipment upgrades, the site achieved a 6% reduction in CO₂ emissions intensity in the past three years.

How we will achieve net zero GHG emissions

Achieving net zero GHG emissions requires industry collaboration, so we are engaging experts and creating long-term partnerships to reach our goal. We understand that our customers value sustainability; therefore, we are pledging to bring down our emissions alongside many of our suppliers.

Our net zero GHG emissions strategy

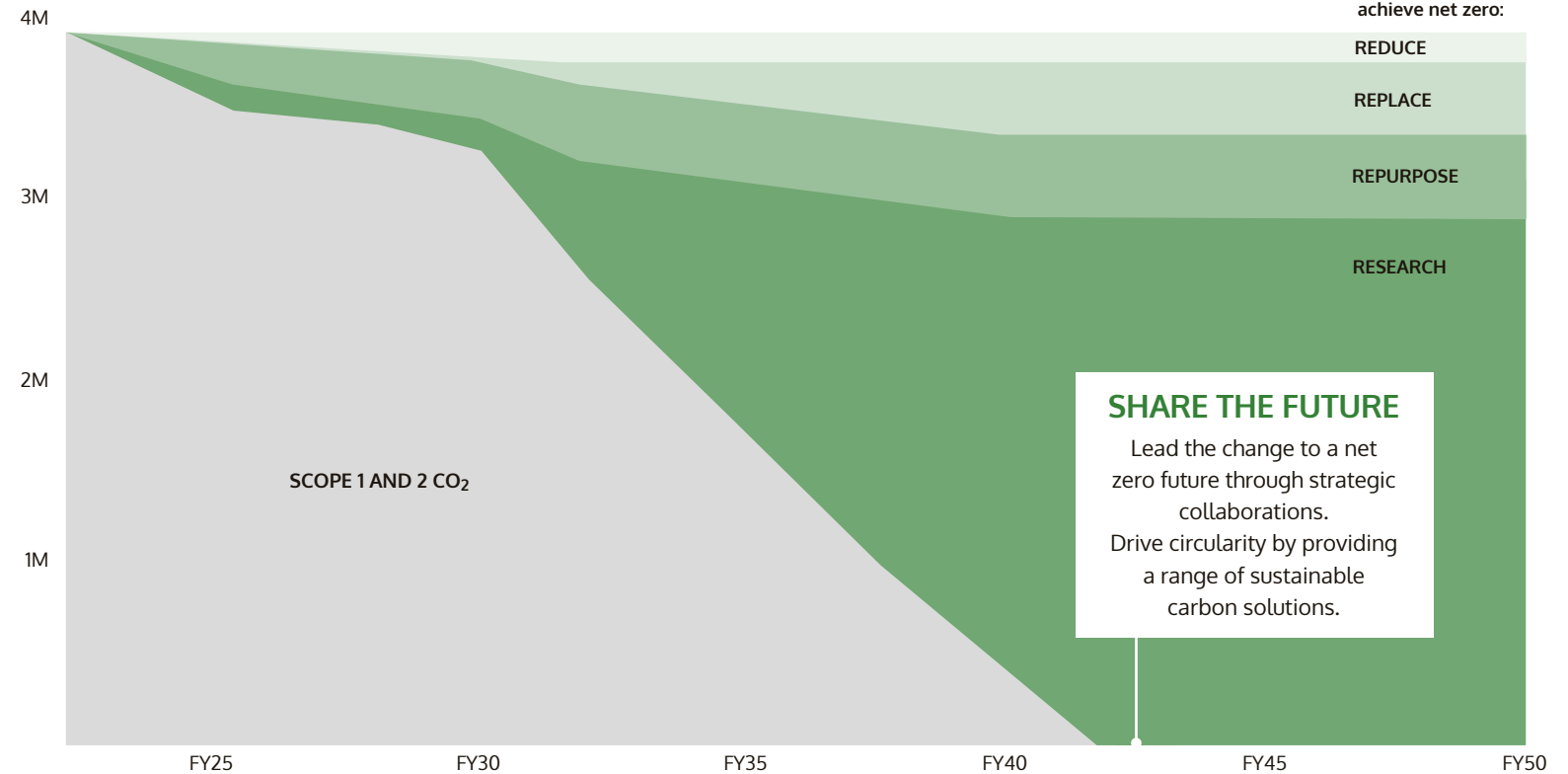
Our strategy for reducing our GHG emissions to achieve net zero remains anchored by the 4Rs: Research, Reduce, Replace and Repurpose. Targeting a reduction in emissions over the coming decades, we will be decarbonizing our business and decoupling our emissions from our production levels.

Most of our carbon footprint reductions will come from our investments in advanced technologies to upgrade our sites. These will target carbon capture and conversion, increasing use of bio-based feedstocks and advancing the production of more circular products. We'll maintain our focus on lowering the direct and indirect emissions linked to our carbon conversion from feedstock and energy procurement processes.

A smaller portion will come from the indirect impacts of our entire supply chain (Scope 3), which will require working with external partners – for example, our suppliers – to reduce their emissions.

Our net zero roadmap

Tonnes of CO₂



PURPOSE

Share the Strength

VISION

To be the most respected, sustainable and dynamic carbon black business



RESEARCH

to discover new ways to capture and conversion of carbons



REPURPOSE

materials for increased value by circularity



REPLACE

with alternative energy and feedstock



REDUCE

dependence on traditional manufacturing processes

Crowdsourcing net zero innovation ideas

We have been using our Hype platform to source innovative ideas for our net zero roadmap from our employees. The platform has proved a successful engagement tool, having received over 40 decarbonization ideas, many of which are now in the project development or implementation phase. These ideas ranged from creative ways to install renewable energy sources at our sites through building partnerships for CO₂ utilization to the role of diversity, equity and inclusion in decarbonization efforts.



Research – capturing and converting carbons

Carbon dioxide capture and conversion will be the primary lever we will utilize to achieve net zero. This is suited to our existing strengths in creating carbonaceous materials and the challenges that hard-to-abate industries like ours face. Challenges for decarbonizing our business include thermodynamic and chemical limits to efficiency improvements and the limited reduction potential that low-carbon energy inputs (i.e. renewables) have for our business. Scope 2 emissions from purchased energy only account for 1% of our overall emissions.

In FY2023, we continued evaluating technologies and partners within the carbon capture and conversion space and assessed the technological and commercial viability of the partnerships for our business. We are in the process of establishing some formal partnerships both within Aditya Birla Group (ABG) and external to Birla Carbon to further our investigation and testing of some of the carbon capture and conversion technologies, while exploring new and emerging technologies in this area.



Reduce – traditional processes

We will continue to focus on optimizing processes for converting carbon to carbon black and to prioritize energy efficiencies throughout our operations.

Net energy positive

Efficient energy use and recovery is critical to our business. We have been tracking energy conversion efficiency since FY2015 with the aim of increasing absolute efficiency to 80% by FY2030. This means that for every 100 carbon units introduced to our facilities, a minimum of 80 would be converted either to carbon black or to a useful form of energy.

Since establishing our energy conversion KPI, we now recover more energy from our own facilities and consume less energy per tonne of carbon black produced. Much of this energy is used in our manufacturing process,

while any surplus is sold to neighboring facilities and local grids.

Regional Energy Managers lead these efforts and share their knowledge across the rest of the business through our World-Class Manufacturing group. Our Energy and Carbon Policy sets out our commitments to outperform regulations by reducing our energy intensity and carbon footprint.

[Energy and Carbon Policy](#)

Progress towards our target



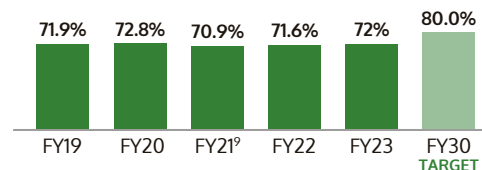
TARGET:

Increase our absolute energy conversion efficiency to 80% (total output energy (CO₂-eq)/total input energy (CO₂-eq))



STATUS: ON TRACK

We improved our energy conversion efficiency in FY2023 as compared to FY2022 as a result of our focus on operational excellence and equipment upgrades. Much of the efficiency losses since FY2020 can be attributed to the addition of high-energy-consuming equipment for air emissions controls.



Replace – energy and feedstock

We will replace our current energy and feedstock with low-carbon solutions.

We will focus on adding more renewable energy solutions and shifting a portion of our production to alternative feedstocks derived from biomass. We are constantly seeking and evaluating alternative fuels for heating our reactors and to serve as feedstock for producing carbon black or other carbonaceous materials.



Repurpose – materials

We will repurpose materials through a circular approach.

Polymer-based packaging

This may appear to be counterintuitive, but a large proportion of our European customers can feed polymer-based packaging directly into their products, therefore reducing the overall amount of waste generated. Adopting this collaborative approach aims to change traditional approaches to the carbon black life cycle by improving product recyclability.

⁹ FY2021 results were impacted significantly by the COVID-19 pandemic.

The circularity of Continua™ SCM

Our product-based research is focused on end-of-life innovation, striving to increase longevity and to understand how we can better support customers to repurpose carbon black.

According to ISO 14040 and ISO 14044, the LCA of our Continua™ SCM shows a significantly reduced carbon footprint when compared to our traditional furnace carbon black products. It will also contribute to a value chain with a net negative carbon footprint, as it captures 0.73 tonnes of CO₂ for every tonne produced.

Once Cirttec's new plant is at full capacity, over 228,000 tonnes of direct and indirect CO₂ emissions will be eliminated annually when compared to our conventional carbon black process.

Through creating more circular products that align technological expertise and customized solutions like Continua™ SCM, we enable our customers to develop the next generation of sustainable products.

 [The circularity of carbon black](#)



Replacing forklifts to reduce emissions

Today, every country is affected by climate change. Increasing temperatures, rising sea levels and increasingly volatile weather events are disrupting national economies and affecting lives at large.

With this in mind, Birla Carbon Egypt has replaced the forklifts traditionally used to send samples to the local laboratory, with bicycles. This simple switch has resulted in significant savings, helping reduce carbon emissions by 9,931 kilograms annually.



Harnessing natural resources at Birla Carbon Hungary

Manufacturing carbon black involves intensively heating hydrocarbon fuels and collecting unburned carbon. In the process, high-temperature smoke needs to be cooled down before it enters the bag collector.

Birla Carbon Hungary installed a heat-recovery system, which replaces the conventional method where the smoke would be cooled down by spraying water in the smoke stream. Aiming to reduce environmental impact, in 2021 Birla Carbon Hungary installed a heat recovery boiler in two of their production lines. This system produces 70,000MT/year of extra steam, which can be used for electricity production, generating 9,500MWh/year. The heat-recovery method also reduces water requirements by 26,000 m³/year.



Designing for sustainability at Gummidipoondi

At our Gummidipoondi site in India, we have incorporated a range of energy efficiency and water-conservation measures into the design of a new production line. To reduce energy consumption, we adopted a regenerative design approach, using low-grade extraction for feed water heating and reducing steam consumption in the deaerator. By upgrading the co-generation system, we produce an additional 1.7MW of electricity from our process tail gas, displacing the electricity coming from the public grid.

As Gummidipoondi is located in an area of water stress, we use an air-cooled condenser, reducing the amount of water needed to convert steam to condensate. The system was also designed to enable zero liquid discharge.

Water

In 2023, we updated our water risk assessments for all sites, starting with a high-level review using the World Resources Institute’s (WRI) Aqueduct tool, and conducting site-specific vulnerability assessments.

Effective water stewardship is a key priority, especially in locations where this vital resource is scarce or where it is predicted to become scarce.

Governance

Our water risk management approach

Our strategy considers short, medium and long-term scenarios to identify areas of improvement within our water cycle. We want to develop a more circular approach in this area and are constantly looking for ways we can reuse the water we withdraw.

As part of our Water Stewardship Policy commitments, we aim to protect and conserve water resources through management practices and governance systems.

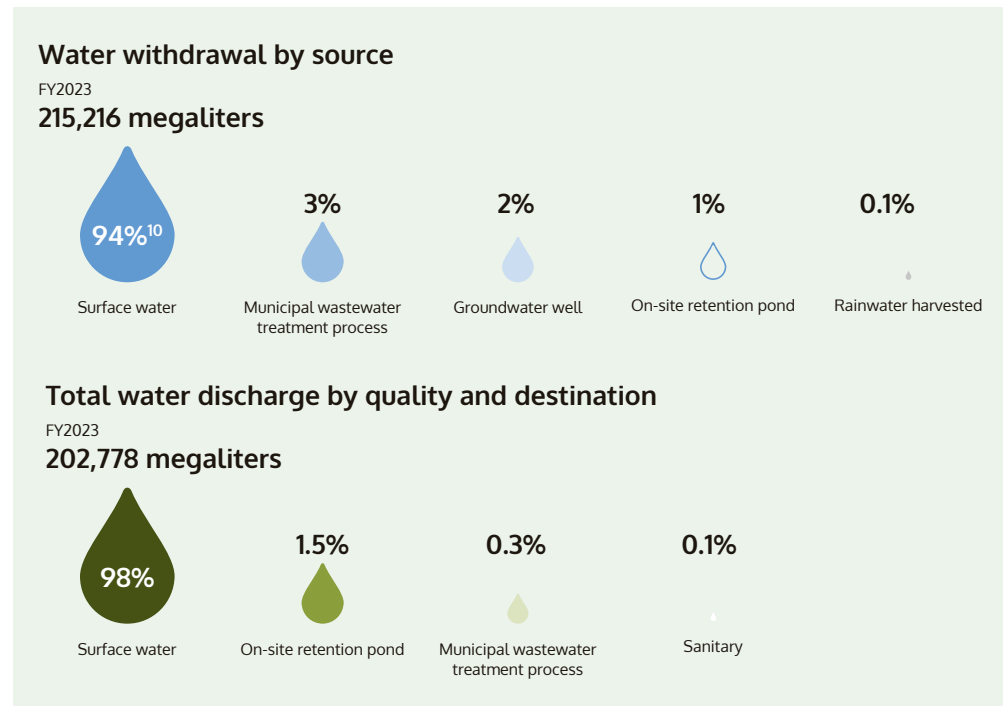
Inspired by a six-step methodology detailed in our Water Stewardship Policy, our water risk management approach is based on the European Water Stewardship Standard, the Alliance for Water Stewardship Standard and the ABG Technical Standard (Water Management).

In FY2023, we reassessed water stress level at each of our manufacturing sites using the WRI’s Aqueduct tool. This approach provided us with an informative, high-level and generic assessment for all our sites.

Each site also completed a Site Vulnerability Assessment to complement the Aqueduct risk assessment. The results of these two assessments

were evaluated to determine whether a site is at low, medium or high risk for water availability.

Results of the Aqueduct and Site Vulnerability Assessment are integrated into our wider Enterprise Risk Management (ERM) strategy, and high-risk sites are required to incorporate Water Risk Mitigation Plans into their existing Business Continuity Plans. These mitigation plans identify both existing and additional strategies for managing critical water risks. New mitigation measures are actioned with deadlines set for completion, while existing mitigation strategies are reviewed at least annually through our ERM process.

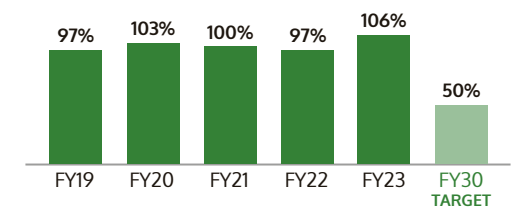


¹⁰ The increase in surface water withdrawal is due to the demand for the new flue gas desulfurization system at North Bend. The entire volume of water passes through the treatment system and is returned to the intracoastal water with the exception of any minor evaporation losses.

Progress towards our target

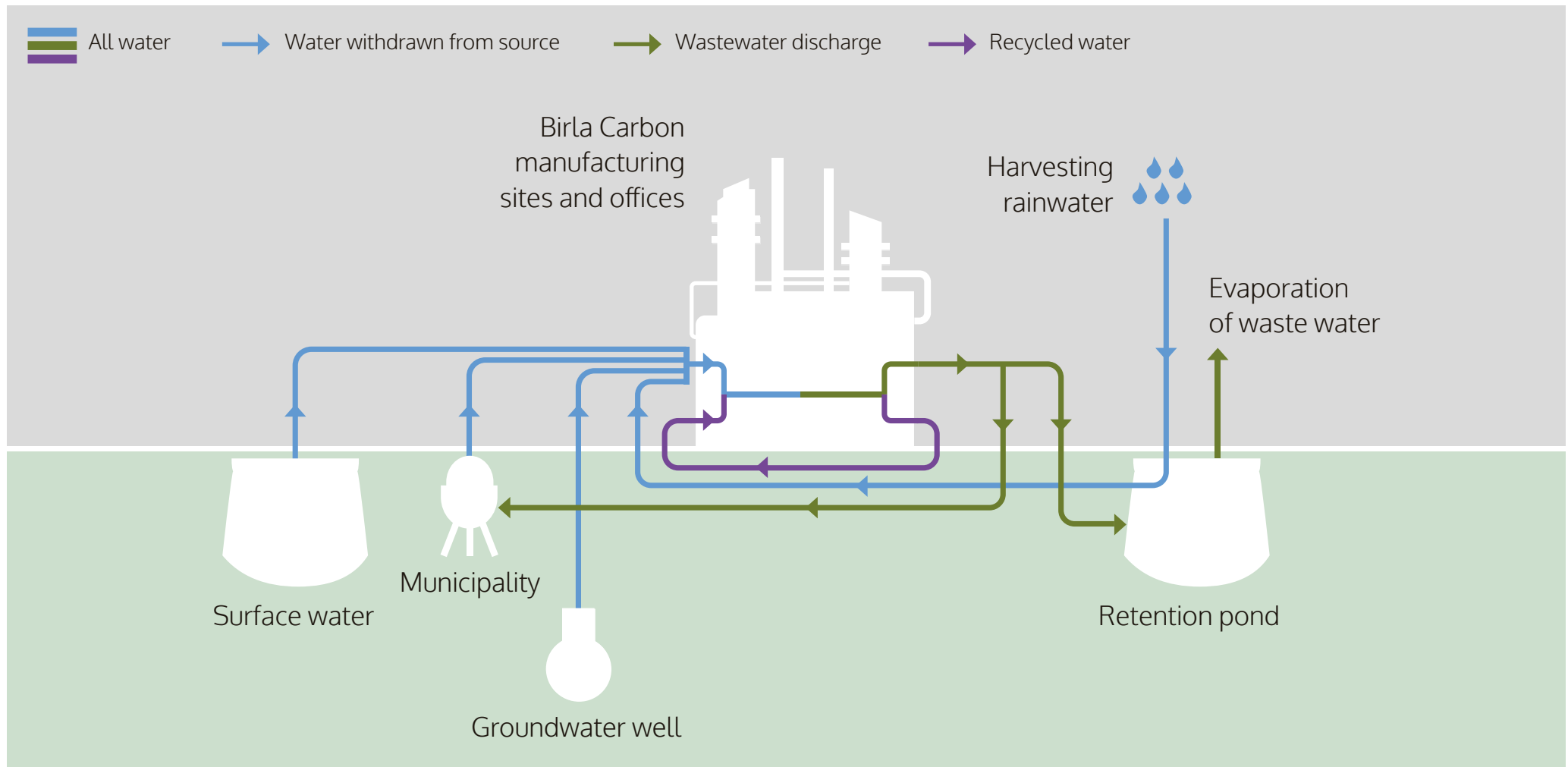
TARGET: Reduce our water withdrawal intensity (m³/t carbon black) by 50% versus FY2013 baseline at our high- and medium-risk sites (water withdrawal intensity by year).

STATUS: BEHIND SCHEDULE Our water withdrawal intensity increased in FY2023 as the result of the air pollution control equipment installed in recent years at several of our sites, which has high water demands. We consider the balance of these various environmental impacts as we design solutions for our sites and are evaluating several water savings projects across our plants.



The water cycle at Birla Carbon sites

We try to limit our use of potable water, looking for ways to increase circularity by recycling and reusing it where feasible. Once water has been used in the manufacturing process, it is directed into retention ponds, from where it will be redirected back into other processes. Our water-conservation best practices are shared across all our locations as part of our sustainability strategy. We are proud to say that 100% of our manufacturing locations use recycled process water and/or rainwater in their operations.



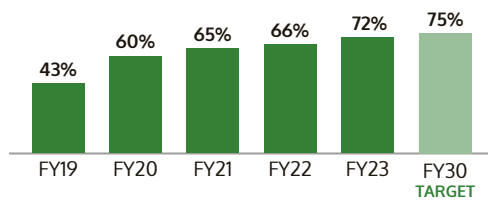
Waste

In any industry, effective waste management and minimization should be a priority; carbon black is no exception. Although the quantity is relatively small, we generate waste in our industrial process, and we are implementing strategies to increase the circularity of our operations.

Progress towards our target

TARGET:
75% waste repurposed, including recycling, reuse and recovery, by 2030.

STATUS: ON TRACK
Recent stronger focus on waste management in our facilities globally, including composting of gypsum at our plant in Thailand and recycling of scrap material in all our plants, accounts for the marked increase in progress seen since FY2020.



Our approach to managing our waste

Our strategy aims to reduce the amount of waste we generate and ensure that what we do produce is reused or recycled – whether for the same purpose or for a secondary use. Our sites comply with all applicable HSE requirements, and we ensure waste materials are sent for disposal in the most sustainable manner.

We have fully implemented our Waste Management Standard (the Standard), which outlines internal requirements for the proper accounting, handling, transfer, storage, transportation and disposal of solid and hazardous wastes generated during construction of, and operation at, our facilities.

The standard specifies roles and responsibilities for the management of solid and hazardous waste at our facilities to protect both people and the environment. It also encourages sites to consider new and updated waste-minimization options on an annual basis. Our waste management approach continues to evolve as we improve identification and accounting of our waste.



Reprocessing off-grade and unused carbon black

When we produce off-grade carbon black, rather than disposing of it, we segregate it and put it through the manufacturing process again until we have a product that meets our stringent quality standards. As carbon black has a long shelf life, customers are also able to return unused carbon black to us so it can be

reprocessed. For example, our Italian site has partnered with a supplier that has the capability to repurpose off-spec carbon black in specific plastic and rubber applications. This way, not only are we reducing the waste that we generate, but we are also taking steps to close the loop on our production.

Our bulk transportation system in Gummidipoondi, India

In July 2021, we expanded upon our bulk transportation system in Gummidipoondi, India. Depending on grade, we can save 16 to 17 plastic jumbo bags (containing 18 to 20MT of carbon black) per bulker truck dispatch. In FY2022, we exclusively dispatched 394 trucks to Apollo Tyres using the bulker. This equates to a total plastic savings of 26.8MT.

Apollo Tyres has agreed to work together on bulk transportation for the greenfield project at its Andhra Pradesh plant. We are also promoting this transportation system with other customers buying from Gummidipoondi to reduce plastic packaging. This is the first successful implementation of our bulk transportation system in India, and it's thanks to the sharing of the concept from our plant in Hungary.



Reduce waste in our facilities

Several years ago, Birla Carbon Cubatão (Brazil) began big bag recycling. Through it, used big bags were sent back by customers and Birla Carbon warehouse employees inspected and selected the ones that could be reused – a big bag could be reused about six times before final disposal. However, many of the big bags were returned damaged, dirty and/or with scrap material still inside; this resulted in risk to our packaging quality and was negatively impacting housekeeping at our warehouse.

Brazil decided to engage two companies to clean and repair the used big bags. Now the Cubatão plant receives used

big bags and stores them in on-site containers provided by the cleaning companies. On a routine basis, the cleaning companies come pick up the containers of big bags for cleaning and repair.

The plant also works with customers, requesting they ensure bags aren't damaged during the unloading process (about 20% of bags are damaged during this process).

The Cubatão plant has achieved several benefits with the big bag recycling program. The most important have been sustainability and cost savings, with the site now recycling close to 6,000 big bags every month.

Air emissions

Our manufacturing processes generate air emissions, and it is our responsibility to ensure these emissions are as low as they can be. Our commitment to Share the Future guides our approach to emissions reductions, encouraging us to continually search for the best possible processes and technologies.

We monitor our air emissions to ensure compliance with local regulations wherever we operate. We have policies and procedures in place that enable us to notify the local authorities and, when required, to act as soon as possible should specific limits be exceeded.

Investing in technology

We continue to invest in and promote technological improvements, such as state-of-the-art filter materials that ensure maximum containment and recovery of carbon black dust. In addition, we're evaluating the technologies and assessing how they can be implemented across our operations. A balanced approach is key: technologies for air emissions control can have high water and energy requirements, so implementation must be considered in a holistic way and on a case-by-case basis.

In December 2017, we entered a consent decree with the US EPA to further reduce emissions of nitrous oxide (NO_x), sulfur dioxide (SO₂) and particulate matter (PM) from our plants in Franklin, Louisiana and Hickok, Kansas.

At our Kansas facility, we commissioned a control system that has been running since June 2021.

The system uses staged combustion technology alongside strict feedstock controls to ensure the site continues to sustainably provide high-quality carbon black products. Initial testing of the installation indicates that we have effectively reduced our NO_x emissions by our goal of 30% against the baseline. A boiler was also installed to utilize the combustion heat from this new technology, providing the plant's steam requirements without the need for any supplemental fuel.

The Louisiana facility has state-of-the-art control systems installed and operational as of December 2021. This technology is the first of its kind, to the best of our knowledge, in the United States. It combines low-NO_x combustion technology, selective catalytic reduction technology and a seawater scrubbing system that will minimize the environmental impact of the control systems.

The technology utilizes the brackish water in the Gulf Intracoastal Waterway to reduce sulfur components to salts that are naturally found in oceans. Through this technology, Birla Carbon has eliminated the transportation and disposal issues associated with traditional wet limestone scrubber systems, which generate a gypsum-like waste.



NO_x Reduction System at Birla Carbon Weifang

To continue reducing NO_x emissions, Birla Carbon Weifang installed a selective catalytic reduction (SCR) system on their dryers in FY2023. The SCR system was commissioned in February of 2023 and has led to a reduction of NO_x levels by over 90%.

BCW's investment in air emissions controls furthers our commitment to managing environmental risks and reducing our impact.

Social

IN THIS SECTION

- 48 Empowering a global workforce
- 49 Health and safety
- 54 Attracting and retaining talent
- 56 Recognizing our people
- 57 Employee engagement
- 58 Supporting diversity, equity and inclusion in the workplace
- 59 Human rights
- 61 Community engagement
- 62 Identifying the right community projects
- 63 Access to healthcare
- 65 Quality education
- 66 Sustainable livelihoods
- 67 Community infrastructure

OUR MATERIAL TOPICS

- Employee engagement
- Diversity, equity and inclusion
- Health and safety
- Customer engagement
- Community engagement
- Human rights

We support the following SDGs through our work:



ADITYA BIRLA
 SHARE THE STRENGTH

Empowering a global workforce

At Birla Carbon, we're driven by a commitment to innovation; we're equally driven by an ambition to foster supportive workplaces that empower each employee to meet their full potential. Vital to achieving this is caring for our employees and catering to their needs, and this same commitment to people goes beyond our workforce. Through strategic collaborations, we address pressing community challenges, aligning our actions with the United Nations Sustainable Development Goals (SDGs). As a result, we help fortify resilience both within our organization and throughout the communities we reach.



At the core of safety is our people. We are driven by a shared sense of care and responsibility for each other and are committed to ensure everyone stays safe at work, across all our locations globally. We are driven to implement stringent rules and adhere to standards within our facilities and offices and play a critical role in creating safe and secure work environments. Because when it comes to safety incidents, Zero is the only acceptable number to us."

JOHN LOUDERMILK,
Chief Executive Officer, Birla Carbon



Health and safety

In FY2023, we have continued to establish a culture of safety excellence within Birla Carbon, steered by strong leadership and driven by the commitment of our own people to prioritize their own safety and the safety of others.

Safety



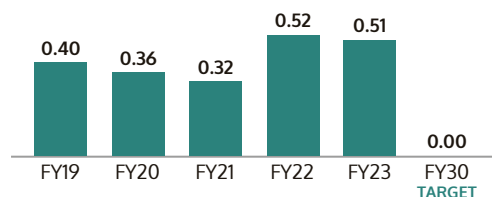
TARGET:

Achieve zero recordable injuries year on year (employee and contractor Total Recordable Incident Rate (TRIR))



STATUS:

Behind schedule



Building a strong safety culture takes time; we do not pretend to be at the end of our journey. There is always room for progress at every level as we develop a workspace in which we take responsibility for the safety of every one of our employees.

Reducing workplace injuries

Birla Carbon completed FY2023 with a Total Recordable Incident Rate (TRIR) of 0.51 and a Lost Workday Case Rate (LWCR) of 0.38. While this represents a slight improvement in safety performance versus the previous year, there is more to be done to reach our goal of zero incidents.

Our actions in FY2023 included:

- A year-long communications campaign to increase safety awareness, starting with Global Safety Week, April 24–28, 2023
- Increased management visits and focused efforts at sites with weak safety performance to identify issues, develop improvement plans and implement corrective actions

- Increased focus on contractor safety, including strengthening processes for training and qualifying contractors to work at Birla Carbon facilities; this includes expanding our third-party contractor qualification process
- Resuming in-person global health, safety and environmental (HSE) audits to evaluate regulatory and standards compliance, plant culture and management systems
- Raising focus on our Safe Six, the highest-risk activities at our sites, modifying audit scopes to concentrate on these areas
- Employee engagement to increase reporting of hazards and near misses

Our performance

We have identified the following leading safety indicators to help us prevent incidents and injuries before they occur:

- HSE training and qualification
- Respond to hazard reports or employee concerns within 48 hours
- Investigate near misses within two business days
- HSE self-assessments and the completion of action plans to address findings

8 sites

reported zero recordable injuries (employees and contractors) in FY2023.

Focusing on these key indicators, we continue to see positive results, including our facilities reporting 100% completion of all required HSE training. During FY2023 we developed comprehensive training and competency frameworks for existing employees and an onboarding framework for new employees. The aim of these frameworks is to establish consistent expectations for training, competency evaluations and onboarding worldwide. They were the products of work completed by a multi-disciplinary team and incorporate internal and external best practices. The frameworks are expected to be fully implemented in FY2024, with support from global HR teams.

During FY2023, 26 near misses were reported, with 88% of events investigated within two business days – an achievement which is considered world class. Also in the year, sites developed action plans based on the findings from FY2022 Safety Perception Surveys – internal studies that gauge employees' perceptions about safety programs. One of the global outcomes of actioning FY2022 survey feedback has been an improvement in safety communications, initiated during Global Safety Week. As Birla Carbon continues to mature in our safety approach throughout FY2024, we will develop metrics that focus on driving safety initiative effectiveness.

Our health and safety programs

We prepare our people as much as possible to identify and manage the safety risks they might face while working in our facilities. This preparation includes adherence to clear standards, processes for issuing work permits, education, training, auditing and follow-ups to reinforce accountability.

Safety management

Our approach to safety and health management involves a methodical, five-step process to ensure that each standard is entirely applicable to our operations.



1 Developing a standard

In addition to regulatory requirements and recognized industry best practices, we conduct our own retrospective review of incidents and near misses at our sites to develop appropriate standards and expectations. All standards are reviewed and revised every two years.



2 Training and implementation

Once developed, each plant is responsible for training in and implementing these standards. Our safety leadership training focuses on the roles and responsibilities of leaders in instilling a culture of safety excellence for both our employees and the contracted workforce.



3 Executing an action plan

Each safety standard is internally and externally validated. An action plan is executed to track its successful implementation, monitor progress, and reinforce accountability.



4 Conducting audits

Each location is audited at two-year intervals by an external body to review the compliance of the safety standards with regulatory requirements and company standards. HSE Managers from our other sites also participate in the review process, sharing best practices.



5 Refining action plans

Specific tasks or activities identified during the audits are addressed by adjusting the action plan, reinforcing our drive for continual improvement and safety excellence.

Celebrating World Day for Safety and Health at work

This year, in celebration of World Day for Safety and Health at work, we ran a Global Safety Week initiative across our plant locations. We aim to use this week-long celebration to strengthen our safety culture and encourage employees to feel comfortable raising concerns about potential risks and hazards.

A core focus of our messaging during the FY2023 Global Safety Week was “Do What is Right, Not What is Easy.” The event engaged employees at all sites with leadership video messages and safety engagement activities. It also created an opportunity to spotlight lessons learned from past incidents, promote near-miss reporting, involve employees in improving site safety programs and celebrate employees for their safety contributions.

In total, 3,000 employees and contractors from 16 site locations, two corporate offices and our sales offices participated; more than 400 employees were recognized for their commitment to safety. Additionally, throughout the week, 250 hazards and hazard-control improvements were identified across sites.

Finally, to highlight the wider importance of prioritizing safety, families of team members created impactful videos to express how important our employees are to their respective families, the importance of being safe at workplace and the feeling of gratefulness people experience when their family members arrive home safely.



Serious Injury and Fatality initiative

We strive to keep everyone who enters a Birla Carbon site safe. Unfortunately, incidents do occasionally occur, and, in FY2023, we were deeply saddened by two instances in Birla Carbon Egypt that resulted in contractor fatalities. In response, we have implemented targeted actions across several sites (prioritizing those with high incident rates) to improve adherence to Safe Six protocols and enhance contractor management. We have also strengthened our Serious Injury and Fatality (SIF) process to engage all levels of the organization in recognizing and mitigating hazards.

SIF focuses on high-risk tasks and situations. It has an important emphasis on identification of risks and hazards, focusing on minimizing the hazards to the greatest extent possible. According to the Campbell Institute at the National Safety Council, 85% of all serious injuries and fatalities are preceded by near-miss events.

We continue to track and investigate events with SIF potential and share these results with all sites through safety alerts. Where necessary, global corrective actions are implemented and tracked to completion.

In 2022, we updated our internal standard on Serious Injury and Fatality prevention in line with learnings from Birla Carbon's participation in the development of a SIF standard for the Aditya Birla Group (ABG).

The Safe Six: Key health and safety risks

We encourage everyone working at our sites to make a personal safety commitment to change the overall safety culture of our business, including consideration of The Safe Six. These six key occupational health risks are a central component of our SIF initiative and represent areas where high precision is essential to prevent a serious injury or fatality:



Working at height

Use all prescribed personal protective equipment (PPE) for the task, including fall protection when work is performed at heights of above two meters.



Hot work

Secure a hot work permit and follow permit precautions when performing any spark-producing work, such as grinding or welding.



Lockout/tagout (LOTO)

Isolate and verify all types of energy, including electrical, hydraulic, pneumatic and stored, when performing maintenance on equipment. Follow line-breaking procedures when opening equipment that may contain hazardous materials.



Mobile equipment

Be aware of limitations and safety requirements, including the one-meter rule, for operating or working around mobile equipment such as forklift trucks.



Confined space

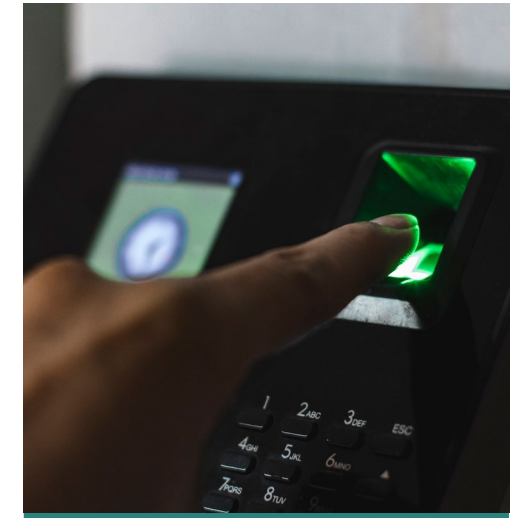
Follow procedures for identifying and controlling risks prior to and during an entry into a confined space to ensure it is safe to enter.



Electrical

Enable all employees to recognize potential electrical hazards and risks; develop systems and procedures, including the use of specialized protective equipment, to reduce the potential risks of arc flash and electrical shock for persons qualified to service and maintain plant electrical systems.

All our employees receive regular training related to the Safe Six critical areas, including online and through our Gyanodaya Virtual Campus Learning App. Our micro-learning modules provide a full training program for employees in short, bite-sized segments that can be viewed over a mobile phone or other portable devices.



Digitally enhancing the work permitting process

Work permits are an essential tool in keeping people safe while performing non-routine, higher-risk tasks such as confined space entry, working at heights, and cutting and welding. To enhance the work permitting process – and our ability to identify and mitigate risks – we are implementing a new digital permit system.

Piloting it in our Hamilton, Ontario facility, this new system will enable more effective risk identification, prevent work conflicts and provide greater, real-time visibility for permitted work. Following the pilot phase, we will look to expand the digital work permitting system to other sites to enhance workplace safety for plant operators.

Improving laboratory health and safety

The Safe Six health and safety risks are an important focus for all our manufacturing sites. However, laboratories face their own unique HSE hazards, and we have laboratories at each manufacturing site as well as our principal R&D Centers, in Taloja (Maharashtra, India) and Marietta (Georgia, USA). In FY2023, the Safe Seven for the Lab were created specifically for laboratory employees.

The following hazards were identified as those most crucial to laboratory safety:

- Chemical
- Thermal/cryogenic

- Mechanical
- Electrical
- Housekeeping
- Physical/ergonomic
- Unknown (new materials, processes and instruments represent the risks of the unknown hazard)

The Safe Seven for the Lab were rolled out during the two-day World Safety Day event in Marietta with plans to expand the rollout and training to all Birla Carbon laboratories over the next year.

Changing our HSE culture

At Birla Carbon, we believe a culture of safety is created by engaged individuals who actively manage their risks every day. We are continuing to deploy the Commitment Based Safety (CBS) process, where specific risks and the behaviors required to manage them are identified at a site level. Employees create safe habits by providing daily reports on their progress. The understanding is that full compliance is not automatic, but improvements can be made each day.

Through CBS, our aim is to create a culture where all employees are aware of the risks they face and take active care of others: when someone observes someone at risk, we want them to stop and take action to help avert accidents.

Global HSE Conference 2022

In October 2022, our global HSE conference took place in Santander, Spain with over 50 participants from across Birla Carbon plants and offices attending over five days to focus on the issues and concerns challenging the organization and discuss the potential solutions and best practices to create a safe workplace for all employees.

Time was given to Quality Management tools for HSE issues, the role of Innovation, the value of Product Stewardship, safety data sheets, and Labeling and Cause Mapping Process Overview.

The conference also saw the launch of Birla Carbon's first Safety Mascot, "Xiang" – a symbol of unity and pursuit in the journey to zero safety incidents across Birla Carbon. The mascot was selected from over 70 mascots drawn by children of employees at all plants.



Safety is a choice, and we must get every employee at Birla Carbon to make the right choice."

RANDY WASKUL,
Director of Health, Safety and Environment, Birla Carbon



Protecting our contractors

Improving our HSE performance demands that we work closely with contractors who may not currently work to the same standards we expect from our employees. Contractor safety was a key focus for audits conducted in FY2023 due to the increase in incidents in FY2022. In FY2023, we also maintained focus on the importance of contractor management. Our contractor TRIR was 0.45 and the LWCR was 0.29.

In FY2022, our sites in North America renewed our contract with Avetta, a third-party risk management provider, to improve the qualification process. Avetta collects information from contractors, including safety incidence rates, insurance coverage and HSE programs, based on Birla Carbon specifications. The information is evaluated and scored, with each contractor assigned a rating. Only those that meet Birla Carbon requirements qualify to work in the plants. The process has saved the sites time in qualifying and selecting contractors. In FY2024, we will evaluate the feasibility of expanding this service to our facilities in other regions.

Auditing our performance

HSE audits resumed in FY2023 with a new process that uses more comprehensive self-assessments and connects to our HSE information system (Enablon). These self-assessments encompass compliance with HSE regulatory requirements for all operating facilities and enable us to identify common strengths and opportunities for improvement across the organization.

The self-assessment serves as preparation for in-person audits. In FY2023, in-person HSE audits were conducted by HSE management and a third-party auditor familiar with local regulations at eight sites. These audits also provide an opportunity to engage with site leadership teams in person, drive discussions and questions outside the audit, and partner with plants on HSE process improvement.

Results from audits will continue to be reported monthly and tracked using our global HSE information system. We are also using data from self-assessments to identify and correct common gaps across the organization.

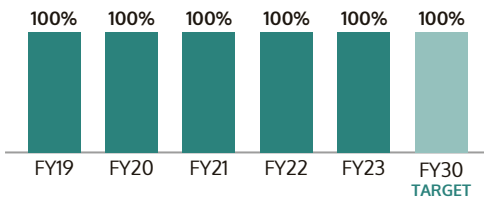


Attracting and retaining talent

We believe that we achieve the best results when we are open to other perspectives and work together to make a difference. To maintain our industry-leading position, we seek to engage and attract bright minds in the countries where we operate.

Progress towards our target

- TARGET:** 100% of Birla Carbon managers to have stated and measured goals set annually (percent of managers by year)
- STATUS: TARGET MET AND RETAINED** To maintain our progress, all management-level employees continued to set performance goals in FY24



We enable our employees to develop their skills and potential, offering exciting opportunities for career development, learning, recognition and wellbeing, in alignment with A World of Opportunities, the ABG's Employee Value Proposition.

[Our Group Employee Value Proposition](#)

Our HR vision and strategy

Our HR team created a new strategy that will be valid until FY2024, aiming to make Birla Carbon an aspirational workplace for diverse groups of people. It focuses on five key pillars:

Five pillars of our strategy



Employer of Choice
Recognized for its DEI practices as a great place to work for diverse workers in the industry



Culture and Engagement
Enabling a culture for empowered and engaged employees



Career and Talent
Providing avenues for career velocity and building a talent pipeline to support business growth



Capability Building
Business-critical capability for a future-ready organization



Consumer-Grade Experience
Differentiated and personalized employee experience built through digital enablement of HR processes

These pillars are supported by action plans that are equipped to achieve our HR goals for the year.

Our approach to attracting and retaining talent

We seek to be an employer of choice in every geography where we operate. We place emphasis on targeted internal movement and continual engagement with our employees.

Our progress as a company is driven by both the expertise of our seasoned carbon black professionals and the continual exchange of ideas with the next generation of engineers and scientists. For this purpose, we continue building partnerships with local colleges and universities and invite interns to gain realistic work experience with us.

We build effective partnerships with colleges and universities through our participants in the ABG Leadership Program (ABGLP). The cohort is offered global project opportunities in varied business functions, such as Operations, Marketing, Finance and HR. In FY2023, six participants from leading schools and universities in India and across Asia completed projects with Birla Carbon through this program. We have also hired ABGLP participants at Birla Carbon and have given four internship projects to participants of the Group Internship project.

Uniglobe was launched in FY2023 as a Global Onboarding platform which is digitally enabled and provides a standard experience to all new hires irrespective of the geography in which they join.

Identifying leaders through our talent management system

Our talent management process aims to build a community of competent and highly engaged global leaders. Our approach includes:

- Assessment of potential – evaluating behavioral competencies for success in future roles;
- Talent councils – bringing leadership teams together for collective and in-depth discussion on high-potential individuals and their career progression; and
- Development centers – applying a rigorous process to assessing and creating a clear plan for each individual based on their strengths and opportunities.

Cyclic assessment of individual potential is a fundamental part of our talent management and leadership-development process.

Developing our people at all levels

From the plant floor to the sales floor, our passion for learning has no ceiling. We encourage our people to continue to learn throughout their careers by providing multiple opportunities and platforms to fit their needs, enabling them to meet career aspirations and perform successfully.

By combining the best of local learning with our worldwide network, we can take our expertise to global levels. Our enterprise learning management system is designed to enhance employee skill levels, encourage employees to apply the knowledge gained to real-world

situations and conduct all training from a centralized source. The platform records all learning activities, and an online library of over 1,000 courses is available to all employees at no cost. Courses are provided in multiple languages, covering a range of topics both functional and behavioral:

- Coaching and counseling
- Performance management
- Conflict management
- Customer focus
- Developing self and employees
- Collaboration and teamwork
- Finance essentials
- HSE
- Wellbeing
- Communication to influence and engage
- Empowerment
- Managing internal customers
- Problem-solving and decision-making
- Change management
- DEI training

Building on existing progress, we continue to develop our GVC Learning App, a mobile application powered by artificial intelligence. The app is learner-centric, providing a personalized experience for each user. With easy access to information, employees can learn while on the go. We created business-specific content in the areas of safety and sustainability, hosted on this app for all employees to view. We also curated curriculums on over 15 behavioral topics, which are accessible for all employees.

Fostering a culture of continuous learning

In FY2023, continuing with our endeavor to further promote and build a culture of learning, we are regularly launching new learning content under our internal brand of RALLY – Recognition & Learning ALLY. The program intends to recognize employees in two award categories (Fastest Learner and Top Learner) for their commitment towards learning, self-development and participation in various virtual learning events. As part of this program, a new learning theme is launched every other month and employees are encouraged to consume learning specific to the theme, including a quiz and interactive learning opportunities. The themes are identified considering the learning needs of employees while content is curated and made available on the GVC app. Through this program, we intend to make learning more engaging and fun. We have so far successfully awarded over 400 employees via RALLY.

Building for a better future

In FY2023, BuildTech – A Birla Carbon Technical Academy was launched. BuildTech is owned and driven by a pool of technical experts and serves as a one-stop-shop to deliver on technical training needs and offer collaborative learning space to various technical communities. The vision of BuildTech is to create a technical training infrastructure and an enabling ecosystem to support development of a technical talent pipeline, contributing to deliver our strategy.

The mission of BuildTech is to ensure the Academy is strategically positioned to offer collaborative opportunities and immersive platforms to address business-critical challenges. The platform enables best-in-class training technology, leveraging SME expertise to facilitate knowledge transfer and drive functional excellence and best practice sharing by building communities of practices. These will further enable learning from each other and strengthen the collaborative fabric of the business. The focus in FY2024 is to deliver programs on over 50 topics under the BuildTech umbrella.

Sharing knowledge through our mentorship program

Birla Carbon rolled out its mentorship program in FY2019. The first cohort successfully completed the program in December 2019, the second cohort in December 2021 and the third cohort in June 2023. The mentees were guided by Senior Management Team (SMT) mentors or women leaders. The 3rd cohort of mentoring was specifically for emerging women leaders in the organization.

Recognizing our people

At Birla Carbon, we are dedicated to nurturing an environment where employees feel valued and empowered. Our employees are recognized and rewarded for their contribution to our success. Besides performance-based rewards, exceptional performance is also recognized through regional, business and group-level awards.

Total Reward Philosophy

Our Total Reward Philosophy is to:

- Strive to pay fair and competitive compensation, valuing skills and credentials;
- Promote a culture of wellbeing by offering competitive benefits according to living standards; and
- Maintain a rewarding working environment, providing global exposure and offering flexible work options where possible.

Fair and competitive total rewards

Birla Carbon continually assesses local and global standards of pay and benefits to ensure we remain competitive and compatible within and outside the ABG.

- Rigorous market benchmarking exercises are implemented each year with major stakeholders across regions to ensure that our salaries reflect the market realities at any given point in time. While nationwide references are used for market comparison, local geographic differences are considered where relevant.

- Manager-driven pay for performance offers aggressive performance differentiation, thereby rewarding the exceptional performances and contributions of our employees.
- Total rewards for executives are benchmarked with competitors each year to enhance performance and award opportunities.

Global and local recognition

There are several programs across units, regions and the business through which we recognize individuals and teams who go above and beyond their defined roles. The APPLAUSE platform, our first real-time online global recognition program, was launched in FY2020.

- APPLAUSE offers a common platform where any employee can recognize their colleagues across the organization, irrespective of location, function or level.
- The categories of recognition are tied to our Purpose and Values, to which all employees across the globe can relate.
- A wide range of redeemable online gift options are available, sourced from local vendors, which makes the platform eco-friendly and diverse.



Exceptional individual and team performance are recognized through our Performance Recognition in Delivering Excellence (PRIDE) program, which includes monetary rewards for outstanding contributions to the business.

Receiving Group recognition

Employees are also recognized through the ABG Awards for Outstanding Achievement. Exceptional performers are nominated for individual awards, including the Emerging Professional, Distinguished Achiever, Exceptional Contributor, Accomplished Leader, Outstanding Leader, ABG Outstanding Woman and Fast Starter Awards. This year we had 8 employees that were recognized out of the 12 nominated.

Career movements with Birla Carbon

We have continued to make internal career paths clearer through a streamlined framework for the Technology, Engineering and Operations areas. We encourage intra- and inter-regional movements of qualified employees as well as transfers from other businesses within the ABG. We engage with employees and their spouses prior to a potential relocation, ensuring they are comfortable with the move and their new role. We offer comprehensive support to employees and their families who are relocating, including assistance with school admissions and employment assistance for spouses.

Employee engagement

We share an unbreakable bond throughout our company; because we share the same goals, we support each other to achieve them.

Maintaining a motivated and inspired global workforce is instrumental to our success, and learning how our employees feel is crucial for developing as an organization. We have a diverse workforce with a broad geographical spread, and we seek to engage all our people as we support them and their lifestyles.



FAMILIAR BONDS

The bonds we form with each other are as important to our business as the product we make. This means putting our employees first to ensure they feel safe and supported in a workplace that promotes shared growth.

[Find out more about our Birla Carbon family](#)

Progress towards our target



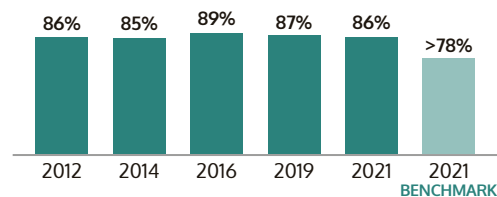
TARGET:

Remain above the chemical industry annual benchmark for employee engagement¹ (%)



STATUS: TARGET MET

Our employee engagement key performance indicator (KPI) remains above the chemical industry benchmark in 2021



Our approach to employee engagement

Every two years, we conduct our employee engagement survey which is called the Vibes survey.

Engaging management

The Vibes survey provides valuable feedback from management, which helps us develop and execute action plans in specific areas that are tracked at local, regional and global levels.

We conducted our most recent Vibes survey in FY2022, with a 97% response rate. The survey shows that we are now achieving, or scoring higher than, the industry benchmark for employee engagement, highlighting that employees are proud to work for Birla Carbon. The results have been distilled into action plans in each region and unit. We continue working on the action plans and tracking the progress thereof during FY2023.

Employee wellbeing

Harvard Business Review defines corporate wellness as: "An organized, employer-sponsored program that is designed to support employees (and, sometimes, their families) as they adopt and sustain behaviors that reduce health risks, improve quality of life,

enhance personal effectiveness, and benefit the organization's bottom line." At Birla Carbon, we have always stayed committed to the need of employee wellbeing and driven by this spirit, we have put together the employee wellness program: WellVerse – A Wellness Universe.

The ABG Group Wellness framework, which promotes a strong connection between a healthy mind, soul and body, creates the foundation of our corporate wellness strategy. Birla Carbon also focuses on the following pillars of wellness – Social, Emotional, Financial and Physical. Our efforts constitute implementation of various initiatives under these pillars to create a robust wellness program.

In FY2023, we have partnered with leading service providers in the wellness space who are providing us support globally. As a part of their offerings, counseling services are available to employees globally in their local language. They also have access to a mobile app and website which helps with wellbeing assessments and resources on topics related to wellness like stress management, maintaining a healthy lifestyle, work-life balance etc. This is over and beyond the wellness initiatives that are tailored to match local health and wellness interests.

¹ This KPI was amended in FY2020 to exclude the results of the Team Vibes survey. It has also been modified to show results for calendar year rather than financial year, in line with Vibes survey timings. The industry benchmark was set by our survey partners, Willis Towers Watson.

Supporting diversity, equity and inclusion in the workplace

We published our Diversity, Equity, Inclusion Strategy in FY2019 to support the criticality of building an aspirational and inclusive workplace for a diverse workforce at Birla Carbon. The strategy lays the roadmap to Share our Strength by strengthening inclusion for everyone with a focus on gender and generational diversity.

Our strategy

The Diversity, Equity, Inclusion Strategy is founded on five key pillars:

1. Providing employees with a smart and connected workplace
2. Tapping into diverse resource-pool hiring
3. Facilitating varied platforms and opportunities to strengthen engagement
4. Focusing on capability building of managers and the organization at large
5. Offering flexible rewards in line with life stage requirements

Ownership of the strategy sits with the business-level Diversity Council, which is subsequently responsible for sponsoring diversity, equity and inclusion (DEI) initiatives at the global level, monitoring implementation of the DEI roadmap and reviewing DEI metrics.

More details about our DEI initiatives can be found on our [DEI web page](#).



Human rights

For us, respecting human rights is non-negotiable, and we recognize the valuable role we can play in the protection of these rights. It is crucial to our reputation and license to operate that this approach is embedded across all our activities and relationships. This includes our extended supply chain.

We are committed to respecting the human rights of our workforce, communities, contractors, suppliers and those affected by our operations, in line with internationally recognized frameworks.

We engage with employees at every level of our operations to ensure our commitments in this area are applied to all our business activities. We strive to comply with, and exceed, laws and regulations wherever we operate, as well as adhering to international standards and those of our own Group. We seek to proactively prevent and address any negative impacts we may have on the people we employ, do business with or interact with.

Our Human Rights Policy sets out our commitments in line with the UNGC principles, of which we are a signatory. It covers key issues such as due diligence, employee and stakeholder engagement, diversity and equal opportunities, and forced and child labor.

[🔗 Birla Carbon Human Rights Policy](#)

Antitrust and anti-corruption

We are committed to complying with antitrust and anti-corruption laws in all locations where we conduct business, and we intend to uphold competitive free enterprise while prohibiting payments or promises to pay anything of value to obtain or retain business. In FY2023, four claims were investigated, and corrective action was taken in two of the cases. No evidence of corruption or wrongdoing was found in the other two cases.

measures in place for our employees to make their concerns known.



Grievance measures

We request that our employees voice any concerns or grievances they have about our operations, other employees or our products, and we expect our contractors and suppliers to do the same. To this end, we provide reporting channels enabling them to do so.

Our hotline is available for any Birla Carbon stakeholder to anonymously report, via telephone, text message or email, any illegal or non-compliant behavior they observe. The hotline is run by an independent third party 24 hours a day, 365 days a year, and escalates issues to our Internal Audit Department and Chief Legal Officer.

Employees may ask questions concerning actual or potential situations, and calls made to the hotline are handled in full compliance with local law. Depending upon the issues, these are then investigated by a team of auditors and/or HR professionals. The hotline is available at all our plants and offices.

Collective bargaining agreements

We are committed to absolute fairness when it comes to employee concerns such as wages, working hours, benefits and conflict-resolution processes. As such, we sign legally binding collective bargaining agreements to ensure we operate fairly and consistently with all our staff. In FY2023, 70% of Birla Carbon sites were unionized. If conflicts occur, we have communications and conflict-resolution measures in place for our employees to make their concerns known.

Human rights due diligence in our supply chain

We understand the importance of building a sustainable supply chain, and we expect our external partners to adhere to the same standards and principles of ethics and integrity as we do. It is vital that every member of our supply chain demonstrates responsibility and transparency. All major suppliers receive a copy of our Code of Ethics in their own language, which they must review prior to the request-for-proposal stage. We require all our suppliers to sign Birla Carbon's Terms and Conditions (T&Cs) of Purchase.

Our Purchasing Policies require use of these standard T&Cs. We also ensure that all new vendors are vetted via NAVEX Global's RiskRate® system. Birla Carbon will not engage with any new vendor with a RiskRate® red flag.

We also work with EcoVadis to screen our key suppliers and rate them based on sustainability performance to ensure alignment with our own sustainability goals.

[🔗 Terms and Conditions](#)

Grievances received	FY20	FY21	FY22	FY23
Hotline calls (total)	17	24	22	33
Calls investigated	16	24	17	28
No further action needed	6	13	9	5
Resolved through collective bargaining	5	4	0	0
Corrective actions	5	2	7	17
Formal community grievances	0	0	0	0
Labor, human rights and environment grievances	FY20	FY21	FY22	FY23
Labor grievances at the local level	17	6	20	18
Labor grievances resolved	17	6	20	18
Human rights grievances filed and resolved	1	0	0	1

Community engagement

We engage with local groups and associations to provide targeted programs, focusing on good health, quality education, sustainable livelihoods and community infrastructure, in alignment with the United Nations Sustainable Development Goals (SDGs). Through addressing our communities' most pressing challenges, we are helping to make local people, and Birla Carbon, more resilient.



CHALLENGE TESTED

As a global company with local connections, we see community growth and improvement as an opportunity for Birla Carbon to grow too. Every day we rise to the challenge of delivering positive change for our local communities through a range of initiatives and development programs.

[Find out more about our Challenge Tested](#)

Delivering benefits to communities

As a global company, we recognize that we are well positioned to create long-term benefits for the communities around us, such as enabling access to healthcare. Through a variety of initiatives, we promote immunization programs and invest in medical infrastructure.

We can also enable communities to grow by empowering people in our communities to take ownership of their own advancement. Through giving people the tools they need to progress and learn valuable vocational skills, we help equip them to find fulfilling employment and improve their livelihoods.

Young people are the future of Birla Carbon, and we depend on our communities as a source of emerging talent. Working with local schools and educational institutions, we promote quality education through financial support, training opportunities, help with building schools and provision of learning resources.

To deliver the best results for our local communities, we have focused on four key areas where we believe we can support the biggest growth: healthcare, education, livelihoods and infrastructure.

Our approach to assessing community needs

As a member of the Aditya Birla Group (ABG), our commitment to social good is far reaching. We believe in using our resources to provide communities with support and to enable people to improve their own lives. At the same time as supporting charitable activities, we aim to help the communities where we operate achieve real and lasting social development.

Guided by the work of the ABG Foundation, we support the sustainable development of communities close to our plants, tailoring how we can help with their specific social issues and priorities. We want to actively participate with our communities, engaging with people to better understand the issues that concern them so we can target our interventions accordingly.

Our community engagement activities focus on four key areas, each of which is aligned to the SDGs:

- [Access to healthcare](#)
- [Quality education](#)
- [Sustainable livelihoods](#)
- [Community infrastructure](#)

Our Birla Carbon Stakeholder Engagement Policy includes clear standards for our sites to aim for when it comes to engaging with their local stakeholders, including embedding the principles of inclusiveness, transparency, materiality, completeness and cultural appropriateness in all engagement activities.



As a globally present company, we want Birla Carbon to leave a positive impact anywhere we operate. We look to support the development of our communities, contributing to social and economic progress by investing in sustainable, responsible and locally relevant solutions."

MRS. RAJASHREE BIRLA,
Chairperson, Aditya Birla Centre
for Community Initiatives
and Rural Development

Identifying the right community projects

Our approach to engaging with communities includes building lasting, mutually beneficial partnerships with the people impacted by our operations.



Our community strategy



Global commitment
To engage and support communities around our sites



Regional approach
Varies from site to site depending on the region's development goals

How we do this



We identify short- and long-term community risks



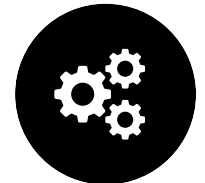
We assess local impact and priorities in the region



We engage with communities to identify views and needs



We devise a relevant regional community engagement strategy and focus areas



We implement activities and investment

Access to healthcare

In some of the areas where we work, local and regional health infrastructure faces pressure due to population growth and a lack of resources.

Birla Carbon is well positioned in these regions to have a long-term positive impact: we facilitate access to doctors and medicine, promote immunization programs and invest in medical infrastructure for the people who live near our facilities.

Investing in good health

Healthcare is an area where our community engagement work has the potential to have an immediate and visible impact. We add real value to our communities by supporting strained healthcare providers and bringing important medical services closer to those who really need them.

We invest in access to healthcare through:

- Vaccination programs
- Building health centers and hospitals
- Mobile clinics and doctors' visits
- Medical camps
- Infant and women's health projects
- Safe drinking water and sanitation
- Illness prevention and awareness
- Blood donation
- Encouraging responsible childcare
- Biometrics screening

Promoting healthy communities

The people at our facilities have a direct, hands-on role in the communities that they impact.

Cantabria, Spain

We donated €5,000 to AMARA Cantabria to help them continue providing essential services to families affected by childhood cancer.

Alexandria, Egypt

We provided psychometric assessment and measurement tools to the Rehabilitation Center for differently abled children. These tools help understand children's abilities so the center can design intervention and rehabilitation programs and monitor the progress of children's cases.

We support the following SDGs through our work:



Supporting our neighbors

Situated 148km from the Ukrainian border, Birla Carbon Hungary witnessed, firsthand, the ongoing war for over a month. In a compassionate gesture, employees stepped up in March 2022 to donate essential items to support Ukrainian refugees.

In Tiszaújváros, The Birla Carbon Hungary plant acts as a collection point for Hungarian aid organizations. Our team has been in contact with these organizations, donating items after conducting thorough due diligence of what the refugees really need. Speaking about this donation, Laszlo Dobos, Unit Head of Birla Carbon Hungary, said, "Birla Carbon Hungary has been working closely with social service organizations to reach out and help refugees in every way possible. I want to thank all the employees who came forward in this humanitarian initiative, as this is how we 'Share the Strength' and give back to society in times of need."

Together, Birla Carbon Hungary employees donated:

- Non-perishable food (flour, oil, sugar, pasta, canned food, tea, coffee, mineral water)
- Bathroom and cleaning products
- Baby care products (diapers, wipes, baby foods)
- Clothes (packed separately by size and gender)
- First aid kits

The donations were collected weekly at the plant and then sent to the refugees. The aid organizations either forward the donations to the border or directly to Ukrainian families. Some of our employees at Birla Carbon Hungary also undertook volunteer work to help refugees who have been displaced due to the ongoing conflict.

Gummidipoondi, India

We constructed a school building and compound wall, in collaboration with the Tamil Nadu government, for 154 students. We also sponsored the purchase of technology for a “smart” classroom to boost learning.

We donated ear, nose and throat (ENT) and dental surgery equipment worth 644,000 lakhs to the government hospital for effective ENT and dental treatments.

Patalganga, India

Dental Check-up Camp: We organized a dental check-up camp for primary and secondary school local students. 700 students from 15 primary schools were covered by the camps. We also facilitated a session on the importance of dental hygiene and how to properly brush your teeth to keep them healthy.



World Aids Day: We organized various health-related initiatives along with awareness sessions on HIV AIDS. We also facilitated an Aids awareness rally with the support of local school students, along with a showcase of street play in the local language to support villager understanding. The focus was on labor and adolescence.

Renukoot, India

The governor of the state of Uttar Pradesh recognized our CSR team at Renukoot for the adoption of the Aganbari Centre and related developmental work with the community.

The Press Association recognized the plant for their work in productivity and community development.

Meeting our neighbors' needs

Wherever Birla Carbon operates, we aim to engage with the local community to understand what is of concern to them.

Alexandria, Egypt

We celebrated International Day of Persons with Disabilities with multiple local community events as part of our corporate social responsibility activities. These workshops built awareness and understanding to promote the rights and wellbeing of persons with disabilities in all spheres of society to form an inclusive world. These events allow us to give back to the communities in which we operate and allow us to live our Purpose and Share the Strength.

Santander, Spain

We continued our longstanding collaboration with Bahía de Santander Ecotourism and Environmental Education this year by supporting the Learning and Service Project “Knowing and Caring for Marina de Cudeyo.”

The program provides informative content and consists of workshops and excursions for first year high school students in La Granja school in Heras. The objective of this program is to raise awareness among young people about the importance of caring for and conserving the environment, promoting responsible behavior towards the natural environment and becoming aware of the consumption and over-exploitation caused by human activity.

At Birla Carbon Spain, we are committed to respecting the environment. Hence, we encourage and participate in initiatives that seek to raise awareness about taking care of our ecosystem.

We distributed school supplies to 40 children who were at risk of social exclusion due to the ongoing COVID-19 pandemic. The donation supported the #NoNiñoSinMaterial initiative arranged by the Dyslexia Association of Cantabria (ASDICAN). Our donation helps these children to begin their academic year on an equal footing with their peers.

Quality education

We believe young people are the future, and we depend on local communities as a source of talent for our business. We are targeting our efforts to support local young people in reaching their full potential.

Providing educational support

Effective, high-quality education provides opportunities for young people, but school systems do not always receive the support they need. We engage with local teenagers as the leaders of tomorrow, introducing them to what our industry has to offer. In some regions, we provide financial support and internships. In others, we help build schools and provide practical training in specific areas for adults.

Our educational support spans:

- Open days for students
- Scholarship programs and internships
- Funding for new school buildings
- Community awareness training
- Immersive English language camps
- Safety awareness and training

Supporting the next generation

The educational support we offer varies from region to region, as we tailor our local community engagement approach to ensure we meet local needs.

We support the following SDGs through our work:



Italy

Our Birla Carbon Italy HR Manager and Process Engineer gave presentations to 60 4th grade students and their teachers, discussing Birla Carbon and what carbon black is and does.

In November 2022, Birla Carbon Italy took part in the Employer's Association event – Woooooo – Center your Future! – to engage post-graduate students. During the session, nearly 1,000 students learned about the job market and necessary employment skills. Three Birla Carbon Italy employees attended to represent our company.

Hungary

Birla Carbon Hungary organized and hosted a career day for 28 local students at their facility. The day involved educating and preparing students for future careers, mainly in engineering, maintenance work, and chemicals. The students discovered the nuances of working in a laboratory, control room and maintenance workshop, where they also interacted with the instrument engineers.

Students were given a Birla Carbon exercise book and a pen as a farewell gift for them to focus on continued learning for a bright academic future.

Marietta, USA

We have continued our partnership with Kennesaw State University in Georgia, now in its ninth year, pledging \$65,000 to offer scholarships to students. Since inception, we have supported 103 researchers through this partnership, building a credible reputation with the university's College of Science & Mathematics. We are now in discussions with relevant stakeholders on how to grow the partnership to support more students.

Angthong, Thailand

We have awarded over 90 scholarships to children from local communities at our Angthong, Thailand plant. The scholarships cover students from grade one at primary school through university and offer the option for them to subsequently become employees of Birla Carbon Thailand.

Birla Carbon has been awarding these scholarships since 1985 and has supported around 2,800 children so far.

Alexandria, Egypt

We established and inaugurated three classes in an orphanage for people with intellectual disabilities. These classes provide distinguished healthcare facilities to 20 people who reside in the orphanage. Additionally, 16 women received training to prepare them to teach people with disabilities.



To the orphanage, we provided the following:

- Psychometric assessment and measurement tool: Birla Carbon Egypt provided the orphanage with some tools for testing various disabilities, which help in assessing and measuring the different abilities in children – cognitive, social and academic. These tools also assist in designing various intervention and rehabilitation programs.
- Psychomotor therapy class: This class is in a room where children's movement and play activities are observed, which helps children with certain disabilities acquire a set of skills and cognitive abilities specific to their needs.
- Sensory room for autism: A room equipped with special tools to alert, arouse and stimulate all the senses of children who have autism and other related delays in the development of cognitive and sensory aspects in the interaction with their surrounding environment.
- Skills development and crafts class: In this class, persons with disabilities learn simple, easy and safe professional and vocational skills. They are then classified according to their respective abilities.

We inaugurated two tailoring workshops, equipped with 14 sewing machines – primary, semi-automatic and completely automatic – in a school for hearing-impaired children. These workshops helped students acquire new skills in addition to their academic studies, which will assist them in securing employment opportunities in the future.

Sustainable livelihoods

We depend on thriving local communities to support our workforce and our supply chain. Rural societies in particular can suffer from a lack of resources and assistance; empowering these people to take ownership of their own advancement is key to our engagement activities.

It is important that young people are educated, but it is equally important that adults are given the tools they need to progress.

Empowering local communities

Support is crucial, and our help comes in many forms, but our goal is that local residents take the opportunities we offer to improve their lives for themselves. We want to enable residents to become self-reliant and empowered with our support.

We support sustainable livelihoods through:

- Women's empowerment
- Self-help through microfinancing (women and farmers)
- Agricultural development
- Livestock development (including husbandry)
- Micro-enterprise development
- Skills development/vocational training

We support the following SDGs through our work:



Supporting local people

We provide targeted training to support independent and empowered workers in our local areas.

Cubatão and Camaçari, Brazil

Birla Carbon's plants in South America have always gone above and beyond to help the local communities in which we operate, strengthening our community bonds to best understand how our company can contribute and enhance their lives with our presence.

Efforts from our Camaçari plant include supporting 100 local families with the distribution of food baskets. Cubatão also supported its local community with 300 food baskets.

Employees of both plants, including the Santos office, organized social responsibility events during December 2022 to collect food and hygiene products to donate to the elderly.

In total they collected over 1,000 items – including 300kg of food – which were donated to the Lar do Carmo Institution. Employee volunteers also collected around 800 items, including clothes, food and hygiene products for donating to the Lar Fraternal Institution, which serves more than 30 elderly people.

Together with union workers, Birla Carbon Brazil also distributed 425 food baskets to families. In Camaçari, donations were made to 80 families in partnership with the local municipal hall.

Hamilton, Canada

We collected food for Hamilton Food Share – a food bank – and raised CAD\$260. Birla Carbon then matched the donation, bringing the total to CAD\$520. Taken together, these actions helped feed several families in the neighborhood.

Marietta, USA

For over a decade, Birla Carbon's Marietta Office has proudly supported the local Salvation Army. This year, we adopted and purchased gifts for 75 children in need through their Angel Tree program.

Italy

In support of La Cometa, an Italian association providing care to people with disabilities, we sponsored their cause by purchasing branded t-shirts for their members – spreading awareness and raising funds for the organization.

We also organized a special day of activities between Birla Carbon Italy staff and La Cometa association members, consisting of games like soccer and table tennis.

Spain

Christmas celebrations: Our Christmas party for employees' children is a longstanding tradition at Birla Carbon Spain. Organized by employees with an appearance from elves and Santa Claus himself, the in-person event didn't take place for three years due to the ongoing pandemic. Instead, our employees got together to dress up, pack gifts – books from Santa – and record individual messages that let the children know Santa was always thinking about them.

Supporting Ukraine: Participating in the Automotive Solidarity Challenge for Ukraine, an initiative that runs across seven Spanish regions, we helped raise a collective €28,000 in support of Ukrainians affected by the ongoing conflict.

Patalganga, India

Birla Carbon Patalganga promoted sustainable livelihoods for local women while also supporting local students by providing school uniforms to those at the local high school and junior college. More than 210 uniforms were stitched by women in the nearby Talavali village, with training provided to them through vocational training programs hosted by Birla Carbon Patalganga's CSR team. All in all, the initiative impacted over 120 local residents.

Additionally, during local festivals, the team helped residents celebrate by providing grocery kits to 250 tribal families. These kits contained key ingredients for preparing desserts, such as cooking oil, sugar, flour, rice flakes and coconut oil, as well as essential household items such as soap.

Community infrastructure

Many of the communities where we operate are severely underequipped in terms of basic infrastructure such as buildings, roads and public facilities. We believe that we have a responsibility to partner with local people to provide practical and sustainable infrastructure solutions.

Structural support where needed

We identify opportunities to improve local buildings and infrastructure through our ongoing engagement with local people, focusing on the most critical requirements.

Examples of areas where we contribute include:

- Community centers
- Schools
- Roads
- Homes
- Rural power supplies
- Sanitation
- Irrigation and water-storage facilities

We support the following SDGs through our work:



Building resilient communities

We believe that access to basic infrastructure is a non-negotiable right for everyone, and some of those nearest to us need practical support to achieve it.

Santa Cruz, Spain

We sponsored Bezana Basketball Club, our local women's team, who now bear the Birla Carbon logo on their kit. In June 2022, we welcomed representatives from the Pontejos Football Club to our Birla Carbon Spain facility. During the visit, they thanked our team for their ongoing support throughout the pandemic – aid that helped the club avoid closure.

Camaçari, Brazil

The Birla Carbon team at our Camaçari plant donated 30 office chairs to a local center in the city of Dias D'Ávila. The donation helped the center restore regular activities – such as supporting the local community with sports, education for women and social events.



Germany

In Germany, Birla Carbon has sponsored a local children's table tennis team – TSC Friesen Hänigsen. One of our employees also volunteered to train the children in their spare time. Another employee stepped up to support a second table tennis team, TVE Sehnde.

Governance

IN THIS SECTION

- 69 Responsible stewardship
- 70 Our governance structure
- 75 Ethics
- 76 Compliance
- 77 Supplier management
- 80 Product responsibility

OUR MATERIAL TOPICS

- Ethics
- Global presence
- Business continuity
- Product consistency
- Product stewardship

We support the following SDGs through our work:



Responsible stewardship

It is easy to get things done and hard to let each other down when everyone is truthful and transparent. At Birla Carbon, we focus on knowledge as our strength to deliver solutions around the world.



At Birla Carbon, keeping our information systems and digital technology secure and operationally available with optimal performance is of extreme importance. Security is integral to our digital journey and while we are continuously focused on preventative mechanisms, we have also built mechanisms in our new technology introduction process for proactive mitigation. These strategies help us provide uninterrupted and reliable services to our customers.”

MADHAVI KANUMOORY,
Chief Digital and Information Officer,
Birla Carbon



As we look to go Beyond Durable, we uphold the highest ethical standards across all our business activities and expect our stakeholders to do the same. We can only continue to innovate our products if we inspire a culture of shared trust, complying with international laws and codes of conduct and working to be an industry leader in best practices.

Trust and transparency in governance are essential for building relationships with our employees and stakeholders. This is why we are focused on building the strongest

governance teams to ensure we are performing to the highest standards and that our employees feel supported in their work development. We have modeled our governance on the ABG's Responsible Stewardship Framework, through which we are aligned with the United Nations Global Compact (UNGC).



United Nations
Global Compact



CHALLENGE TESTED

Our Challenge Tested purpose principle highlights our commitment to seeing every obstacle as an opportunity for growth. We view a growing customer focus on sustainability and transparency

as a chance to develop our governance structure and ethical standards to ensure we are protecting the environment, human rights and the interests of our customers.

[Find out more about our five Purpose Principles](#)

Our governance structure

Our success depends on the strong, effective and responsive management of all our global operations. We are developing our organization to place a greater focus on cross-team functionality. While we continue to support efficient decision-making that is responsive to local needs, we are also promoting more active communication between functional leaders.

Our organizational structure will help us share and implement best practices and steer our Share the Future strategy within Birla Carbon.

How is our governance organized?

Our governance system is structured to focus on customers, markets and operational excellence while driving our culture of innovation. Consistent with our Purpose to Share the Strength, the system builds on our spirit of collaboration to drive global consistency and rapid adoption of best practices across all aspects of our business.

The legal entities that comprise Birla Carbon are governed by a Board of Directors, led by our Senior Management Team (SMT).

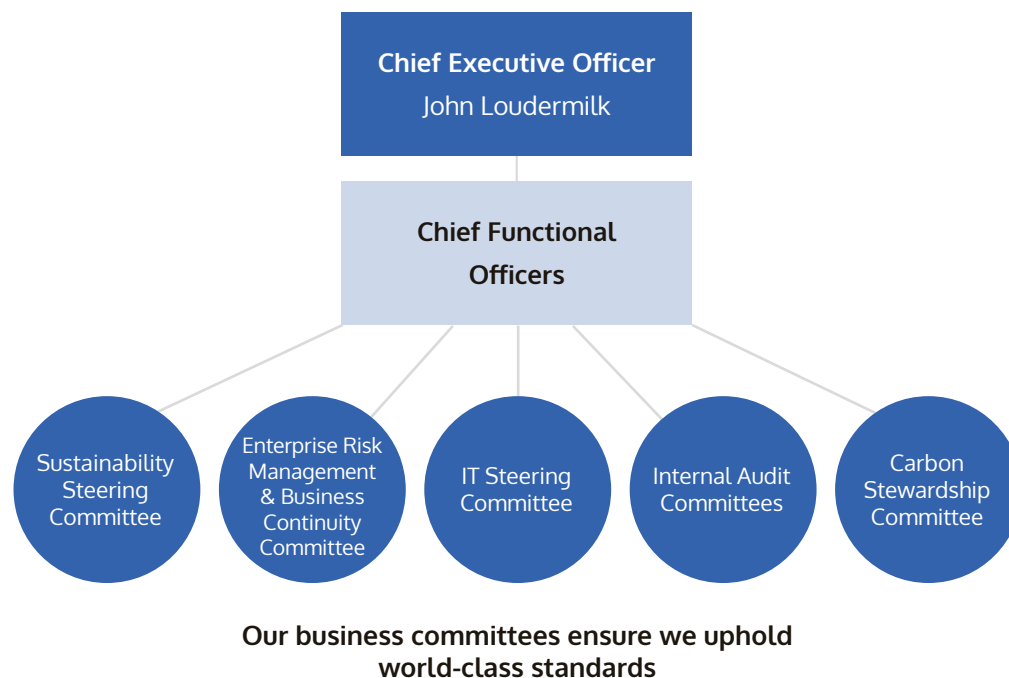
Our SMT plays a crucial role in shaping our impact on the environment, economy, and communities by overseeing processes and appraising outcomes. When exploring environmental considerations alongside responsible practices, our SMT engages with stakeholders and supply chains to ensure due diligence and processes are fulfilled.

The SMT is made up of:

- John Loudermilk, Chief Executive Officer
- Eight Chief Functional Officers and Senior Vice Presidents (Sales & Marketing; Asia Manufacturing; Americas, Europe & Africa Manufacturing; Finance; IT; HR; Legal/Sustainability/HSE, and Research & Development)

Our governance structure

The Chief Sustainability Officer has two roles: firstly, communicating the work of the SSC to the SMT, and secondly, acting as the guardian of sustainability principles and best practices and supporting the SMT in their adoption.



Sustainability Steering Committee

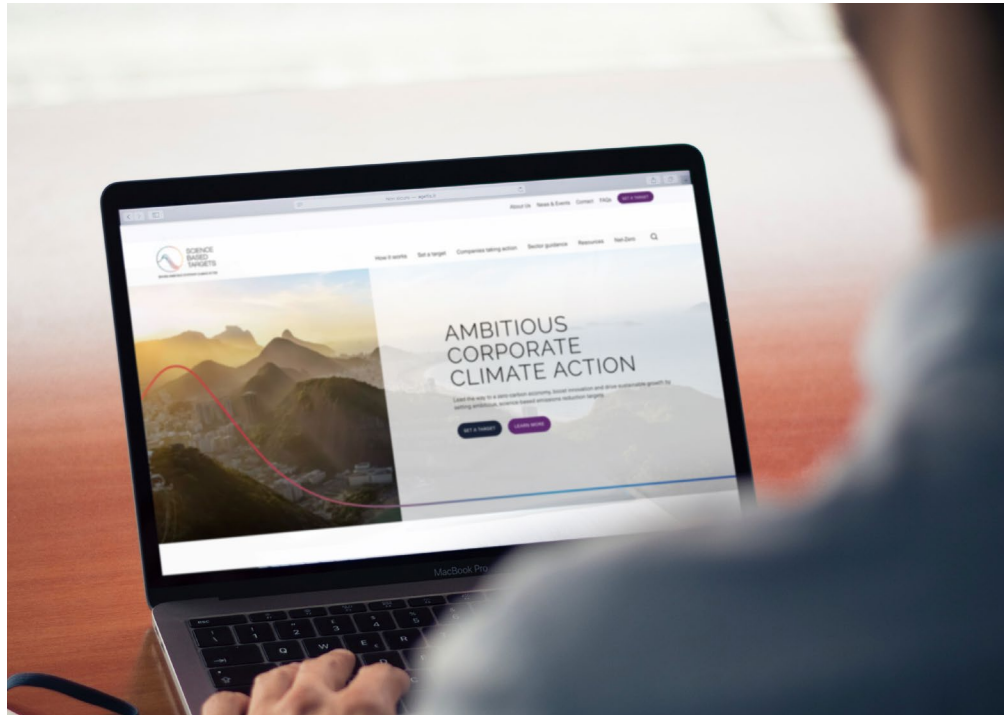
Our sustainability strategy is directed by the SSC, which ensures it is aligned with the sustainability vision and approach of our parent company, the Aditya Birla Group.

The SSC is responsible for reporting on its activities through our annual Sustainability Report, quarterly meetings with the SMT and ad hoc communications with Birla Carbon employees. Another role of the SSC is to influence the integration of sustainability concepts into the company’s strategic business decisions.

The SSC tackles specific issues through dedicated working groups, each composed of the Global Sustainability Director, the Sustainability Manager, Subject Matter Experts (SMEs), employees with relevant expertise and occasional third-party advisors.

These teams identify areas of opportunity for integrating sustainability further into the business, for which action plans can be developed. Their ideas and plans are ultimately presented to and evaluated by the entire SSC, with final approval or rejection of projects lying with the SMT.

- [Sustainability Policy](#)
- [Focusing on what matters](#)



Key topics discussed in FY2023

Innovation

Key topics	Decisions made	Impact on business
Product stewardship	Approved the rollout of internal and external training on carbon black product safety and its regulated applications	We aim to ensure people understand how our carbon black is made and their role in its safe manufacturing, as well as helping our customers handle and use carbon black effectively and safely.

Environment

Key topics	Decisions made	Impact on business
Solid waste management	Continued focus on reducing and repurposing waste to achieve KPI objective Focus on partnerships to achieve goals	We seek to drive improvements around key stakeholder concerns.
Water risk assessment	Update water risk assessment for all sites	
Energy and emissions KPIs	Evaluate science-based targets and roadmap to net zero Evaluate technologies for decarbonization	
Circularity	Obtain ISCC+ certification for Trecate, Italy Develop plans for other sites to obtain ISCC+ certification	

Social

Key topics	Decisions made	Impact on business
Customer engagement	Increase direct engagement with customers on sustainability	We align our sustainability initiatives and goals with our customers' to remain a strategic partner to them.
Supplier risk assessment	Collaborate with ABG Sustainability Cell on Group-wide sustainable procurement action plan Embed screening by NAVEX Global's RiskRate® in our procurement policies	A more resilient and ethical supply chain will enable us to ensure business continuity.
Global community program	Benchmark our global Community Service program and identify opportunities for providing more global support to our regional programs	We continue to improve our contribution to the social and economic development of the communities in which we operate.

Governance

Key topics	Decisions made	Impact on business
SSC members	Add SME from Sales & Marketing function to incorporate customer voice further into SSC discussions and actions	By working together on our common sustainability goals, we build open, trusting relationships and grow together towards a better future.
Engaging our employees	Continue to ensure all sites have safe access to water, sanitation and hygiene	A motivated workforce is instrumental to business success. We seek to engage our people and support them and their lifestyles.

Enterprise risk management and business continuity planning

Serving our customers is the top priority for Birla Carbon. Our robust ERM program helps identify and mitigate potential risks to our business, fully engaging our regions and individual sites. We continue to develop and review site Business Continuity Plans (BCPs) to assure customers that they have a reliable supply chain.

Our structure

Our Enterprise Risk Management Committee (ERMC) consists of Birla Carbon's leadership team and ERM functional heads. The ERMC sets the strategic direction for risk management; the Regional Risk Officers and site SMEs focus on management of site risks that align with the overall strategy. Regional risk officers and site-specific subject matter experts develop comprehensive frameworks and guidelines that align with Birla Carbon's overall strategy. We also engage with members from our engineering, finance, legal, IT, HR and other business areas, to identify and mitigate risks that span locations and functions.

We have a Risk Engineering Committee that meets quarterly, evaluates physical improvements for risk management and prepares capital requests where required. They also assist sites with non-capital recommendations related to inspections, testing and maintenance of critical assets, protective devices and safety systems. We also work closely with our corporate engineering function on various projects, such as those to strengthen safety testing of production equipment. Together, we have implemented an internal standard for the protection of turbine generators – a critical asset at many of our sites – and are now working to strengthen flame safety systems on combustion equipment. We will also complete capital improvements impacting risk management totaling over \$6 million in FY2023.

Employees are encouraged to report any risks they identify. This includes reporting any near-miss safety incidents, unethical activities or other risky behaviors. Any risks identified are captured and prioritized through a Risk Register based on potential financial impacts, probability of occurrence and volatility. Risk registers are managed by Regional Risk Officers, with information displayed in heat maps and dashboards for ease of access.

Risk mitigation and business continuity

A culture of business continuity is well established at Birla Carbon – we have the mindset needed to act quickly and effectively. Our detailed approach to risk mitigation differentiates Birla Carbon from our competitors. We engage the finest loss-protection engineers to help identify and minimize risks at our facilities. A network of worldwide brokers helps us identify emerging risks and provide insurance, while ensuring we are compliant in the countries where we operate.

Our business continuity plan is central to our ERM program, preparing us for issues and providing solutions, protecting our operations and helping prevent unforeseen events. Our objective is to prevent issues through proactive risk management to protect our people, our assets, the environment and customer supply. We work closely with our insurers to streamline the BCP process and facilitate the improvement of site resilience.

Individual site risks and controls are actively managed through Origami, our risk management information system. We also use this system to manage our risk registers, BCPs, reviews, schedules and ownership of risks and controls.

Each of Birla Carbon's locations has a comprehensive Emergency Response Plan and BCP, based on 12–15 specific risks to ensure it is prepared for interruptions due to natural disasters or disruptions. Our Business Continuity Management System (BCMS) is based on the ISO 22301 standard and reviewed and tested annually. A BCP is also a requirement for International Automotive Task Force (IATF) 16949 – all BCPs are structured to comply with this standard and are certified and audited annually. The BCMS guides recovery strategies for our most crucial processes and activities to ensure continuous supply of carbon black to our customers.

To help site leadership teams respond appropriately during crises, we developed our "In Case of Crisis" application. The app, designed to improve emergency response, provides access to important information such as local numbers, contacts and procedures on users' smartphones. During FY23, we also developed a comprehensive, corporate-level crisis response plan. This is currently awaiting final approval from senior management, following which it will be implemented for use.

Committing to online security

Birla Carbon is committed to constantly improving its security posture and is focused on a "Security First" culture. The ever-evolving threat landscape makes it essential for us to invest in the right people and technologies so we can safeguard our critical assets.

Our core initiatives involve strengthening the security of manufacturing systems, end user awareness, data leakage prevention and being brilliant at the basics.

In the domain of governance, Birla Carbon intends to implement industry-relevant defense standards, policies and procedures. We will also look to adopt standardized tools with multiple capabilities to reduce complexity, increase effectiveness and support a digital transformation. Nonetheless, we are proud that the technologies we currently have in place have helped our security team protect Birla Carbon against a range of targeted cyberattacks.



While the addition of technology stack may help prevent threats up to a certain extent, it is also essential to have the right balance of leveraging existing technology along with adequate awareness to employees. Emerging technologies have always, and will always, help organizations to reach their goal, but absence of governance may bring an element of surprise which may not be appreciated well."

URVISH ACHARYA,
Head of IT Governance & Risk,
Birla Carbon



Digital & IT Council

The Digital & IT (D&IT) Council ensures we leverage the latest innovative technology and provides governance and oversight to make sure our D&IT strategy and integration is aligned with business and sustainability goals. The D&IT Council, which feeds directly into the SMT, is made up of representative leaders from business functions.

Striving for world-class standards in information technology

We strive to provide world-class IT standards and infrastructure, offering consistent support across our entire business. This gives us confidence in the information on which we base our decisions and that we share with our customers.

Our IT organization focuses on driving technology optimization across our processes, from procurement and

manufacturing to logistics and customer invoicing. Three pillars were established – Enterprise Systems, Information Security and Infrastructure Services and Operations – to help us utilize technological innovation, seize opportunities quickly and implement business strategies successfully.

The IT team created a single enterprise resource planning system through which all processes and functions are now managed globally. This plays a key role in ensuring business continuity and provides a robust foundation upon which we can build.

We are also working to present quality, real-time information to manufacturing facilities so that they can develop effective interventions, enabling us to provide the information our customers require. While building robust infrastructure, we will implement adequate governance practices to ensure we remain agile, responsive and responsible in the industry.

Internal Audit Committees

Auditing is a key tool in the ongoing endeavor to maintain robust governance structures and processes. Our internal audit team conducts regular audits across the business, covering financial, compliance and operational reviews.

In FY2023, 13 audits were conducted, focusing on areas such as:

- Inbound and outbound logistics
- Procure to pay (raw material, spares and services)
- Inventory management (raw material, stores and spares)
- Plant maintenance
- Statutory compliances

All the audits were conducted in field at units such as Alexandria (Egypt), North Bend (USA), Yeosu (Korea), Cubatão (Brazil), Gummidipoondi and Renukoot (India). The outcomes of these audits were shared with the SMT. Periodically, the Risk Committee is updated on key audit findings and their action plan implementation status.

Carbon Stewardship Committee

Our Carbon Stewardship Committee (CSC) is responsible for developing and implementing strategies to minimize GHG emissions and promote carbon neutrality within Birla Carbon. The committee is tasked with establishing credible interim targets, decarbonization strategies and annual carbon roadmaps to assist with our net zero ambition.

Working closely with other departments, the CSC drives adoption and integration of our decarbonization strategy throughout the business. This, in turn, supports our customers in meeting their own sustainability goals and helps to reduce climate change risks.

To promote climate change mitigation, the CSC focuses on four actions:

- **Research:** Looking into data for the innovation of new carbon capture and conversion methods
- **Reduce:** Decreasing dependence on traditional processes in manufacturing
- **Replace:** Substituting with alternative energy and feedstock
- **Repurpose:** Determining carbon solutions for sustainability through circularity

The CSC is comprised of an SME from each business area and a CSC leader who guarantees the committee is making informed decisions. The committee will collaborate with external partners as well as our stakeholders to stay informed of global carbon-related regulations and the potential impact to the decarbonization strategy and overall business.



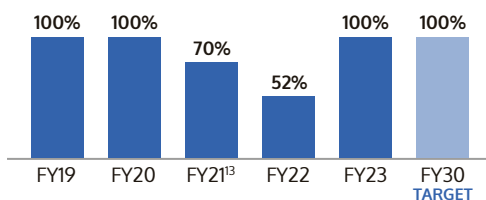
Ethics

Achieving our goals depends on operational integrity and how our people behave. We expect all our employees to align with our values: Integrity, Commitment, Passion, Seamlessness and Speed. It is fundamental that we uphold these values at all levels and that we adopt the fair business and labor practices our stakeholders expect.

Progress towards our target

TARGET:
100% of active employees to receive Code of Ethics training

STATUS: TARGET MET
We resumed in-person Code of Ethics training in FY2023 so that all employees can participate.



Conducting business with ethics

Our ethics approach includes aspects that influence our business activities: human rights, antitrust and anti-corruption, grievance measures and collective bargaining. We ensure that ethical conduct is embedded across our operations, and we expect all our employees, contracted workers and external partners to do the same.

To embed high ethical standards across our entire operation, we formally train every employee, who must then sign a document confirming their compliance with our Code of Global Business Ethics and Compliance Standards (Code of Ethics). The Code of Ethics covers our policies on fair competition, antitrust, freedom from discrimination and harassment or other abusive situations, and anti-money laundering.



¹³ FY2021 and FY2022 saw a drop in the percentage of our employees receiving Code of Ethics training due to the COVID-19 pandemic. We were unable to roll out the training to employees with no access to a computer.

Compliance

Our license to operate is predicated on our compliance with international laws, standards, codes of conduct and our own strict business principles. Compliance is also a basic customer and stakeholder expectation. As responsible stewards of the world around us, we not only comply with but also adopt best practices and internationally recognized standards that guide our work and allow us to take greater industry leadership.

Management systems

All our manufacturing plants are certified to the ISO 14001 environmental management standard. Six plants (38%) have received certification in the ISO 50001 standard. ISO 50001 requires organizations to establish systems and procedures necessary to improve their energy efficiency, use and consumption.

All our sites are certified to the IATF 16949 standard, which is an automotive quality management system certification which goes above the requirements of ISO 9001.

Our Environmental Audit Program not only reviews the compliance and implementation of our standards but also includes biennial safety and compliance audits. These audits, conducted by the HSE corporate staff and outside auditors, include inspections, employee interviews and detailed reviews of regulatory issues at each plant to ensure 100% compliance with national, regional and local regulations.

Any issue identified is prioritized and tracked monthly by our Corporate HSE

managers through Enablon, our integrated sustainability management tool. In FY2023, we completed onsite audits in Italy, Cubatão, Camaçari, Hamilton, Renukoot, Patalganga, Gummidipoondi and Egypt.

Investing in world-class facilities

To improve efficiency, we continually invest in and enhance our older plants while also developing a new generation of facilities to support future sustainable business growth. In FY2023, we invested over \$32 million in state-of-the-art technology to help us maximize the efficiency of our manufacturing processes and enhance our HSE performance.

These investments include:

- Making our sites safer for workers;
- Minimizing our environmental impact through better air emission control and more efficient water management;
- Improving our carbon and energy cycles; and
- Enhancing our plants' appearance for the wellbeing of employees and communities.

Ensuring high standards of data privacy globally

On May 25, 2018, the European Union enacted the General Data Protection Regulation (GDPR) to harmonize laws across Europe and reshape the way organizations approach data privacy. Since then, GDPR has become the global gold standard regarding data privacy.

Birla Carbon is committed to preserving the privacy rights of all individuals whose data we process, not just in Europe but globally. We have established a set of data processing policies and procedures that ensure compliance with GDPR's privacy protections.

Consistent with our compliance philosophy that the highest standard anywhere is the minimum requirement everywhere,

these policies and procedures establish a baseline for all processing activities involving personal data within Birla Carbon globally. We have also rolled out training to active employees in many countries. A specially curated data privacy course has been designed and launched in 13 different regional languages to increase effectiveness.

We keep up to date regarding new data privacy trends and the latest legislation, which we apply thoroughly. We also frequently check our own standards and policies and have a Data Protection Steering Committee that meets regularly to discuss ongoing requirements and ways ahead for businesses in this area.



Supplier management

With operations in 12 countries in five continents, we have a highly complex supply chain. Maintaining close ties with local, regional and global suppliers is crucial for managing risks throughout our network. Our suppliers' behavior reflects on our own reputation and on that of our customers. We work together with our suppliers to ensure they meet our high ethical standards and to drive improvements in our supply chain.

Our approach to ensuring a responsible and ethical supply chain

The most basic requirement of our supply chain is that it be reliable and ethical. We have established robust internal standards and principles to guide our employees, business partners and suppliers to meet our expectations. Our diverse business partners include vendors, service providers, consultants, contractors, distributors and agents. We share our Code of Ethics with all our suppliers and ensure they adhere to it through our Terms and Conditions. This includes a clause establishing the ethical principles with which we expect our business partners to comply.

[Code of Ethics](#)

Our Supply Chain and Procurement Policy guides our sites to ensure compliance with the relevant legislation and the Birla Carbon Code of Ethics. Standards we expect include promotion of resource conservation, use of renewable energy, water stewardship, employee safety, respect for human rights and elimination of child and forced labor across the supply chain. This is part of our wider sustainable procurement approach, which is deployed across all our buyers and supplier base, worldwide. Our internal Procurement Policies were updated in FY2020 to require due diligence screening of all suppliers and use of our Terms and Conditions of Purchase.

[Supply Chain and Procurement Policy](#)

Performing due diligence

We see procurement as being central to business, legal and regulatory risks and sustainability considerations. We began reviewing and analyzing our key distributors and agents through NAVEX Global's RiskRate® in FY2015 to identify any potential risks posed, reaching our entire supplier base in FY2019.

The process is now well established and runs automatically for all suppliers.

All 13,000+ Birla Carbon vendors and suppliers have been screened

using NAVEX Global's RiskRate® due diligence system, with over 94% receiving green ratings.

Ensuring continual improvement

RiskRate® is an automated and continuous screening program, which performs efficient and reliable due diligence checks on companies. The process identifies histories of working in areas with trade sanctions and government watch lists, instances of fraud, bribery or corrupt dealings, cases of government investigations or convictions, and adverse media attention.

By the end of FY2023, over 92% of our 13,000+ suppliers were highlighted by RiskRate® as being green. It marked about 7% as yellow suppliers, while less than 1% were flagged as red. We are now working with those marked as yellow and red (medium- to high-risk) suppliers to improve

their compliance measures, with our Legal Department running enhanced due diligence for red-flagged vendors. Based on due diligence carried out by our Legal team, the red-flagged vendor will be terminated or approved.

We have terminated 34 red-flagged vendors since September 2019 and cleared an additional 117 red-flagged vendors after conducting additional due diligence. Going forward, any vendor wanting to work with Birla Carbon must be flagged as green through the program or be approved by our Legal Department before they enter our system.

Ensuring a sustainable supply chain

As we have developed our sustainability integration and reporting, we have continued to explore further ways to encourage best practices throughout our supply chain. Birla Carbon’s procurement process is generally decentralized and is managed at the local and regional levels. This promotes local sourcing of materials and services to meet our business needs, but it can also present a challenge in terms of risk management.

Developing a robust global approach to procurement is key. That is why we elected to increasingly engage with key suppliers (based on spend, criticality as per our IATF 16949 certification, reputational risk and other considerations) and encourage them to improve on their own environmental and societal impacts. We have partnered with EcoVadis to facilitate sharing of sustainability best practices and to assess the sustainability profile of our key suppliers as part of our Sustainable Procurement program.

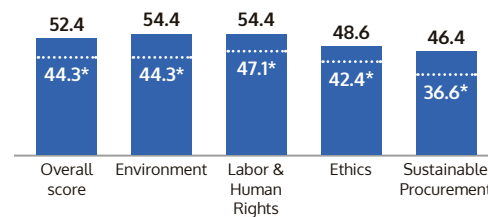
EcoVadis screening is a voluntary program for our suppliers, and many have already shared their scores, which are split into four categories (Environment, Labor & Human Rights, Ethics and Sustainable Procurement).

Our average supplier sustainability score is 52.4, significantly higher than the global average of 44.3 (from more than 100,000 companies worldwide). This suggests that, globally, our key suppliers are already performing above average in the four criteria.

For instance, over 65% of our critical suppliers report on energy consumption or greenhouse gases and have a policy on corruption; over 55% report on health and safety issues and are ISO 14001 certified.

However, fewer than half disclose their carbon footprints through the CDP platform or have a certified safety management program. We expect these figures to improve over the coming years through best practice sharing. By continuing to roll this process out to more of our suppliers, we will be able to better recognize, and better select, sustainable and ethical suppliers to work with.

Average EcoVadis scores of Birla Carbon’s suppliers in FY2023¹⁴



* Dotted line shows EcoVadis database average

¹⁴ Results based on the limited but statistically significant number of assessed suppliers.

Sustainable procurement progress

Since launching our Global Purchasing Symposium to adopt sustainable procurement practices throughout Birla Carbon, we have made progress in several areas. The event established three main elements: Terms and Conditions, NAVEX Global’s RiskRate® and EcoVadis.

We continue to drive sustainable procurement throughout our business through our well-established due diligence process, which includes screening for new vendors. Red-flagged vendors cannot be brought in as new vendors, and existing red-flagged vendors must be investigated and cleared by our Legal team for us to continue working with them.

New critical suppliers are invited to complete virtual training sessions where Birla Carbon Sustainability collaborates with EcoVadis and buyers to ensure a smooth launch of the EcoVadis campaign.

As pioneers in sustainable procurement practices at ABG, Birla Carbon has shared our learnings with other businesses throughout ABG’s Global Expert Conversation Series platform, as well as through working groups and one-on-one information sessions with Group companies.



To create a more responsible business, we are working to create a more responsible supply chain. With a procurement network as complex as ours, strategic partnerships and well-defined processes are how we are realizing this. By harnessing the capabilities of NAVEX Global’s RiskRate® system, we can monitor our suppliers, proactively identifying issues so that – together – we can achieve an increasingly ethical, transparent supply chain.”

DÉNES LENKE,
Director, Supply Chain & Procurement,
Birla Carbon Americas & EMEA



Response planning and preparedness

We strive to ensure our sites and suppliers have up-to-date inventories available at all times. Challenging and unexpected global circumstances can impact inventory approaches for both us and our suppliers. Our Business Continuity Plans and Crisis Management Response Guidelines provide solutions for sourcing raw materials and critical spare parts with minimal risk through our contract supplier agreements. We maintain an updated list of approved, assured and certified alternative suppliers for emergencies.

All our sites have current Business Continuity Plans. These are designed to assist in recovering the business should an adverse event occur at a site. In accordance with the IATF 16949 requirements, plans are reviewed at least annually. In FY2022, Birla Carbon partnered with one of our major property insurers to complete a resilience and exposure analysis. This exercise included in-depth reviews to identify potential vulnerabilities and quantify the potential impact of an event at individual sites. These findings are being used to improve our Business Continuity Planning process.

[Birla Carbon Business Continuity Planning Statement](#)



Product responsibility

Sustainability is at the core of our growth strategy. We design high-quality products while mitigating any potential effects on people and the environment. We recognize the responsibility we have to ensure our carbon black is safe for people and the planet.

Our approach to product responsibility is divided into two key areas:

Product stewardship is about ensuring our carbon black complies with applicable health and safety requirements and global regulations for end uses by customers.

[Product stewardship](#)

Product safety is how we help our customers handle and use carbon black effectively and safely. We also have specific safety and health programs to protect our employees.

[Product safety](#)

Changing how carbon black is perceived

We engage closely with health, safety and environment (HSE) officials across the world to ensure accurate, science-based information is utilized during regulatory processes.

We maintain these engagements through our work with the International Carbon Black Association (ICBA) – a scientific, industry-wide association designed to facilitate research into the impacts of carbon black. Several Birla Carbon professionals hold leadership positions on the ICBA Board of Directors and regional Product Safety and Regulatory Committees for North America, Europe and Asia.

The ICBA hosts regular meetings to address changing regulatory landscapes and sponsors an independent Scientific Advisory Group (SAG). The SAG conducts and participates in product and occupational health investigations, research and analysis.

The SAG also provides feedback and comments on other published material to clarify and/or correct perceptions of carbon black – for example confusion between black carbon (soot formed through the incomplete combustion of fossil fuels, biofuels or biomass) and our engineered carbon black.

We help our customers conduct research into the safety and efficiency of their own products. Through regular engagement with our customers and our sales, marketing, and Research and Development R&D teams, we keep our value chain up to date with the latest industry developments.

[Birla Carbon Safety Data Sheets](#)

[Carbon Black Product Safety Studies](#)

[International Carbon Black Association \(ICBA\) website](#)

One common perception of carbon black products is that they are nanoparticles. However, as placed on the market, they are agglomerates. This is because, while the diameters of the primary particle (near-spherical building blocks of carbon black) are generally in a range of 10–100 nanometers (the measurements of a nanoparticle), our final products are up to 1,000 nanometers (0.001mm) in diameter.



Product stewardship

Our approach

We continue to build a culture of product stewardship throughout our operations, creating an environment in which our people feel comfortable to seek advice and support. We encourage employees to stop, think and ask about what they are doing at all stages of product development and production changes.

Our Product Stewardship Standard (the Standard) requires enhanced testing intervals for all products and provides a robust description of which actions will prompt product re-testing at a manufacturing site. Each site is required to send samples of the carbon black it is producing to our world-class laboratory in Marietta, USA, where they are logged into the laboratory information management system, ensuring full traceability.

The Standard is enforced on site by our product stewards, who monitor progress and employee training through annual assessments. Our Management of Change Standard ensures we formally document any changes that could potentially impact our product. Our Standard includes testing requirements for certified products, and we set up a Product Review Committee to oversee these efforts; it meets at least quarterly to review the status of certified products based on commercial requirements.

Enhancing customer understanding

Customers and end consumers want to understand more about carbon black. Through our product stewardship statements, customers can find up-to-date and accurate information, including Safety Data Sheets and labels.

We respond to direct queries from our stakeholders. In FY2023, Birla Carbon received over 1,100 queries related to product safety and compliance with specific environmental or food contact regulations. In all cases, we sent an initial response within one business day. We continually educate our sales and distribution networks about carbon black's product safety and its regulated applications.



Product safety

Our approach to creating safe products

Our customers rely on us to develop safe carbon black for incorporation into their products. We remain well informed of any developments, enabling us to support our customers in meeting regulatory obligations while safeguarding an uninterrupted supply of carbon black.

We thoroughly test our carbon black so that it surpasses regulatory HSE requirements. This includes conducting and commissioning product safety studies with renowned third-party institutes through our industry association, the ICBA.

Our industry has invested in robust scientific studies to understand the potential HSE risks associated with our product. Carbon black does not pose any risk to humans, and there is no evidence to suggest that exposure to carbon black results in chronic adverse health effects.

We understand our responsibility to educate and guide customers on handling our carbon black safely and minimizing any potential environmental impacts. This includes having the correct infrastructure in place throughout the supply chain to prevent the release of carbon black dust into the air.



Leading on product safety through innovation and collaboration

Carbon black plays an important role in many food- and human-contact applications, so product safety is a vital part of the manufacturing process. Key to this is providing robust scientific evidence that finished articles containing carbon black do not release carcinogenic compounds related to polycyclic aromatic hydrocarbons (PAH). We therefore conduct both PAH and metals testing to ensure these materials are certified as being below prescribed limits.

There are many methods for testing of impurities in carbon black, but only one approach for testing for PAH with the sensitivity and selectivity is needed. Birla Carbon has led the way in advancing standards for PAH measurement.

Rafael Vargas is our expert in gas chromatography and mass spectrometry, the analytical techniques used in

quantifying trace levels of PAH in carbon black. He heads the ASTM Subcommittee D24.66, which deals with HSE aspects for Committee D24 on Carbon Black and holds the jurisdiction for developing HSE standards for carbon black.

Through this open committee, we have established a series of internationally recognized test methods specific to carbon black and validated using scientific processes. This is how we Share the Strength, using our experts and research capabilities to support the industry in evolving better test standards and safer products to benefit the society.

[Contributing to the Sustainable Development Goals](#)

Investing in health and safety

We ensure all our internal and external customers are fully informed about the safety of our products, focusing on product characteristics, approved uses, and health and environmental risks. Any information gaps are proactively identified through our testing program. All business areas contribute to the consistency and compliance of our carbon black from a product stewardship perspective, offering input as to what can be improved.

Birla Carbon has been an active member of the CB4REACH consortium since its inception over 10 years ago. The consortium addresses the regulatory issues of our product related to the REACH (Registration, Evaluation, Authorization and Restriction of Chemicals) regulations.

For instance, we are diligently preparing for the substance evaluation process due to be carried out by the French Agency for Food, Environmental and Occupational Health & Safety. This is part of the European Chemicals Agency's Community rolling action plan to determine whether any health or safety risks exist with carbon black. Other countries, including Korea, Taiwan, Turkey, the UK and India, have also introduced regulations similar to REACH. While this presents a challenge in terms of complying with several regulatory frameworks, we are stepping up to meet the deadlines for aligning with all new standards.

[Visit the CB4REACH website](#)

Maintaining health and safety – how we handle carbon black

Peer-reviewed research has shown that carbon black is neither a toxin nor a carcinogen, and there is no evidence of any long-term adverse health effects on our employees.

Although carbon black is not defined as a respiratory irritant, carbon black dust is considered a combustible dust that is dispersed easily in the air and therefore should be handled carefully. It may cause drying of the skin with repeated and prolonged contact but can easily be washed from the skin using mild soap and water, along with gentle scrubbing. If carbon black has been spilled or requires cleaning up, dry vacuuming is the preferred method. As the material is fully embedded in the polymeric matrices of rubber and plastic, consumers are not directly exposed to carbon black through products placed on the market.

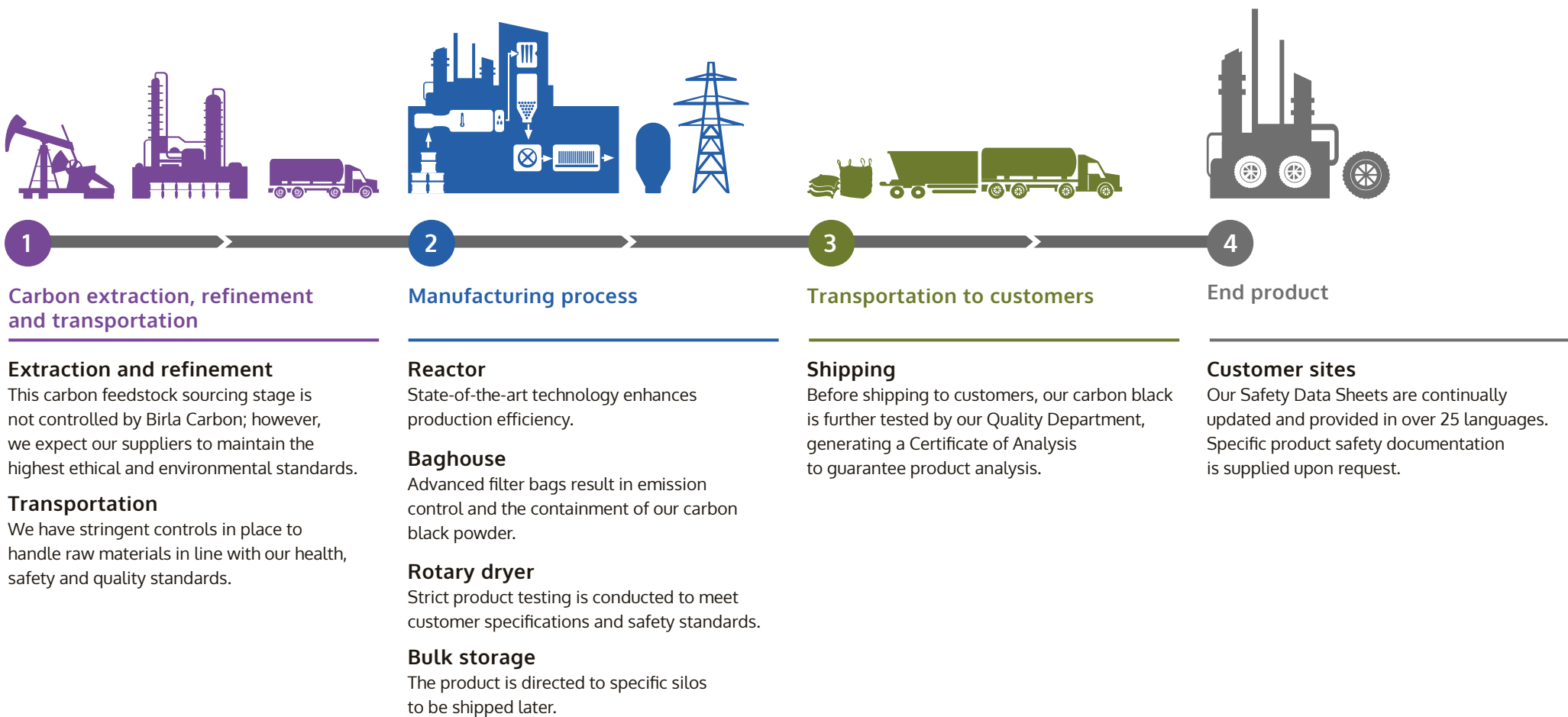
[Birla Carbon Safety Data Sheets](#)

[International Carbon Black Association \(ICBA\) website](#)



Product responsibility across the value chain

Across our value chain, preserving product quality is of the utmost importance. Our rigorous process of quality testing, emissions controls, storage and shipping serves to maintain our high standards. Our value chain is divided into four areas: carbon extraction, refinement and transportation; manufacturing process; transportation to customers; and end product.



Product quality

The quality of our carbon black has a direct impact on the performance and safety of our customers' own products. As a leading global carbon black business, we are in a strong position to supply innovative materials that are consistently of the very highest quality.

Our global quality management approach

All our manufacturing sites are ISO 9001 and IATF 16949 certified, providing a sound basis for our sustainable development initiative and helping us continually improve on our overall performance and customer focus.

Our Quality Management System (QMS) is integrated into every process within our manufacturing sites (operations, plant quality, maintenance and repair/instrumentation and warehouse/shipping) and is regularly reviewed and audited internally. As part of the QMS, each production facility has a Quality Assurance (QA) laboratory, which uses state-of-the-art equipment to test our products against stringent shipping specifications. These QA laboratories, along with the other functions, ensure that the material sent to our customers complies exactly with their specific requirements.

In May 2020, Birla Carbon became the first and only global-scale carbon black manufacturer that, in addition to ISO 9001, achieved IATF 16949 certification for all 16 manufacturing sites. This achievement demonstrates our commitment to the highest standards and product quality, confirming that we meet all the requirements of the global QMS standard.



Our integrated Quality Management Systems and laboratories ensure our materials meet our customers' quality parameters and other specific requirements. By implementing the newest and most important quality indicators and certificates throughout our value chain, as well as the appointment and training of Product Safety and Conformity Representatives, we are building on our foundation as a leading global carbon black business."

DR. SABYASACHI GANGULY,
 Director, Global Quality,
 Birla Carbon



Focus on product consistency

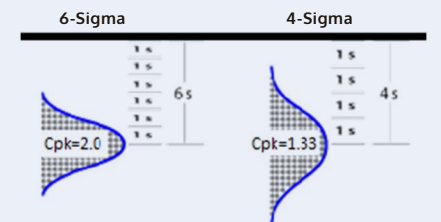
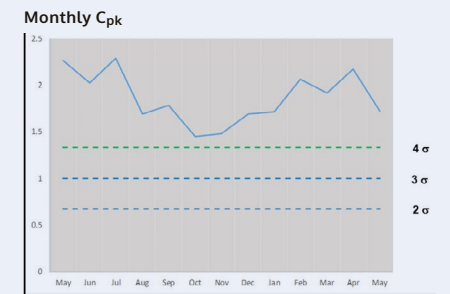
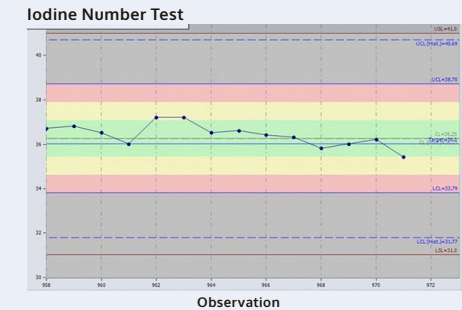
Birla Carbon customers expect a product that consistently meets the highest quality standards. For carbon black, these standards focus on three key areas:

- **Colloidal properties** – or those related to the carbon black's morphology (microscopic physical characteristics)
- **Physical form** – referring to the bead quality (size and hardness) of carbon black
- **Cleanliness** – the purity of our product

At Birla Carbon, we rigorously test our carbon black through internationally recognized test procedures and participate in the development of testing standards. All Birla Carbon laboratories undertake industry-wide proficiency testing to ensure daily performance checks against the reliability of measurements. The testing facilities are regularly monitored for compliance as well.

Based on customer requirements, we define upper specification limits and lower specification limits for each test. Our products only leave our factories when all the required parameters have been tested and the products are certified within the customer's limits.

Our manufacturing processes utilize statistical process control to help produce the highest-quality products. Important properties are analyzed using a process capability index (Cpk), a statistical measure of a process' reliability. A C_{pk} level of 1.33 or greater indicates that a process will meet customer requirements.



Sharing best practice on product convergence efforts

We report on quality-related KPIs that are communicated internally through regional and global quarterly reports: Net Promoter Score (NPS), complaints and process reliability. These KPIs will help us continue to improve our QA processes, information-sharing program for quality issues and for devising solutions.

The aim of this approach is to prevent re-occurrence of quality issues at the same or other, manufacturing facilities. It will also help improve communication and awareness of quality initiatives for the benefit of all manufacturing sites.

Auditing and benchmarking our plant laboratories

Our plant laboratories are regularly audited by our Quality Technology group and assessed twice a year through an international proficiency testing program – the Laboratory Proficiency Rating System (LPRS). This program, organized by ASTM International,

100% of our manufacturing sites

are now IATF 16949 certified

provides us with an opportunity to internally compare our laboratories with nearly 100 industry laboratories worldwide. If LPRS identifies any anomalies or deviations, we conduct internal investigations with support from our two world-class central laboratories located in Marietta, USA and Taloja, India. This commitment to upholding best practice ensures our laboratories meet the very highest global standards.

Birla Carbon actively participates in the ASTM Committee D24 on Carbon Black, which develops internationally recognized and accepted test standards applicable to carbon black. The ASTM standards play a key role for our products in areas such as composition, properties, classification, nomenclature, analysis and QA.

[Research and development](#)

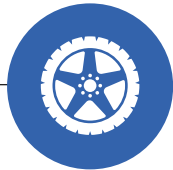
[ASTM website: Committee D24 on Carbon Black](#)

Our global quality management approach



Certificate of Analysis (CoA)

A CoA contains the required product quality information for our customers, along with contact details.



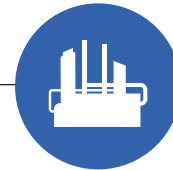
Guaranteed consistency

We work with our customers to establish rigorous consistency tests to guarantee that the characteristics of our carbon black lie well within the specification limits.



Customer tests

Our customers often conduct further stringent and thorough quality tests to confirm our product's performance.



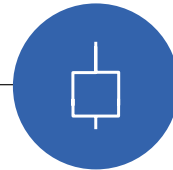
World-Class Manufacturing (WCM)

Our WCM approach helps us continually improve the quality of our product through adapting the best available practices and technologies across Birla Carbon.



Measurement systems analysis (MSA)

We conduct MSAs to closely examine the performance of our testing equipment.



Quality organization

Regular meetings are held between quality leadership, plant-specific Quality Managers and Technical Service Managers to discuss and implement best practices in the area of quality.

Appendix

IN THIS SECTION

88 Our key sustainability issues

91 Progress towards our targets



Our key sustainability issues

Our main sustainability issues are grouped into three overarching focus areas: Environmental, Social, and Innovation and Governance.

Boundaries

We have attributed each of our material issues to a relevant topic outlined in the Global Reporting Initiative (GRI) 2021 Standards. Where the topic has been identified as relevant within the organization, it applies across all entities of the Birla Carbon business. To tailor this list to our stakeholders, we have used Birla Carbon terminology to describe each of the aspects. Below, we have outlined the boundaries for each of our topics.

Environmental	Material to stakeholders		Relevance outside the organization
	Internal	External	
Our material aspects and sustainability issues			
Air emissions Non-greenhouse gas (GHG) emissions from our operations, including sulfur oxides (SO _x), nitrogen oxides (NO _x) and particulate matter	✓	✓	Air emissions can be produced during extraction and transportation of raw materials from our suppliers and during distribution to customers.
Energy The efficient use of energy resources, including consumption, recovery and generation	✓	✓	We strive to develop more efficient grades of carbon black to support customer sustainability objectives. Our Strategy to remain energy positive means we also provide low-carbon energy for local energy grids.
Greenhouse gases Direct and indirect GHG emissions – focusing on CO ₂ as other GHGs emitted by our operations are negligible	✓	✓	GHG emissions can be produced during extraction and transportation of raw materials and during distribution to customers.
Water Our water supply, water collection and wastewater management practices and governance systems	✓	✓	Water use and discharge has the potential to impact communities around our operations. This is particularly material in areas where water scarcity is a potential risk.
Waste The minimizing of solid waste generation, both hazardous and non-hazardous, and the optimization of our management processes, including recycling, reuse and reduction of waste to landfill	✓	✓	Waste from our operations has the potential to impact the communities and environment around our operations if not managed appropriately.
Circularity Actively expanding our research and development to improve the circularity of our products Applying a circular approach to our waste management system	✓	✓	Engagement and collaboration with our upstream and downstream value chain will be necessary to drive circularity in our industry.
Sustainable procurement Maintaining a supply chain that is ethical, resilient and viable in the context of risks and opportunities that may arise from external legal, technical, environmental and social megatrends	✓	✓	It is important to engage with each of our suppliers to ensure they uphold our environmental and ethical standards. This applies to both global and regional suppliers.









Social	Material to stakeholders		Relevance outside the organization
	Internal	External	
Our material aspects and sustainability issues			
Employee engagement How we build, nurture and manage relationships with our people through training and development, recognition and feedback mechanisms	✓	✗	Not applicable.
Health and safety The health and safety of our employees, from the moment they arrive at work each day to the moment they leave	✓	✓	The safety of all people visiting our sites is of high priority. This includes guests such as customers, contractors and third-party partners.
Diversity, equity and inclusion Further strengthen inclusion for everyone, and at the same time focus on gender and generational diversity	✓	✓	Through DEI, we aim to create an inclusive culture to add value to employees, stakeholders and communities.
Customer engagement How we build, nurture and manage relationships with customers, including aligning our sustainability agenda with theirs	✓	✓	We aim to align with our customers' sustainability initiatives and goals.
Community engagement Building, nurturing and managing relationships with the communities where we have a presence by understanding and responding to their expectations	✓	✓	Building and maintaining strong relationships with the communities around our sites is very important to our business and to local people. Our engagement covers local community and charitable organizations, residents, education systems and local governments.
Product stewardship Taking proactive care to ensure our products reach high standards, incorporating health, safety, environmental and regulatory considerations into our product development and maintenance	✓	✓	Product stewardship ensures we provide customers with products that are safer, more efficient and specific to their needs. This also has an impact on end consumers who look for greater value from products.
Human rights Maintaining full respect for economic, social and cultural rights, including no child labor, fair wages and decent working conditions	✓	✓	Human rights issues can occur along the supply chain, especially in countries identified as high risk.

Innovation	Material to stakeholders		
Our material aspects and sustainability issues	Internal	External	Relevance outside the organization
Innovation Developing our processes, technology and products to meet an evolving market and regulatory and societal demands	✓	✓	Innovating processes, technology and products to meet evolving market, regulatory and societal demands.
Product consistency Making efforts to guarantee that our product continues to meet high-quality standards while meeting market demands	✓	✓	Our customers require consistent quality from our products as this has an impact on their own operations and end products.
Global presence Our manufacturing and distribution footprint relative to customer locations, resources and suppliers	✓	✓	Manufacturing and distribution footprint relative to customer locations, resources, suppliers etc.

Governance	Material to stakeholders		
Our material aspects and sustainability issues	Internal	External	Relevance outside the organization
Business continuity Ensuring a constant supply of carbon black for our customers through our enterprise risk management approach	✓	✓	Business continuity is important to our customers as they require a secure supply of carbon black. Our suppliers and the communities around our sites also have a vested interest in our business.
Ethics Ensuring fair labor and business practices, including anti-corruption, antitrust and collective bargaining, and discouraging anti-competitive behavior	✓	✓	Ethical issues can occur along the supply chain and in the communities around our operations.





Progress towards our targets

To meet our Vision to be the most respected, sustainable and dynamic global carbon black business, we have set key performance indicators (KPIs) to track our progress towards FY2030.

Goal	FY22	FY23	FY30 target	Status
Business continuity/reputation Improve our leadership position in terms of carbon black production capacity	No.2	No.2	No. 1	 On track to meet target
Business continuity Approximately double our annual capital spending against FY2012 baseline to reach \$100M	\$81M	\$80.4M	\$100M	 On track to meet target
Ethics 100% of active employees to receive Code of Ethics training	52% ¹	100%	100%	 Target met
Emissions Reduce our direct CO ₂ emissions intensity by more than 22% against the 2005 baseline	95%	94%	78%	 Behind schedule
Energy Increase our absolute energy conversion efficiency to 80%	71.6%	72%	80%	 On track to meet target
Water Reduce our water withdrawal intensity (m ³ per tonne of carbon black) by 50% versus FY2013 baseline at our high- and medium-risk sites ² (water withdrawal intensity by year)	97%	106%	50%	 Behind schedule
Waste 75% waste repurposed, including recycling, reuse and recovery, by 2030	66%	72%	75%	 On track to meet target
Environment Record zero environmental releases year on year	12	11	0	 Behind schedule

¹ FY2022 saw a drop in the percentage of our employees receiving Code of Ethics training due to the COVID-19 pandemic. We were unable to roll out the training to employees with no access to a computer.

² KPI includes Hickok, Cubatão, Gummidipoondi, Alexandria, Weifang and Bahia.

Goal	FY22	FY23	FY30 target	Status
Safety Achieve zero recordable injuries year on year (employee and contractor Total Recordable Incident Rate (TRIR))	0.52	0.51	0.00	 Behind schedule
Employee engagement Remain above the chemical industry annual benchmark for employee engagement ⁴ (%)	86%	–	>78%	 Target met
Customer loyalty Remain above the Net Promoter Score threshold of 35 ⁵ (score by year)	62	62	>35	 Target met and retained
Community engagement 100% of our facilities participate in community engagement	100%	100%	100%	 Target met and retained

⁴ This KPI was amended in FY2020 to exclude the results of the Team Vibes survey. It has also been modified to show results for calendar year rather than financial year, in line with Vibes survey timings.

⁵ Net Promoter Scores range from -100 to +100.

Feedback

Feedback on our report is an essential component of our commitment to our strategy. Comments are reviewed by our Sustainability Steering Committee and will, in many cases, be incorporated into future reports.

Please send your feedback to:

Amy Hickman

Director of Sustainability
Birla Carbon

birlacarbon.sustainability@adityabirla.com

