

# Bending towards circularity

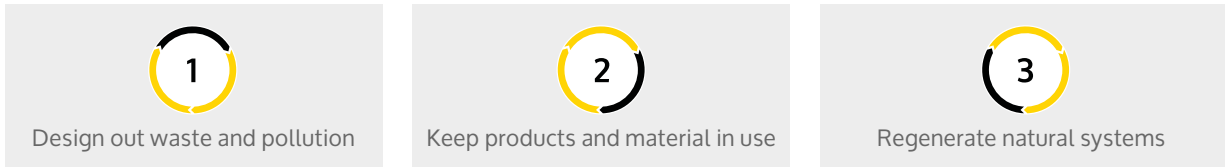
Birla Carbon Sustainability Report 2020



Inside: Birla Carbon's response to the COVID-19 Pandemic

## Our contribution

Circular thinking is as important to us as our customers. Although a completely closed loop may not be possible for carbon black, there are areas where we are moving in the direction of circularity. We have aligned with the **Ellen MacArthur Foundation** to assess the circularity of our business by utilizing their **Circulytics** tool. In 2020, we received our first ever score and feedback from the Circulytics Method to measure our circularity against their three guiding principles:



## Circularity in our carbon black life cycle



### Research and development

- We consider research and development at every step of our operations, investing in innovative processes to reduce material use and waste every day
- We are expanding our offering with partnerships, creating renewable nanocellulose with **GranBio** and multi-functional nanomaterials with **CHASM**
- We are working to identify uses for the carbonaceous material recovered from tires after their useful life

### Procurement



### Raw material >

Our process gives someone else's waste a second life



### Production



### Energy recovery >

75% of our plants are net energy positive



### Water harvesting and reuse >

100% of our sites used recycled process water and/or rainwater in their operations



### Waste reduction and repurposing >

We repurposed 60% of our material waste in FY2020

### Product use



### Social value creation >

Birla Carbon's carbon black is an enabler, bringing additional value and sustainability to countless products:



Strength



Increased durability



Thermal insulation



Electrical conductivity



Improved UV protection



Lower rolling resistance



### Product end-of-life

## FY2020 key highlights



Birla Carbon became the **first carbon black multinational to receive IATF certification** across all its manufacturing plants.

> [Product quality](#)



We were awarded a **Gold rating** by EcoVadis for the fourth consecutive year.

> [Global recognition](#)



**All of our 9,000+ suppliers** screened using **NAVEX Global's RiskRate®** due diligence system.

> [Supplier management](#)



**Following the COVID-19 outbreak, we leveraged our global geographical footprint** to ensure employees have access to personal protective equipment.

> [Health and safety](#)



Thanks to our existing IT Business Continuity Plan, **we were able to quickly transition to remote working** following the outbreak of COVID-19.

> [Governance](#)



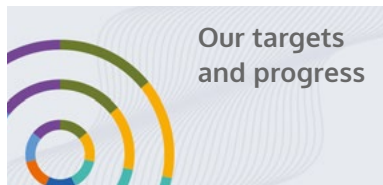
**87 ideas were submitted by employees to our first Hype Open Innovation campaign** to help develop our business and products.

> [Employee engagement](#)



Sustainable Operational Excellence (SOE) is our sustainability strategy. It is behind every decision we make, from product design to supporting our communities.

> [Our Approach](#)



To keep us on track to achieve our sustainability goals, we have developed a range of key performance indicators (KPIs). These KPIs allow us to see how we are progressing against our targets for FY2030.

> [Targets and progress](#)



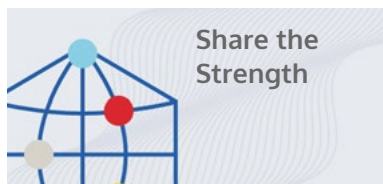
We first mapped the United Nations Sustainable Development Goals (SDGs) to our business strategy in FY2016. Today, they guide our efforts in three key areas: economy, society and environment.

> [Sustainable Development Goals](#)



Our CEO, Dr. Santrupt B. Misra, discusses Birla Carbon's progress, successes and plan for the future.

> [Leadership message](#)



With over a century's worth of expertise in carbon black, we work to share our knowledge with our customers, employees and communities to increase value for everyone. From this desire comes our Purpose, Share the Strength and the five Purpose Principles that guide our efforts.

> [Focusing on what matters](#)

## Our Approach

# Driven by our Purpose, Vision and Strategy

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## Our Purpose: Share the Strength

At Birla Carbon, we have been sharing our knowledge for over a century, forging new pathways and finding new solutions that help to bring dependability and resiliency to our employees, customers and communities.

> [Focusing on what matters](#)

## Our Vision: To be the most respected, sustainable and dynamic global carbon black business

We aim to be the partner of choice for customers and the best place to work for employees. We achieve this through our Sustainable Operational Excellence (SOE) strategy.

## Our Strategy: Sustainable Operational Excellence (SOE)

SOE is our sustainability strategy. It influences every decision we make, from designing and operating our plants to interacting with our customers, our employees and the communities in which we operate.

↓ [Birla Carbon Sustainability Policy](#)

## The three pillars of our SOE strategy



### People

We encourage a culture of responsibility that promotes the health, safety and wellbeing of our employees and the communities in which we operate.

> [Our People](#)



### Product

We are committed to producing a consistent supply of world-class carbon black for our customers while also working to reduce our environmental impact and ensuring our product generates real social value.

> [Our Product](#)



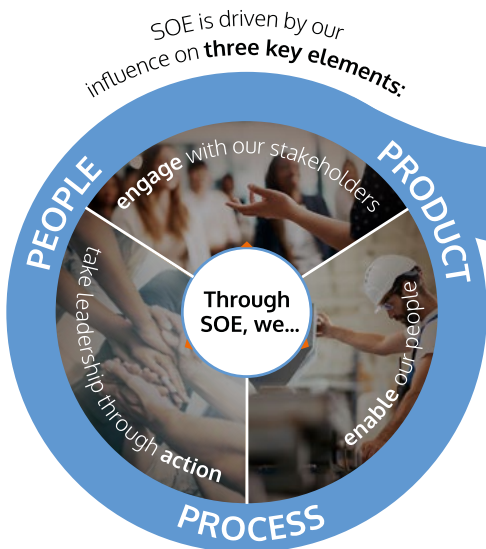
### Process

We strive to be a responsible steward of the environment by optimizing the conversion of carbon to carbon black, minimizing our carbon dioxide (CO<sub>2</sub>) emissions and maximizing the recovery of energy generated during our manufacturing process.

> [Environment](#)

## Our Sustainable Operational Excellence (SOE) strategy

Our vision is to be the most **respected**, **sustainable** and **dynamic** global carbon black business. By embedding sustainable thinking at every level, we meet the ever-changing needs of our stakeholders regardless of economic volatility, increasing environmental and societal concerns, and challenges such as stricter regulatory requirements and evolving customer requirements for better products and processes.



### How we are adapting for the future

To continue to achieve Sustainable Operational Excellence, Birla Carbon has aligned with the Aditya Birla Group's three-step agenda:

- We have become **responsible stewards**
- We have begun greater **stakeholder engagement**
- We are **future-proofing** our business over the long term

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## A word from our CEO

Our CEO, Dr. Sanrupt B. Misra, discusses Birla Carbon’s progress, successes and plan for the future.



**DR. SANRUPT B. MISRA**  
Chief Executive Officer, Birla Carbon



The year 2020 has seen the emergence of a new world demanding new learning and a new normal from us. All our existing beliefs and time-tested systems have been challenged under the COVID-19 crisis and the resultant context. We are truly “living in the moment,” constantly adapting, adjusting and not knowing what the next moment will be!”

The new normal seems to redefine our strengths and weaknesses, and success parameters are being redesigned, making survival itself a great success! For all global economies, profits have plummeted, supply chains disrupted, factories shut and employment has dwindled. Longevity of businesses and the sustainability of corporations have taken the center stage of strategic thinking. It is now about the capability of companies to handle new challenges and come out unscathed or with manageable bruises. Realism, resilience, pragmatism and positivism seem to be the new sources of energy to tap into.

The COVID-19 pandemic and resultant economic disruption has surprised the world with its simultaneity, severity and spread. Economists are thinking about potential economic recovery models in terms of all alphabets and geometrical symbols possible – V, W, U, square roots and many more. Some sectors are deeply adversely impacted and do not expect to see a recovery any time soon. In spite of facing many of the same challenges, Birla Carbon has remained steadfast in its commitment to its vision of being the most respected, sustainable and dynamic global carbon black manufacturer and supplier, keeping in mind all stakeholders and inspired by our Purpose, “Share the Strength.” I take this opportunity to share with you our focused efforts during the COVID-19 crisis and how we are using this adversity to come out stronger and with greater resolve.



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Our Product



Environment



Customers and suppliers



Our People



Communities



Governance and ethics

COVID-19 has reaffirmed Birla Carbon's global borderless approach to sharing our strengths and leveraging our synergies and resources to serve our customers. All of our plants and offices globally have worked seamlessly to contain the spread of this pandemic within the Birla Carbon family and keep our operations running as much as possible within the appropriate constraints. In doing so, employee safety and wellbeing, and that of their families and the communities in which we operate, has been the guiding principle, followed by our commitment to our customers. While the operations of our plants in some parts of the world were disrupted due to the lockdown or lack of demand, we dynamically adjusted and planned our inventory to ensure uninterrupted supply to our customers. When some of our facilities were running short of protective masks, we leveraged our global network to arrange more within the shortest time possible. These instances and others reinforced our confidence in our Business Continuity Plans (BCPs) designed in more normal times. I extend my sincere gratitude to all colleagues in Birla Carbon for their remarkable commitment and resilience in the face of this unprecedented crisis. I also thank our valued customers and partners for their understanding and support during this period.

As we coped with the crisis, it became even more evident to us that we need to reorganize ourselves to be more nimble and responsive to our customers and the ever-dynamic market conditions. Thus, in early July 2020, Birla Carbon underwent a global restructuring process. This transition is aimed at significantly increasing our focus on customers, markets and operational excellence while driving our culture of innovation. Consistent with our Purpose, these changes will build on our spirit of collaboration to drive global consistency and rapid adoption of best practices. We firmly believe that tough times may last for long durations, but smart and agile companies outlast the tough times, and right measures taken timely ensure that we stay relevant and purposeful.

As I noted earlier, the one thing that stands out during this crisis is that sustainability has to be at the heart of survival and success strategies for any enterprise. Commitment to sustainability provides the bulwark against multiples stresses and aftershocks that crises seem to bring. So, those who invested heavily into sustainability as a part of their culture and how they conduct business every day have managed to remain strong in these difficult times and have continued to perform. While many have defined sustainability as the minimal use of a resource, we at Birla Carbon have always defined sustainability more broadly to include all aspects that allow us to be a reliable supplier and a responsible corporate citizen with long-term thinking. Those who use sustainability as a corporate decorative veneer have seen quick cracks under pressure, whereas committed companies have benefited from its broader appeal and cultural integration. Birla Carbon, as an integral part of its parent, the Aditya Birla Group, has always drawn on the group philosophy of trusteeship and stewardship.

For Birla Carbon, sustainability has been an integral part of our journey for over a decade now through different business cycles. We adopted Sustainable Operational Excellence (SOE) as our guiding light for sustainability, focused on the three pillars of Product, Process and People. SOE is key to our sustainability strategy. It influences every decision we make, from designing and operating our plants to interacting with our customers, our employees and the communities in which we operate. Such a strategy continuously challenges us to look to the future to effectively align ourselves to global and societal megatrends and to reinforce our resilience as a global business, ensuring supply security for our customers in all parts of the world under any disruptive circumstances.

While SOE forms the backbone of all our sustainability efforts, we have also very strongly embedded a set of key performance indicators (KPIs) in all our critical business processes. Over the last few years, we have actively engaged with our suppliers and customers to enlarge the scope of our efforts beyond our natural boundaries and create an even larger impact. In doing so, we live our Purpose, "Share the Strength," in a more comprehensive sense.

Sustainability for us is far from being a static concept. Hence, it is imperative that we take the gradual next steps in our sustainability journey to explore new frontiers such as "circularity" at our product level. While a circular economy aims at eliminating waste with the continuous use of resources and is diametrically opposite of the "take, make and dispose" model of production, for us, circularity isn't a completely closed single loop. Circularity at Birla Carbon resembles a series of partial loops where we intend to communicate that there are inherent sustainable elements within our value chain. Reflecting this line of thinking, our sustainability report this year is titled **Bending Towards Circularity**. Within this theme lies the essence of our commitment towards modifying an otherwise linear value chain by introducing a more regenerative approach.

I invite you to read our 2020 Sustainability Report, to understand our progress, our hits and misses, and our goals for the near future, all tied in with our theme of circularity. I hope you will get better insights into our thinking and work and also benefit from our experience. I thank every one of you for being our partners and a constant source of support and inspiration, and I hope for a sustained relationship based on sharing of our strengths.

I wish all readers safety at work and at home!

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# Our response to COVID-19



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The global spread of COVID-19 that started at the beginning of 2020 has impacted everyone, from businesses to individuals. At Birla Carbon, we acted quickly to implement measures to protect our employees and communities, to ensure business continuity and an uninterrupted supply for our customers.

## Find out more about our response

- [A message from our CEO, Dr. Santrupt B. Misra.](#)
- [Caring for our people during COVID-19.](#)
- Our community efforts:
  - [Learn more about how we supported access to healthcare in India, Thailand, Egypt, Italy, Spain, the USA and Brazil.](#)
  - [Learn more about how we continued to provide quality education in Italy.](#)
  - [Learn more about how we supported sustainable livelihoods in India and Egypt.](#)
  - [Learn more about how we developed community infrastructure in China, Thailand and the USA.](#)
- [Ensuring a constant supply for our customers.](#)
- [Keeping employees safe and connected during the COVID-19 outbreak.](#)



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# Focusing on what matters

## Discovering who we are

In FY2018, we worked with an independent consultant on a robust process to uncover Birla Carbon’s core purpose. The process started with an in-depth review of our institution, including 27 stakeholder interviews, 539 surveys, more than 60 corporate and historic documents and engagement with external and internal subject matter experts. Based on our findings, we defined our Purpose and supporting Principles.

## Our Purpose: Share the Strength



### 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.

### Purpose Principles



#### Familiar Bonds

Like the products we make, our value is enhanced through the bonds we form with each other.



#### Micro Matters

We are a team of forward-thinking regional operators making an international impact. We push the industry beyond its limits to deliver limitless value.



#### Challenge Tested

We rise to the challenge and deliver a better way – a better way to keep our product moving and a better way to come together for customers and communities.



#### 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.



#### Beyond Durable

Carbon black has been a part of human life for centuries. Knowing that, Birla Carbon makes every decision through a lens that anticipates future needs.

## Assessing sustainability

Our sustainability strategy is fundamental to our Purpose. It is shaped by what matters to our stakeholders, along with the areas that have a material impact on our business. We continually review these issues and consider both their internal and their external impacts.

Our Sustainability Steering Committee (SSC) uses quantitative and qualitative analysis to determine the materiality of each issue. Quantitative analysis looks at data sources such as employee surveys and Health, Safety and Environmental (HSE) metrics, while qualitative analysis focuses on customer feedback and community input on the issues that matter most to these groups. The SSC reviews the materiality of each issue by considering the influence of stakeholder assessments and decisions on our business and the significance of our economic, environmental and social impacts.

To validate our assessment and ensure our reporting achieves the Global Reporting Initiative (GRI) principle of completeness, we regularly evaluate the scope and boundaries of our material issues and the timescale considered. The SSC attributes each material issue to a relevant material topic – be it internal or external to the organization – as per the GRI Standards. The results are approved by the Chief Legal, Sustainability and Risk Officer, Joe Gaynor, on behalf of Birla Carbon’s Senior Management Team.

> [Governance](#)

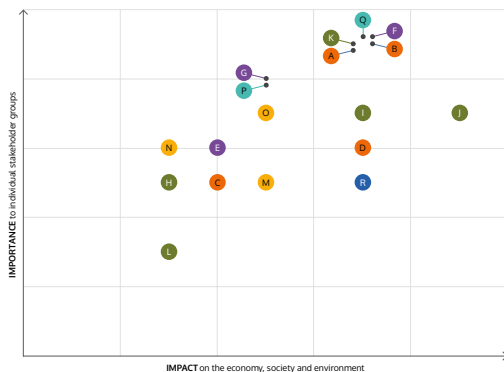
The issues listed below were reviewed in FY2020 and confirmed as the most relevant and significant for Birla Carbon and our key stakeholders. They are ranked according to the level of interest to stakeholders and business impact.



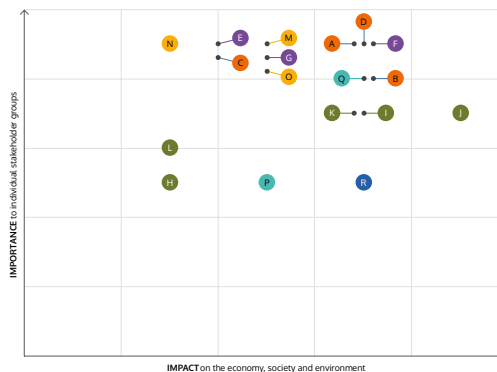
## Our materiality matrix

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

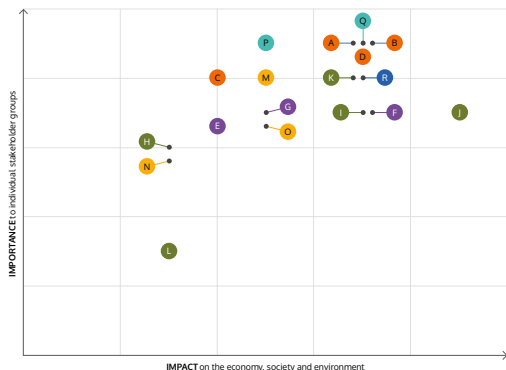
Overall average



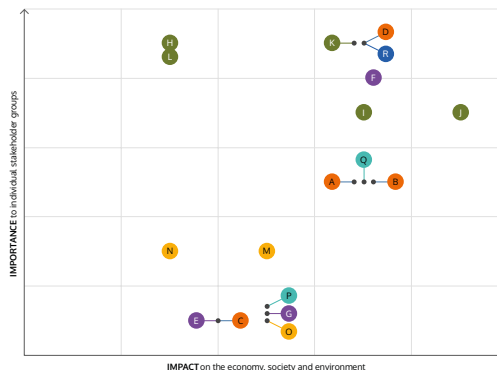
Customers and suppliers



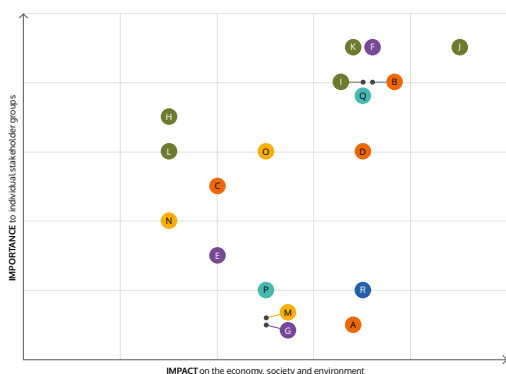
### ABG and employees



### Community



### NGOs and regulators



- A** Business continuity
- B** Ethics
- C** Governance framework
- D** Human rights
- E** Innovation
- F** Product stewardship
- G** Product consistency
- H** Air emissions
- I** Energy
- J** GHG
- K** Water
- L** Waste
- M** Customer engagement
- N** Global presence
- O** Sustainable procurement
- P** Employee engagement
- Q** Safety
- R** Community engagement

## Our key sustainability issues

For clarity we explain below our interpretation of each issue, grouped into six focus areas: Governance and Ethics, Our Product, Environment, Customers and Suppliers, Our People, and Communities.

### Governance and Ethics

- A Business continuity**  
The ability to meet customer supply requirements, despite negative or damaging events.
- B Ethics**  
Ensuring fair labor and business practices, including anti-corruption, anti-competitive behavior, antitrust and collective bargaining.
- C Governance framework**  
Our management structure, including policies, standards, compliance mechanisms and world-class manufacturing processes.
- D Human rights**  
Maintaining full respect for economic, social and cultural rights, including no child labor, fair wages and decent working conditions.

### Our Product

- E Innovation**  
Developing our processes, technology and products to meet an evolving market and regulatory and societal demands.
- F 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.
- G Product consistency**  
Our efforts to guarantee that our product continues to meet high quality standards while meeting market demands.

### Environment

- H Air emissions**  
Non-greenhouse gas (GHG) emissions from our operations, including sulfur oxides (SOx), nitrogen oxides (NOx) and particulate matter.
- I Energy**  
The efficient use of energy resources, including consumption, recovery and generation.
- J GHG**  
Direct and indirect GHG emissions, focusing on CO<sub>2</sub> as other GHGs emitted by our operations are negligible.
- K Water**  
Our water supply, water collection and wastewater management practices and governance systems.
- L 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.

### Customers and Suppliers

- M Customer engagement**  
How we build, nurture and manage relationships with customers, including aligning our sustainability agenda with theirs.
- N Global presence**  
Our manufacturing and distribution footprint, relevant to customer locations, resources and suppliers.
- O 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.

### Our People

- P Employee engagement**  
How we build, nurture and manage relationships with our people through training and development, recognition and feedback mechanisms.
- Q Safety**  
The health and safety of our employees, from the moment they arrive at work each day to the moment they leave.

### Communities

- R Customer engagement**  
Building, nurturing and managing relationships with the communities where we have a presence by understanding and responding to their expectations.

## Future issues and trends

A crucial aspect of our materiality process is monitoring and predicting the development of future issues and trends. Through horizon scanning, we aim to identify the wider impact that external factors could have on our business – and that our business could have on them. This process, which we describe as future-proofing, enables us to plan scenarios for the long term by developing our future materiality mapping.

- > Future-proofing

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# Sustainable Development Goals

Following the roll-out of the United Nations Sustainable Development Goals (SDGs) in 2015, we first mapped them to our business strategy in FY2016.

Below, we set out the SDGs as they apply to three key areas of focus for Birla Carbon: **Economy, Society and Environment.**



## Economy



### SDG 8 – Decent work and economic growth

Carbon black ensures greater resource efficiency, which in turn promotes economic growth. We promote decent work and economic growth in the areas where we operate through a range of initiatives designed to provide education and training opportunities to local people.

> [Hamilton, Canada](#)

### SDG 2 – Zero hunger

In its use in farming, including improved irrigation, carbon black helps agriculture to become more efficient.

> [UV resistance](#)

### SDG 9 – Industry, innovation and infrastructure

Our product supports the development of quality, reliable, sustainable and resilient infrastructure and the promotion of inclusive and sustainable industrialization.

We also play our part by increasing efficient resources use, enabling the adoption of clean and environmentally sound technologies, encouraging innovation and enhancing research.

Our aim is to support and facilitate sustainable and resilient infrastructure development in developing countries with carbon black and support the development of local technology, research and innovation.

> [What is carbon black?](#)

### SDG 10 – Reduced inequalities

Carbon black plays an important role in technology, giving people greater access to transport and communication. It also ensures products that contain it last longer.

We are committed to helping the communities where we work and leverage our abilities to develop programs to improve the lives and working prospects of our neighbors.

> [Alexandria, Egypt](#)

### SDG 11 – Sustainable cities and communities

Carbon black is crucial in the development of safe, affordable, accessible and sustainable transport systems, particularly in terms of its role in tire safety, durability and improved rolling resistance. Our product enhances sustainable urbanization.

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

### SDG 17 – Partnerships for the goals

We help achieve the goals by working closely with all our stakeholders, including our customers and communities.

> [Angthong, Thailand](#)

## Society



### SDG 3 – Good health and well-being

We provide health support through a variety of social initiatives, such as providing access to vaccines and doctors.

Our Commitment Based Safety approach encourages employees to make steps towards improving their own health and wellbeing, including safe driving into and out of plants.

We also seek to prevent illnesses indirectly by reducing air, water and waste pollution.

> [Reducing NOx emissions through investment and cooperation](#)

### SDG 1 – No poverty

Through our community activities, we provide support to members of the public to help them improve their own lives, including healthcare initiatives and education.

> [Marietta, USA](#)

### SDG 2 – Zero hunger

Our community engagement programs around the world include supporting small-scale agriculture by investing in infrastructure, financial support and training for farmers as well as providing food provisions to those most in need.

> [Yeosu, South Korea](#)

### SDG 4 – Quality education

As a member of the Aditya Birla Group, which is strongly committed to education, Birla Carbon provides learning support through community activities across all regions where we operate.

Our Code of Ethics training provides education for our employees on human rights and diversity.

> [Alexandria, Egypt](#)

### SDG 5 – Gender equality

We support gender equality by offering equal opportunities within Birla Carbon, without discrimination, and by empowering women in the communities where we operate through vocational training and support.

We recognize that we have room to grow in terms of more fully addressing diversity within our company.

> [Supporting diversity in the workplace](#)

### SDG 6 – Clean water and sanitation

Water, sanitation and hygiene (WASH) is a priority for us; we signed the WASH Pledge in 2015 and have been growing in our commitment year on year. We successfully fulfilled our WASH pledge in FY2018. Birla Carbon had a WASH rating of 1.94 out of 2 in 2019, compared to 1.77 in 2015 when we signed the pledge.

A total of 143 awareness campaigns and training sessions have been delivered at Birla Carbon plants and 53 action plans created. So far, 46 of these action plans have been completed.

We also work with local communities to improve access to clean, safe water for residents.

> [Renukoot, India](#)

### SDG 8 – Decent work and economic growth

We offer employment and career development opportunities across all regions.

We believe that the educational component of our community engagement work both reduces youth unemployment and leads to productive job creation.

The health and safety of our people is a priority that underpins our work. We must ensure that our people leave work each day as healthy as when they arrive.

Elsewhere, development opportunities are relatively limited geographically and in terms of seniority.

> [Offering employees global training opportunities](#)

### SDG 10 – Reduced inequalities

Following in the path of the Aditya Birla Group, we seek to reduce inequalities by offering opportunities to the poorest and most vulnerable, empowering people, promoting inclusion and adopting equality policies, notably for women.

We are looking to open our apprenticeships to more people around the world.

With operations on all five continents, we are well situated to cultivate a more diverse workforce.

> [Gummidipoondi, India](#)

### SDG 16 – Peace, justice and strong institutions

Through our internal governance mechanisms, we prevent corruption and bribery from taking place in our business and reinforce our own institutional accountability and transparency.

We are constantly making our supply chain more robust and transparent.

> [Human rights](#)

### SDG 17 – Partnerships for the goals

We help achieve the goals by working closely with our stakeholders, including community groups, universities, nongovernmental organizations and the Aditya Birla Group.

> [Santander, Spain](#)

## Environment



### SDG 12 – Responsible consumption and production

We support responsible consumption and production by ensuring that our feedstock comes from suppliers close to our facilities, who we screen for risk management.

We strive to reduce our carbon footprint, an effort which includes being more efficient about the energy we consume; we have been net energy positive since at least FY2016. We aim to avoid emissions and leaks as much as possible and annually report on our sustainability efforts.

Our feedstock is a limited and non-renewable resource, which, in the long term, may have an impact on our consumption.

We continue to develop more responsible procurement practices.

> [Developing a sustainable supply chain](#)

### SDG 6 – Clean water and sanitation

We monitor our water use and recycle and reuse as much as possible. We have implemented a more detailed water risk assessment approach, designed to produce site-specific performance appraisals.

While we are constantly developing our understanding of our impacts to devise the most effective mitigation plans possible, we have made steps to reduce our impact on water sources, with water risk management plans in place at many of our sites.

> [Maximizing resource reuse through creative solutions](#)

### SDG 7 – Affordable and clean energy

We continually seek opportunities to use more affordable and cleaner energy. Our facilities that contain cogeneration units convert tail gas into energy that is then either used in our plants or sold to the grid. Globally, we are energy positive.

Our feedstock is the byproduct of fossil fuel use, and utilizing this byproduct reduces the impact of these fossil fuels.

> [Saving natural resources at Birla Carbon Thailand](#)

### SDG 13 – Climate action

We focus on carbon stewardship, being net energy positive and reducing our greenhouse gas emissions.

Our operations continue to generate emissions, which we are always working to reduce.

> [Taking steps to reduce our CO<sub>2</sub> footprint at Patalganga](#)

### SDG 17 – Partnerships for the goals

We help achieve the SDGs by working closely with our stakeholders, including our suppliers, regulators and governments. We also collaborate to develop innovative sustainability solutions with external parties.

> [Assessing our water vulnerability](#)



Less applicable



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Environment



Customers and suppliers



Our People



Communities



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## Stakeholder engagement

We are stronger when we work together, sharing our knowledge and innovating new solutions by bringing together old and new ideas. We engage and collaborate with a variety of stakeholders across cultures and around the globe, building on the knowledge of others to progress our operations.

As we have reached a level of maturity in our responsible stewardship, we are engaging with key stakeholders to align our sustainability strategy and approach more closely with theirs. We have built strong relationships and improved our understanding of the externalities and trends that could affect us in the future by engaging with our stakeholders, conducting Life Cycle Assessments of our products and sharing information with peers.

We seek to better understand the material issues that affect our stakeholders, which is why we are constantly working to improve our engagement processes. Our engagements with interested parties allow us to benefit them by creating and sharing value.

### Our stakeholder groups include:

- Customers
- Employees
- Suppliers
- [Aditya Birla Group](#)
- Communities
- Nongovernmental organizations (NGOs), civil society and academics
- Regulators and government
- Competitors
- [International Carbon Black Association \(ICBA\)](#)
- Banks and lenders

We have identified several sub-groups of stakeholders that have the greatest impact on our business. Our engagement with these groups is important for our success, and we are shaping our strategy based on what is material to them.



## Customers

### How we engage

Our objective is to develop long-term relationships with customers and become the carbon black provider of choice based on excellent service and a high-quality product. One way in which we achieve this is by engaging with customers about key sustainability issues and aligning our sustainability agenda with theirs.

Our Global Engagement Managers engage with customers regularly through our Key Account Management program.

### Examples in FY2020

We perform satisfaction surveys using the Net Promoter Score® methodology, through which we [compare our performance with our peers](#).

We hold periodic customer dialogue events, through which we align our sustainability strategy with our partners. We also survey our customer-facing employees to determine which sustainability issues are most salient for them.

Our technical services, sales and product development teams participate in a range of technical conferences as an opportunity to interact with our customers, such as the Tire Technology Expo, Feiplastic International Plastics Trade Fair, Plastivision India, the AMI Thermoplastic Concentrates Conference, Brazilian Association of Rubber Technology events, K 2019 Trade Show, the International Elastomer Conference, Carbon Black World, IRC 2019 and the twenty-fourth Southern Africa National Rubber Conference.

## Employees

### How we engage

Our employees provide us with feedback through biennial surveys. We encourage continuous dialogue between managers and employees, and we also provide a hotline through which our people can anonymously report grievances and concerns.

### Examples in FY2020

To encourage sharing of best practice and to stimulate progress on our sustainability key performance indicators (KPIs), in FY2019 we began issuing an internal KPI report quarterly. The results of this report are presented and discussed at regular internal meetings.

We conducted an eAcademy session titled "Understanding Sustainability and the Online Content Available at Birla Carbon" for our employees globally, as well as increasing sustainability training for customer-facing employees and teams in our plants. We also launched our "Share the Idea" innovation campaign globally, inviting employees to put ideas forward for innovation in all aspects of our business.

## 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; we work with them to ensure they uphold our high ethical standards.

### Examples in FY2020

Our [Code of Ethics](#) includes contractual terms and conditions that we expect every supplier to sign up to.

We review our global feedstock suppliers and encourage our suppliers to audit our own operations. In FY2020, we continued the roll-out of our supplier compliance and sustainability screening and assessment systems through [NAVEX Global's RiskRate®](#) and [EcoVadis](#). We also ensure our suppliers adhere to our Code of Ethics through our revised supplier Terms and Conditions, which they must read and sign.

## 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 in FY2020

We have aligned our sustainability strategy with the Group's three-step agenda.

We participate in a weekly sustainability webinar across the Group, during which a business unit presents their progress and initiatives. We regularly communicate our progress through this channel.

We also participate in the annual ABG Sustainability Conference.

## Communities

### How we engage

Our approach to building community relationships is led locally to ensure the best understanding of social and cultural priorities. We focus on delivering long-term socioeconomic benefits through our engagement with communities; namely health, education, social support and charitable giving.

### Examples in FY2020

See our [Communities](#) section, where we describe our community engagement in greater detail.

## NGOs, civil society, academics

### How we engage

We continue to interact with NGOs and wider social institutions that are particularly relevant for our business.

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

### Examples in FY2020

Through the Aditya Birla Group, we have engaged with [Forum for the Future](#), with current work focused on defining how we [future-proof](#) our business.

We participate in the Sustainability Leadership Forum, a group representing business leaders from a range of industries who share knowledge on common salient sustainability issues.

As part of the wider dialogue on how companies can help achieve global sustainability targets, we have aligned our SOE strategy to the United Nations [SDGs](#).

Many of our facilities are involved in local chemical industry associations. For example, in Brazil we participate in several Brazilian Chemical Industry Association (ABIQUIM) committees covering topics such as health and safety, sustainability, emergency response and the environment.

Our Corporate Risk Manager participates in the Atlanta Chapter of [RIMS, the risk management society](#) in the USA, and its annual conference, which provides education and engagement opportunities for risk professionals.

Our Corporate Health and Safety Managers participate in the American Society of Safety Professionals, the largest professional safety society in the world. Our Global Director of HSE presented at the eighth Verdantix Summit, an HSE conference covering many innovative technologies in the field.

As of FY2020, we are engaged with both the World Business Council for Sustainable Development (WBCSD) and the Ellen MacArthur Foundation on measuring the circularity of our production processes. We are also collaborating with WBCSD to pilot its [Circular Transition Indicators tool](#) to identify our baseline circularity and areas for improvement. We have applied the Ellen MacArthur Foundation's [Circulytics](#) tool to our business to measure the circularity of our entire company, not just products and material flows.



## Meeting our neighbors' needs

Wherever Birla Carbon operates, we aim to engage with the local community to understand what is of concern to them. In Hamilton, Canada, environmental concerns were one such issue. Addressing this, we took the lead in 1998 and we have held onto it for more than 20 years, sharing the strength by partnering with other industries and community groups to become founding members of the Hamilton Industrial Environmental Association (HIEA).

HIEA is a group of companies working closely with neighbors, community initiative groups and not-for-profit environmental sector organizations, as well as with representatives from the City authority and the Ministry of the Environment, Conservation and Parks. HIEA includes 12 member companies and addresses critical issues facing Hamilton, such as climate change and its effects, sustainability and new growth. Over 20 years after being established, this association is still in existence and is fulfilling its role in protecting the environment, a true testament to our long-standing commitment to sustainability.

For Birla Carbon and all HIEA members, community engagement is very important. HIEA has established a Community Advisory Panel, comprising representatives from local neighborhood associations, community advocacy groups and other caring citizens. Together, the Panel and HIEA exchange information, discuss environmental issues and further develop the association by expanding the dialogue between industry and the community.

> [Sustainable Development Goals](#)



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## Future-proofing

The third stage of our SOE journey demands that we look to the future to effectively adapt to global and social megatrends and build 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.

In FY2017, we engaged *Forum for the Future*, a specialized NGO, to help us identify the external factors that could impact our business in the years to come. While we have successfully responded to many issues over the last 170 years, we believe it is time to provide more structure to our thinking in this area. In FY2020, we continue to apply Forum for the Future's findings where relevant.

We continue to invest in people and technology, making strong progress on our KPIs, which in turn enables sustainable operations in the short to medium term.

## The megatrends that could affect Birla Carbon

Although our analysis of key global megatrends is still in its preliminary stages, we present here several external factors that may impact the global carbon black industry between now and 2030.

### Climate change

The atmospheric threshold of 400 parts per million of carbon dioxide was permanently crossed in 2016. Through the Paris Agreement, developed nations committed to achieving zero net emissions by 2035 and developing nations to reaching zero net emissions by 2050. This will require a massive shift in the global energy system, affecting transportation, electricity generation and heating. Governments are increasingly considering radical policy changes. The conventional expectation is that regulation in this area will become progressively stricter.

Any change to transportation regulations will have a marked impact on our business. For example, climate change policy could profoundly shift transport away from cars by 2030. Potential carbon taxes could affect oil prices, which in turn would affect the availability of our feedstock. On the other hand, as a material impact there could be more demand for carbon black, as tire components that improve efficiency are prioritized.

## Resource scarcity

### Oil and gas

There is an expectation of increased oil price volatility in the next decade as conventional oil fields decline and supply becomes limited. While there is certainly strong growth potential in US shale oil, it currently represents 10% of global supply (in June 2019, global production was approximately 82 million barrels per day, US production around 8.5 million barrels per day). Increasing this proportion of supply to match the projected decline in conventional oil over the period is not thought to be possible.

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

### Energy

A huge shift is underway from fossil fuels to renewables all across the world. This change is partially policy-driven, but increasingly now due to the economics of solar power, which is undergoing exponential growth. This transition may impact oil demand, supply and pricing and affect electricity generation or transport. The rate of the transition is uncertain.

Any change from traditional energy and transport systems represents both challenges and opportunities for Birla Carbon in terms of resilience and adaptation.

### Circular economy

Carbon black is a highly engineered material, which prevents it from being fully circular, given the difficulties related to separating it from other materials in tires and other end-market products. However, by focusing on areas where we can bend our processes, creating partial loops towards circularity, Birla Carbon seeks to lead the industry in curving the linear model of production. To guide our efforts, we are focusing on building the Ellen MacArthur Foundation's circular economy principles into our strategy:

- Design out waste and pollution
- Keep products and materials in use
- Regenerate natural systems

We already have in place several measures to reduce our environmental impact, including reducing and recovering operational energy as well as minimizing water use, reusing what we can and preventing waste production. We are also partnering with industry peers, including materials experts CHASM and GranBio, to develop renewable solutions for our customers, keeping more of our product in use.

We want to be able to accurately report on our circularity efforts. That is why we are working with organizations to pilot measurement tools, such as the Ellen MacArthur Foundation's Circulytics tool. Through using Circulytics, we will be able to measure the circularity of our entire company, not just the materials we produce.

### Water

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

## Demographic shifts

### Growing middle class

The popular definition of a growing middle class implies more consumption in emerging economies. However, it is important to note that this consumption may involve a significant divergence from the current Western model; premature deindustrialization is already visible in some African and Asian countries. These changes may be boosted further by automation and reshoring, leading to a different, less affluent model of “middle class” that is much more frugal and prioritizes access over possession – for example, access to a car on demand, rather than ownership.

For Birla Carbon, the fact that a rising middle class may not mean a rise in consumption is a challenge. Innovation could favor the design of low-tech and durable consumer goods, reducing the need for carbon black.

### Millennial consumption patterns

A new model of living that prioritizes access over ownership is emerging. This lifestyle is driven strongly by the millennial generation, who are at ease with technology, have more sustainability-centered values and are to some extent unable to access the prosperity of previous generations. A key indicator of this is in 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.

## Disruptive innovation

### Future of mobility

The wider future of mobility is a key challenge. Three transformative revolutions have kicked off: sharing, electrification and automation. Electric cars may have potentially positive implications for our industry as they wear through tires more quickly and use carbon black in their 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 presumably leading to fewer cars and thus to a decrease in carbon black demand.

### Smart cities and urban mobility

Technology is increasingly being designed to lower carbon emissions while improving infrastructure services, public health and wellbeing outcomes. There is a growing demand for walkable and bikeable cities, with visible efforts worldwide to reduce congestion through reduced car use. By 2030, fleets of on-demand, shareable electric driverless 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.

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# Targets and progress

To meet our vision, we have set KPIs against which we are tracking our progress towards FY2030.

In FY2020, we revised our employee engagement KPI to adjust to changes in the delivery of employee engagement surveys.

In FY2020, we continued to work to meet the targets we set in relation to these updated KPIs.

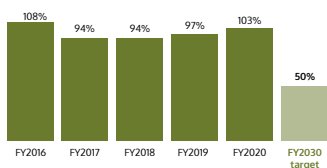
## Our targets and progress

Target	Progress against target	Status														
<p><b>Business continuity/reputation</b></p> <p>🎯 Maintain our leadership position in terms of carbon black production capacity</p>	<table border="1"> <tr><th>Year</th><th>Rank</th></tr> <tr><td>FY2016</td><td>No. 2</td></tr> <tr><td>FY2017</td><td>No. 2</td></tr> <tr><td>FY2018</td><td>No. 2</td></tr> <tr><td>FY2019</td><td>No. 2</td></tr> <tr><td>FY2020</td><td>No. 2</td></tr> <tr><td>FY2030 target</td><td>No. 1</td></tr> </table>	Year	Rank	FY2016	No. 2	FY2017	No. 2	FY2018	No. 2	FY2019	No. 2	FY2020	No. 2	FY2030 target	No. 1	<p>➔ On track to meet target</p>
Year	Rank															
FY2016	No. 2															
FY2017	No. 2															
FY2018	No. 2															
FY2019	No. 2															
FY2020	No. 2															
FY2030 target	No. 1															
<p><b>Business continuity</b></p> <p>🎯 Approximately double our annual capital spending against FY2012 baseline to reach \$100M</p>	<table border="1"> <tr><th>Year</th><th>Capital Spending (M)</th></tr> <tr><td>FY2016</td><td>\$69.4M</td></tr> <tr><td>FY2017</td><td>\$54.9M</td></tr> <tr><td>FY2018</td><td>\$137.1M</td></tr> <tr><td>FY2019</td><td>\$81.9M</td></tr> <tr><td>FY2020</td><td>\$92.8M</td></tr> <tr><td>FY2030 target</td><td>&gt;\$100M</td></tr> </table>	Year	Capital Spending (M)	FY2016	\$69.4M	FY2017	\$54.9M	FY2018	\$137.1M	FY2019	\$81.9M	FY2020	\$92.8M	FY2030 target	>\$100M	<p>➔ On track to meet target</p>
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FY2020	\$92.8M															
FY2030 target	>\$100M															
<p><b>Ethics</b></p> <p>🎯 100% of employees to receive Code of Ethics training</p>	<table border="1"> <tr><th>Year</th><th>Percentage</th></tr> <tr><td>FY2016</td><td>100%</td></tr> <tr><td>FY2017</td><td>100%</td></tr> <tr><td>FY2018</td><td>100%</td></tr> <tr><td>FY2019</td><td>100%</td></tr> <tr><td>FY2020</td><td>100%</td></tr> <tr><td>FY2030 target</td><td>100%</td></tr> </table>	Year	Percentage	FY2016	100%	FY2017	100%	FY2018	100%	FY2019	100%	FY2020	100%	FY2030 target	100%	<p>✓ Target met and retained</p>
Year	Percentage															
FY2016	100%															
FY2017	100%															
FY2018	100%															
FY2019	100%															
FY2020	100%															
FY2030 target	100%															
<p><b>Direct CO<sub>2</sub> emissions</b></p> <p>🎯 Reduce our direct CO<sub>2</sub> emission intensity (t<sub>CO<sub>2</sub></sub>/t<sub>carbon black</sub>) by over 22% against 2005 baseline</p>	<table border="1"> <tr><th>Year</th><th>Intensity (%)</th></tr> <tr><td>FY2016</td><td>90.2%</td></tr> <tr><td>FY2017</td><td>90.1%</td></tr> <tr><td>FY2018</td><td>92.9%</td></tr> <tr><td>FY2019</td><td>90.8%</td></tr> <tr><td>FY2020</td><td>92.4%</td></tr> <tr><td>FY2030 target</td><td>&lt;78%</td></tr> </table> <p><small>* FY2020 results were impacted significantly by the COVID-19 pandemic.</small></p>	Year	Intensity (%)	FY2016	90.2%	FY2017	90.1%	FY2018	92.9%	FY2019	90.8%	FY2020	92.4%	FY2030 target	<78%	<p>⬇ Behind schedule</p>
Year	Intensity (%)															
FY2016	90.2%															
FY2017	90.1%															
FY2018	92.9%															
FY2019	90.8%															
FY2020	92.4%															
FY2030 target	<78%															
<p><b>Energy</b></p> <p>🎯 Increase our absolute energy conversion efficiency to 80%</p>	<table border="1"> <tr><th>Year</th><th>Efficiency (%)</th></tr> <tr><td>FY2016</td><td>71.0%</td></tr> <tr><td>FY2017</td><td>72.6%</td></tr> <tr><td>FY2018</td><td>72.4%</td></tr> <tr><td>FY2019</td><td>71.9%</td></tr> <tr><td>FY2020</td><td>72.8%</td></tr> <tr><td>FY2030 target</td><td>80%</td></tr> </table> <p><small>* FY2020 results were impacted significantly by the COVID-19 pandemic.</small></p>	Year	Efficiency (%)	FY2016	71.0%	FY2017	72.6%	FY2018	72.4%	FY2019	71.9%	FY2020	72.8%	FY2030 target	80%	<p>➔ On track to meet target</p>
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FY2020	72.8%															
FY2030 target	80%															



### Water

Reduce our water withdrawal intensity ( $m^3/t_{\text{carbon black}}$ ) by 50% against FY2013 baseline for our sites at high risk<sup>1</sup> for availability or accessibility of water or those reliant on groundwater

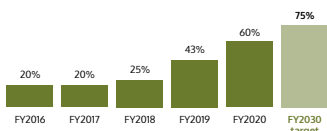


Behind schedule

<sup>1</sup> KPI includes Hickok, Cubatão, Gummidipoondi, Alexandria, Weifang and Bahia.

### Waste

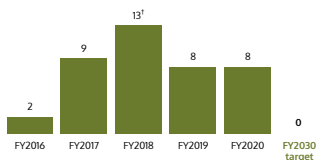
Repurpose 75% of waste



On track to meet target

### Environment

Record zero environmental releases year on year

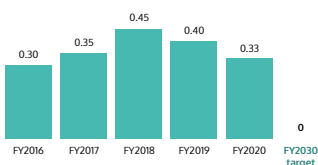


On track to meet target

<sup>1</sup> In FY2018, we had two releases of carbon black/feedstock exceeding regulatory reporting limits to soil and one to air. The remaining releases were reported on a voluntary basis to regulatory authorities.

### Safety

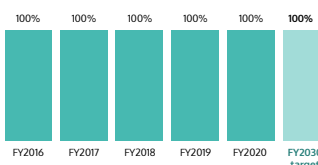
Zero recordable injuries (report on Total Recordable Incident Rate progress – TRIR)



On track to meet target

### Talent development

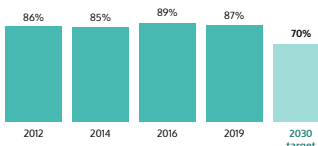
100% of Birla Carbon managers to have stated and measured goals set annually



Target met and retained

### Employee engagement

Remain above the chemical industry benchmark for employee engagement<sup>1</sup>

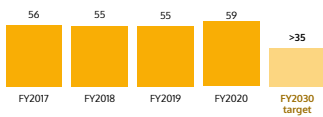


Target met and retained

<sup>1</sup> 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.

### Customer loyalty

Remain above the Net Promoter Score threshold of 35\*

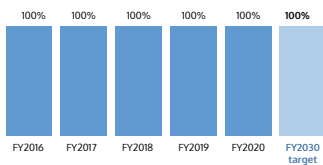


\* Net Promoter Scores range from -100 to +100.

Target met and retained

### Community engagement

100% of our facilities to participate in community engagement



Target met and retained

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## Global recognition

We take pride in the recognition we receive for our achievements on our journey towards Sustainable Operational Excellence. Here are some of the awards Birla Carbon has received.



### Global

EcoVadis recognized Birla Carbon with a Gold rating for advanced sustainable practice

ICBA awarded Gold awards to 10 Birla Carbon plants and 2 research and development laboratories for industry-leading safety levels.

ICBA awarded Bronze awards to four Birla Carbon plants for safety performance.



### Brazil

Top Rubber Award from *Borracha Atual* magazine as carbon black supplier



### Angthong, Thailand

Excellent Establishment on Labour Relations and Welfare Award 2019 from the Ministry of Labour



### Santander, Spain

FEIQUE 2019 Safety Award

COASHIQ (Autonomous Safety and Hygiene Commission of the Chemical Industries of Spain) award for zero employee accidents in 2018



### Trecate, Italy

Recognized for Excellence in Sustainable Growth by University of East Piedmont, Economy Faculty

Workplace Health Promotion Recognition from the Industrial Association of Novara, Vercelli and Valsesia



## Birla Carbon's sustainability work wins Gold

Corporate Social Responsibility Rating 2019: Gold

In FY2020, Birla Carbon was once again recognized by EcoVadis with a Gold rating for advanced sustainable practice for the fourth consecutive year.

**We are in the top 3% of companies in the "Manufacturer of other non-metallic mineral products" category, and in the top 4% of all suppliers assessed.**

Our score on sustainable procurement has room for improvement, and this is one of our primary focus areas going forward.

We believe that we have achieved this success through dedication, hard work and perseverance. The Gold rating is recognition of the success of our SOE strategy.



This is Birla Carbon's fourth consecutive Gold rating with EcoVadis. The continued success only shows that our strategy, engagement and execution towards becoming a sustainable organization is on the right track. While we continue to pursue our vision to be the most respected, sustainable and dynamic global carbon black manufacturer, it is our Purpose – 'Share the Strength' – that drives our engagement with our customers and our suppliers and motivates every employee at Birla Carbon to work towards building a sustainable carbon black business for the future."

### JOE GAYNOR

Chief Legal, Sustainability and Risk Officer

> [Sustainable Development Goals](#)



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## About our report

Our eighth report draws on performance highlights from April 2019 to March 2020 (FY2020) and covers the full scope of our global operations. It contains a detailed analysis of our sustainability performance over the past year and highlights specific targets for the future.

As we strive to improve our sustainability efforts, we are constantly learning and developing. We welcome all suggestions and feedback from our stakeholders – including customers, employees and suppliers – as we work to fully embed sustainability at the heart of our business.

SOE drives our continued progress across all aspects of sustainability and corporate responsibility. We produce our annual Sustainability Report to document our progress, successes and challenges in these areas, promote transparency and drive continuous improvement.

This report was approved by Birla Carbon’s Senior Management Team.

It has been produced in accordance with the GRI Standards at Comprehensive level. A GRI content index, including reference to the relevant SDGs, can be found here:

[↓ GRI Index](#)

## Boundary

We have attributed each of our material issues to a relevant material topic outlined in the GRI Standards. Below we have outlined the boundaries for each of our topics. 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.

## Governance and ethics

Our material aspects	Material to stakeholders		Relevance outside the organization
	Internal	External	
Human rights performance	Yes	Yes	Human rights issues can occur along the supply chain, especially in countries identified as high risk.
Ethics	Yes	Yes	Ethical issues can occur along the supply chain and in the communities around our operations.
Governance framework	Yes	No	Not applicable.
Business continuity	Yes	Yes	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.
Global presence	Yes	Yes	Manufacturing and distribution footprint relative to customer locations, resources, suppliers, etc.

## Our Product

Our material aspects	Material to stakeholders		Relevance outside the organization
	Internal	External	
Innovation	Yes	Yes	Innovating processes, technology and products to meet evolving market, regulatory and societal demands.
Product stewardship	Yes	Yes	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.

## Environment

Our material aspects	Material to stakeholders		Relevance outside the organization
	Internal	External	
Energy	Yes	Yes	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.
GHG emissions and air emissions	Yes	Yes	GHG and other air emissions can be produced during extraction and transportation of raw materials from our suppliers and during distribution to customers.
Water	Yes	Yes	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	Yes	Yes	Waste from our operations has the potential to impact the communities and environment around our operations if not managed appropriately.
Resource consumption	Yes	Yes	We use non-renewable feedstock from fossil origin, which has potential environmental impacts. These impacts can occur along the supply chain, from extraction to refinery and delivery to our production facilities.

## Customers and suppliers

Our material aspects	Material to stakeholders		Relevance outside the organization
	Internal	External	
Sustainable procurement	Yes	Yes	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.
Customer engagement	Yes	Yes	We aim to align with our customers' sustainability initiatives and goals.
Product consistency	Yes	Yes	Our customers require consistent quality from our products as this has an impact on their own operations and end products.

## Our People

Our material aspects	Material to stakeholders		Relevance outside the organization
	Internal	External	
Health and safety	Yes	Yes	The safety of all people visiting our sites is of high priority. This includes guests such as customers, contractors and third-party partners.
Employee wellness	Yes	No	Not applicable.
Employee engagement	Yes	No	Not applicable.

## Communities

Our material aspects	Material to stakeholders		Relevance outside the organization
	Internal	External	
Engagement	Yes	Yes	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.
Investments	Yes	No	Providing philanthropic support is critical to the development of local community organizations around our sites, including schools and health facilities. Our philanthropic activities also enable our employees to engage in events that give back to the communities in which they live, helping them develop skills and pride in their work.

### Feedback

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

Please send your feedback to:

Dr. Gilles Moninot  
 Global Sustainability Director  
 Birla Carbon  
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Our Product

# Evolving together – working with our customers to advance cutting-edge sustainable products



## Our Product

The social value of carbon black

How carbon black is made

Product responsibility

The big questions

Product quality

Research and development

At Birla Carbon, we have been sharing our knowledge and forging new techniques and applications for over a century. Today, we aim to push the industry beyond its boundaries to deliver limitless value for our customers. This comes in the form of developing increasingly innovative products and strengthening relationships with our customers. We are working directly with them to make their products more sustainable by developing our own with circularity in mind.

### Compound Knowledge

Shared knowledge is our most important resource, helping us, and our customers, develop innovative products. By collaborating with customers, we can learn what they want in terms of a sustainable product, while we can share with them our expert knowledge of carbon black and its applications.



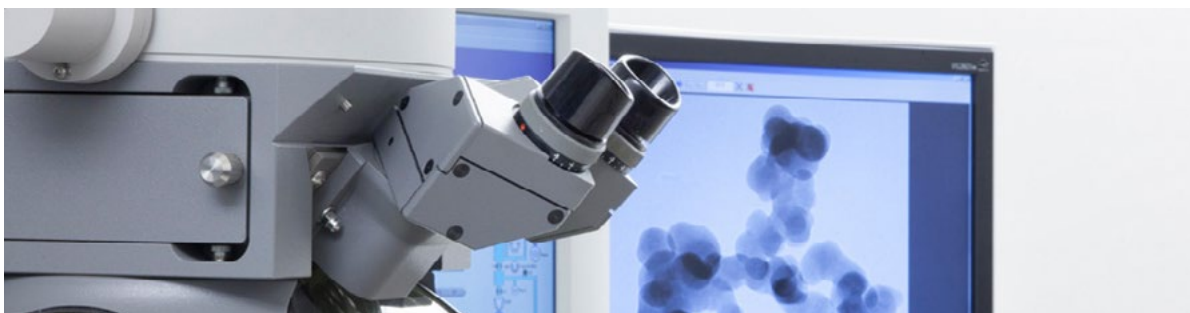
> Find out more about our five [Purpose Principles](#)



At Birla Carbon, we have sustainability ambitions we're committed to achieving. However, we want to support our customers in reaching their own long-term sustainability goals as well. Our Product Development team is focused on creating innovative carbon black products which meet and exceed customer expectations for quality and performance, as well as sustainability."

**LEWIS TUNNICLIFFE**  
Lead Scientist, Rubber Product Development

## Working to create value for our customers



### The social value of carbon black

Up to 70% of our carbon black goes into mobility applications, and as such we continue to develop solutions so customers can create end products that last longer and go further with improved fuel efficiency.

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

### Sharing learning with customers

We invest time and resources into understanding every aspect of carbon black and our industry. We welcome every opportunity to share our findings and answer any questions customers may have.

> [The big questions](#)

### Innovative solutions for customers

As a company, we aspire to lead the industry with innovative solutions to customer needs. We have developed two world-class research centers in Taloja (Maharashtra, India) and Marietta (Georgia, USA) to further our understanding of carbon black and potential novel areas of application for it.

> [Research and development](#)

### Ensuring safe, responsible products

Product safety is of paramount importance to us and to our customers. We test our carbon black thoroughly, ensuring it surpasses health, safety and environmental requirements.

> [Product responsibility](#)

### Meeting customers' needs

While our customers are experts in their fields, we encourage collaborative development, offering lab support and product testing to create products that are best in class in terms of quality, safety and social value creation.

> [Product quality](#)

### Creating value from repurposing waste

Producing carbon black is an intricate process that requires highly controlled conditions. Birla Carbon's carbon black has real value, being made from oil residue that, with limited other commercial use, would otherwise need to be disposed of.

> [How carbon black is made](#)

## FY2020 highlights

Birla Carbon becomes the first carbon black multinational to receive IATF certification across all its manufacturing plants.

> [Product quality](#)

We invested 4.8% of profits back into research and development.

> [Research and development](#)

We have developed a Nanocellulose Dispersion Composite (NDC™) in partnership with GranBio, which enhances the sustainability of tires and rubber goods.

> [Research and development](#)

## Feature stories



### > How is carbon black made?

Carbon black plays a key role in nearly every aspect of our lives, from car tires to shoe soles and from water pipes to power lines.



### > Innovating with circularity in mind

Circularity is not just something Birla Carbon aspires to; it is a key consideration in our research and development process.

## How we are supporting the SDGs

Sustainability is crucial when it comes to creating value in the long term, and will continue to drive developments in our operations and technology. Whether through improving the energy and yield efficiencies of our processes or developing our products to be more resilient, we continue to innovate to address growing global demands for more sustainable products, from agriculture to mobility.

The SDGs we are supporting are:



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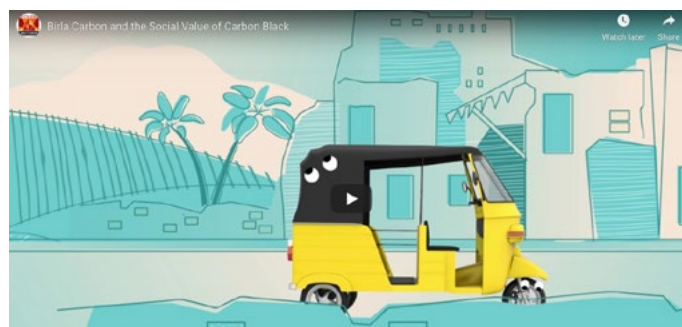
## The social value of carbon black

Carbon black has been part of human life for centuries. It is a fine, black powder essentially composed of elemental carbon, a highly engineered microscopic material contained in hundreds of thousands of our most valued everyday products.

From cars to computers, plumbing to agriculture and banknotes to shoes, carbon black makes our lives better. It helps us use resources more efficiently, to travel safely, to communicate and to access clean water for drinking and irrigation.

### What is carbon black?

[Watch our video](#) to see how carbon black enables our everyday lives.



Carbon black is virtually pure, elemental carbon in the form of colloidal particles, which are microscopic and arranged in a grape-like form. Its physical appearance is that of a black, finely divided pellet or powder – individual particles of carbon black are invisible to the human eye. Carbon black is entirely different from, and should not be confused with, black carbon, more commonly known as soot.

The size of the particles and the way they are aggregated determine the specific properties of the carbon black and how it can be used. For example, a large particle-sized “soft” carbon black grade will contribute to the elasticity of tire sidewalls, while a small particle-sized “hard” carbon black grade is essential to ensure the durability of a tire’s tread.

### What are its uses?

Carbon black enables the everyday. It brings many properties and qualities to countless finished products and articles made from rubber or plastics, as well as providing color and protection from UV rays in paint, ink and coatings.



## Movement

Carbon black, with its affinity for various polymers, makes rubber products safer, more efficient and stronger for longer, giving us the freedom to move. It also reduces CO<sub>2</sub> emissions and saves energy over the life cycles of many products:

- Vehicle tires
- Shoe soles
- Sealing systems
- Hoses, belts and engine mounts
- Toys
- Playgrounds
- Tubeless tires
- Inner tubes

## Power

Carbon black is so versatile that its morphology can be engineered to modulate the electric and thermal conductivity of many products. It is an essential component of the wires, cables and technologies that interconnect us. In many applications, it also helps dissipate electrostatic buildup. Examples include:

- Electrical cables
- Portable energy devices
- Computers (circuit boards)
- Tires
- High-voltage cable jacketing
- Safety shoes
- Conductive flooring

## Health and food

Carbon black, with its light-absorbing properties, ensures that plastic and rubber products last longer despite exposure to sunlight. It keeps water safe to drink while being transported and enables more efficient agricultural practices through a range of applications. Examples include:

- High-voltage cables
- Water pipes
- Irrigation pipes
- Geomembranes (e.g. liners for liquid retention pools)
- Agroplastics (e.g. mulching)

## Society

Carbon black is always around us – from the clothes and shoes we wear to the mascara we put on our eyelashes, from flowerpots to toys, from banknotes to newspapers. It is used as a pigment to produce a deeper black in the following products:

- Car paint
- Inks for printing newspapers, magazines, books, bank notes, etc.
- Printer cartridges
- Mascara
- Black building products
- Leather coating
- Black fibers for fabrics, carpets, woven materials, etc.

## Did you know?

Vehicle tires are approximately 25% carbon black. You would not be able to drive further than 8,000 km without it.

Any water facility containing piping, including those for drinking and washing, contains carbon black – as do all power cables.

Over 13 million tonnes of carbon black are produced worldwide annually – some 70% of which goes into tires.



## How we are supporting the SDGs



### Partnerships for the goals

Carbon black is present in nearly every area of everyday life, so we partner with a range of stakeholders, particularly our customers, to make products safer and more durable.



### Zero hunger

In its use in farming, including improved irrigation, carbon black facilitates more efficient agriculture.



### Decent work and economic growth

Carbon black ensures greater resource efficiency, which in turn promotes economic growth.



### Industry, innovation and infrastructure

Our product supports the development of quality, reliable, sustainable and resilient infrastructure, and promotes inclusive and sustainable industrialization.



### Reduced inequalities

Carbon black plays an important role in technology, giving more people greater access to transport and communication. It also ensures that technologies containing it last longer and are safer.



### Sustainable cities and communities

Carbon black is crucial in the development of safe, affordable, accessible and sustainable cities and transport systems, particularly in terms of tire safety, durability and improved rolling resistance.



### Responsible consumption and production

Carbon black facilitates responsible consumption and production through increasing the resource efficiency of products.

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## How carbon black is made

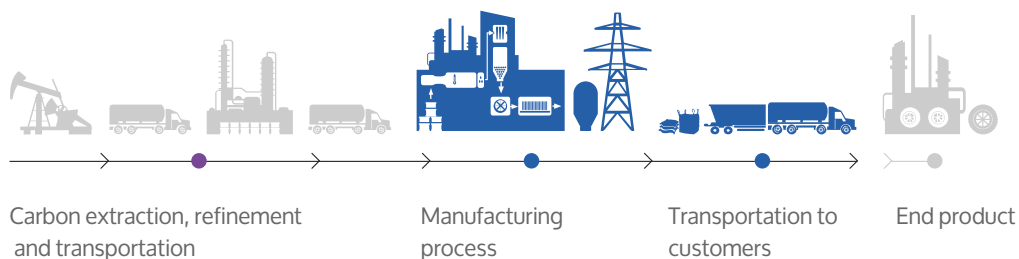
Carbon black is produced by the thermal decomposition and pyrolysis of low-value oil residues at high temperatures under controlled conditions.

At Birla Carbon, we produce carbon black in a high-temperature reactor through a tightly controlled flame-synthesis process that uses carbon-rich oil residue, and sometimes natural gas, as feedstock. Our carbon black has real value; the oil residue used in its production has limited usage and would otherwise be thrown away.

[Watch our video](#) to learn how carbon black is made.



## The carbon black manufacturing process



## Our six-step carbon black manufacturing process



### 1. Feedstock oil

To begin the process, preheated air and oil (and sometimes natural gas) are fed to the reactor in tightly controlled amounts.



### 2. Reactor

Inside the reactor, the air and hydrocarbons undergo a complex set of reactions – partial combustion, thermal decomposition, particle nucleation and particle growth/aggregation. These reactions occur in temperatures up to 1,800 degrees Celsius and can take less than one hundredth of a second.



### 3. Water injection

Water is then injected to stop the reactions by reducing the temperature of the carbon black “smoke” stream leaving the reactor.



#### 4. Separation

This “smoke” stream is then routed to a baghouse that separates the carbon black from the reactor tail gas using hundreds of fabric filter bags. The carbon black is a light, fluffy powder as it exits the baghouse and is transported to an accumulator tank.



#### 5. Pellet formation

The carbon black powder is mixed with a binding agent and water in a pelletizer to form pellets, which are then dried in a rotary drier. This process increases its bulk density by up to five times, allowing for more efficient transportation to our customers.



#### 6. Storage and packaging

In the final step, the carbon black pellets are packaged in a variety of containers, ranging from 10-kg paper bags to 60-tonne railroad cars for transportation to our customers.



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**Over 4,700 tests** related to food contact and other regulatory requirements performed on our products.

## Product responsibility

Sustainability is at the core of our growth strategy, and we recognize our responsibility to produce a high-quality product while mitigating any potential effects it may have on people and the environment.

Our approach to product responsibility is divided into two key areas: safety and stewardship. We understand that it is of utmost importance that our carbon black is safe for our customers' specific uses. At the same time, product stewardship ensures all our people understand exactly how our carbon black is made and the role they play in manufacturing safety. It is important that we help our customers handle and use carbon black effectively and safely and that we act responsibly across the entire value chain.

### How do we create safe products?

Our customers rely on us to develop safe carbon black that they can incorporate into their products. We ensure that our carbon black not only meets but exceeds regulatory requirements. We remain abreast of any regulatory or market developments, enabling us to support our customers in meeting their own regulatory obligations and ensuring an uninterrupted supply of carbon black.

We thoroughly test our carbon black to ensure that it surpasses regulatory health, safety and environmental requirements and that it is of the highest quality. This includes conducting and commissioning product safety studies with renowned third-party institutes through our industry association, the International Carbon Black Association (ICBA).

We understand our responsibility to educate and guide customers to handle our carbon black product safely and minimize any potential environmental impact. This includes ensuring we have the correct infrastructure in place throughout the supply chain to prevent the release of carbon black dust into the open 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. A key aspect of this is

providing robust scientific evidence that finished articles containing carbon black do not release carcinogenic compounds related to poly-aromatic hydrocarbons (PAH).

There are many methods for testing for impurities in carbon black, but there is only one approach for testing for PAH with the sensitivity and selectivity needed. Birla Carbon has led the way in developing better 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 leads the ASTM D24.66 Technical Committee dealing with the health, safety and environment (HSE) aspects for the D24 Committee on Carbon Black and holds jurisdiction for developing HSE standards for carbon black.

Through this open committee, we have led the development of a series of internationally recognized test methods specific to carbon black and validated using scientific processes. It is an example of how we Share the Strength by using our experts and research capabilities to support the industry and customers in developing better test standards and safer products to benefit society.

➤ [Sustainable Development Goals](#)



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## Investing in health and safety

We ensure that all our internal and external customers are fully informed about the safety of our products, focusing on product characteristics, safe, effective and approved uses, and health and environmental risks. Any information gaps are proactively identified for each product through our testing program.

All business areas contribute to continuing 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 carbon black product related to the REACH (Registration, Evaluation, Authorisation and Restriction of Chemicals) regulations. For instance, we are diligently preparing for the substance evaluation process due to be carried out in 2021 by the French Agency for Food, Environmental and Occupational Health and Safety (ANSES) as part of the European Chemicals Agency's Community Rolling Action Plan (CoRAP) to determine whether any health or safety risks exist with carbon black.

[CB4REACH](#)

## Enhancing customer understanding

Customers and end consumers want to understand more about carbon black. They can find up-to-date and accurate information through Safety Data Sheets (SDSs), labels and product stewardship statements.

We respond to direct queries from our stakeholders. In FY2020, Birla Carbon received over 1,100 queries related to product safety and compliance with specific environmental or food contact regulations. In 100% of cases we sent an initial response within one business day. We continuously educate our sales and distribution network about carbon black product safety and its regulated applications.

All product stewardship statements can be found on our HSE page, under Form Letters.

[Statements on Product Stewardship](#)

## Product stewardship

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

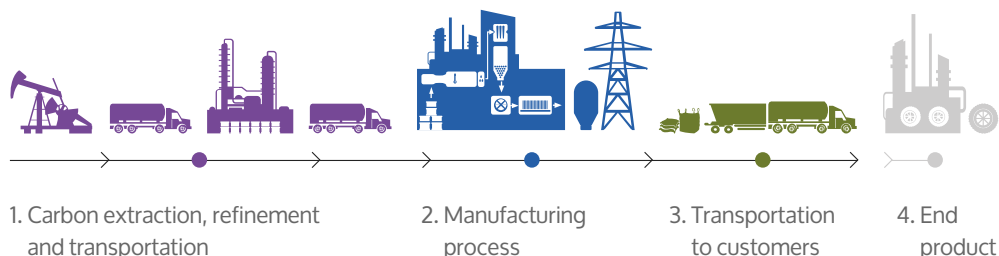
Our Product Stewardship Standard (the Standard) requires enhanced testing intervals for all products and provides a robust description of which actions will prompt product retesting at a manufacturing site. Each site is required to send samples of the carbon black they are producing to our world-class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

The Standard is enforced on-site by our Product Stewards, who monitor progress and employee training through annual self-assessments. The Stewards participate in regional Product Stewardship Committees, which report to a Global Product Stewardship Steering Committee. To effectively benefit from the Standard, our Management of Change Standard ensures we formally document any changes that could potentially impact our product.

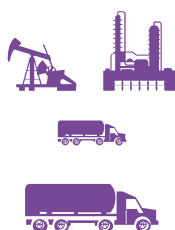
In FY2018, we approved a project to automate SDS distribution, which will help to ensure continued compliance and increased efficiency across our global operations. This project was implemented in FY2019, and we are currently in the process of evaluating the systems for this to ensure effective communication with our existing data management systems.

## Product responsibility across the value chain

We divide our value chain into four areas:



### 1. Carbon extraction, refinement and transportation



#### Extraction and refinement

This carbon-feedstock-sourcing stage is not controlled by Birla Carbon. We expect our suppliers to maintain the highest ethical and environmental standards in their activities.

#### Transportation

We have health, safety and quality controls in place for handling all raw materials.

### 2. Manufacturing process



#### Reactor

State-of-the-art technology enhances production efficiency.



#### Baghouse

The best possible control of emissions and the containment of our carbon black powder is ensured through the use of the most advanced filter bags.



#### Rotary dryer

Strict product testing is conducted at this stage to meet customer specifications and safety standards.



#### Bulk storage

Once customer requirements have been met, the product is directed to specific silos and later shipped.

### 3. Transportation to customers



#### Shipping

Before shipment to our customers, the carbon black is further tested by our Quality department, which generates a Certificate of Analysis (CoA) to guarantee product quality.

## 4. End product



### Customer sites

Our SDSs are continuously updated and provided in over 25 languages. Specific product safety documentation is supplied to customers on request.

## How we are supporting the SDGs



### Good health and well-being

We are leading the industry in terms of product safety through our active involvement in our international industry association.



### Responsible consumption and production

Our Product Stewardship Standard ensures we are producing our carbon black in a safe and responsible way and that all of our employees take ownership of the quality of our product.



### Partnerships for the goals

We work with trusted third-party institutes to test our carbon black, ensuring it passes health, safety and environmental regulations.

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## The big questions

For us, our Compound Knowledge Purpose Principle – sharing insights and building customer understanding of the value of carbon black – is our most important resource.

As an engineered industrial product, manufactured from oil and gas, carbon black is sometimes perceived as a cause for concern by consumers, employees and the communities where we operate. To alleviate any doubts that consumers may have regarding the safety of carbon black, our industry has invested time and effort over several decades in robust scientific studies to understand the potential health, safety and environmental risks associated with our product. We welcome every opportunity to share what we have learned about carbon black with our stakeholders.

**Q.** What is Birla Carbon doing to change how carbon black is perceived?



**A.** There is some confusion between black carbon (soot formed through the incomplete combustion of fossil fuels, biofuels or biomass) and the engineered carbon black material we produce. As such, carbon black is often incorrectly perceived as a polluting, dirty, carcinogenic black dust that is detrimental to society and the environment.

Birla Carbon is at the forefront of industry investigations into the potential effects of carbon black, on both humans and the environment. Through our work with the International Carbon Black Association, we engage closely with HSE officials across the world to ensure that accurate, science-based information is utilized during regulatory processes.

**Q.** What is the ICBA?



**A.** The International Carbon Black Association (ICBA) is 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's board of directors and regional Product Safety and Regulatory Committees for North America, Europe and Asia. These groups host regular meetings to address the changing regulatory landscape in specific regions. Additionally, the organization sponsors an independent Scientific Advisory Group (SAG), which conducts and participates in product and occupational health investigations, research and analysis. This often results in peer-reviewed publications in internationally recognized journals, relating to the HSE aspects of the production and use of carbon black. The SAG is also instrumental in providing feedback and comments on other published material to clarify and/or correct perceptions of carbon black.

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

- [International Carbon Black Association \(ICBA\)](#)
- [Carbon Black Product Safety Studies](#)

**Q.** Can carbon black cause health problems?

**A.** Peer-reviewed scientific studies have shown that carbon black is neither a toxin nor a carcinogen, and there is no evidence of any adverse health effects on our employees. 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. Black carbon is a known carcinogen; by association, our product (carbon black) is often also, mistakenly, linked with cancer.



**Q.** Is carbon black safe to handle?

**A.** Carbon black does not pose any risk to humans, and there is no evidence to suggest that exposure to carbon black results in life-threatening injury or illness. Although carbon black is not defined as a respiratory irritant, carbon black dust spreads easily in air and therefore should be stored carefully. It may cause drying of the skin with repeated and prolonged contact, but can be easily 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.



For more information on handling carbon black, please see our [Safety Data Sheets](#) and the [ICBA](#).

- [Safety Data Sheets](#)
- [International Carbon Black Association \(ICBA\)](#)

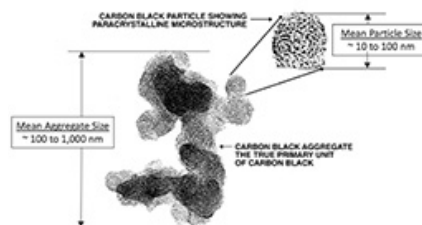
**Q.** Is carbon black harmful to the environment?

**A.** Due to the nature of our manufacturing processes, we recognize that our activities can have environmental impacts in relation to water use, greenhouse gas (GHG) emissions and waste generated. We are working to reduce GHG and other air emissions by proactively studying, experimenting and investing in pioneering air emission control technologies. We are also committed to ensuring that our production facilities do everything possible to prevent the release of carbon black dust into the atmosphere. Furthermore, as carbon black is typically embedded in finished consumer products and difficult to extract from the rubber or plastic polymeric matrix, once these products are disposed of, the environmental impact of carbon black itself is minimal, if any.



**Q.** Is carbon black a nanomaterial?

**A.** At Birla Carbon, the primary particle (near-spherical building blocks of carbon black) diameters are generally in the 10–100 nanometer range. However, our carbon black products, as placed into commerce (the final product), are agglomerates, which are much larger in size (100–1,000 nanometers in diameter). These agglomerates do not break down into smaller components (e.g. aggregates) because of the effect of van der Waals forces unless adequate force is applied (i.e. shear force). Thus, as placed on the market, carbon black products are not nanoparticles.





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**Q.** How does Birla Carbon address customer concerns regarding product end-of-life?

**A.** We are looking into ways to divert end-of-life products from landfill, collaborating with other organizations to improve reclamation of materials from used tires. In the medium term, we aim to determine what proportion of oil, gas, steel and carbonaceous material could be given a second life in our production process. Reclaimed carbon black has different characteristics and properties to those of the original material, and so we are taking the time to understand the market, and how and when this reclaimed carbonaceous material could be used in substantial quantities.

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All 18 laboratories achieved 100% alignment with the ASTM Laboratory Proficiency Rating System.

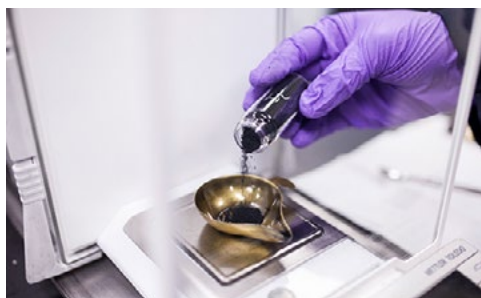
## Product quality

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

## Quality assurance

In FY2020, we continued certification of our sites under the International Automotive Task Force (IATF) 16949 requirements. All our manufacturing sites are now International Organization for Standardization (ISO) 9001 and IATF 16949 certified, which provides a sound basis for our sustainable development initiative. This system helps us to continuously 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.



## Receiving industry-first certification

In May 2020, Birla Carbon became the first and only global scale carbon black manufacturer to achieve IATF certification for all 16 manufacturing sites. This achievement highlights our commitment to the highest

levels of manufacturing standards and product quality, and confirms we meet all the requirements of the global Quality Management System standard.



The Aditya Birla Group as a global manufacturing powerhouse, and Birla Carbon as a significant business segment within it, have always adhered to the highest quality and process standards in manufacturing, in line with the Group's values. The IATF certification is a valuable testimony to that commitment."

**DR. SANTRUPT B. MISRA**  
CEO, Birla Carbon





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**100% of our manufacturing sites** are now IATF 16949 certified.

## Improving our processes

We continuously seek to make our manufacturing processes better and, following the requirements set by the IATF 16949, we are developing a system through which we can identify costs caused by poor quality. The system tracks these costs through several elements:

- Customer claims
- Complaint handling costs
- Returned material and associated freight due to complaints
- Nonstandard production

Information on each of these is gathered from the relevant internal functions, including Accounting, Customer Service, Supply Chain and Operations, and is then tracked and analyzed by our Quality Management team. This data supports our management review process to monitor trends and develop actions for reducing costs, as well as improving customer focus and satisfaction.

## Sharing best practice on product convergence efforts

In FY2020, we established several quality-related key performance indicators (KPIs) for internal communication through regional and global quarterly reports: Net Promoter Score (NPS), complaints and process reliability. These KPIs will help us continue to improve Quality Assurance Processes, our information-sharing program for quality issues and for devising solutions. The goal of this program is to prevent reoccurrence of quality issues at the same, or other, manufacturing facilities and to improve communication and awareness of quality initiatives and improvements to the benefit of all manufacturing sites.

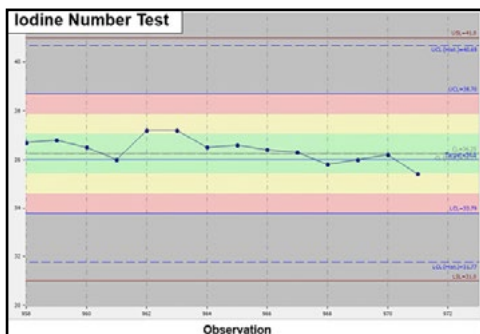
Our Global Quality group, in collaboration with Plant Quality Managers, determines what information should be shared and how best to distribute it. All information is shared throughout our facilities in the form of a Quality Bulletin, which is maintained for employee reference on our SharePoint.



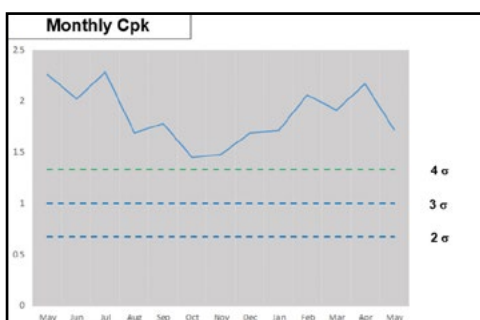
## Focus on product consistency

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, physical form and cleanliness.

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

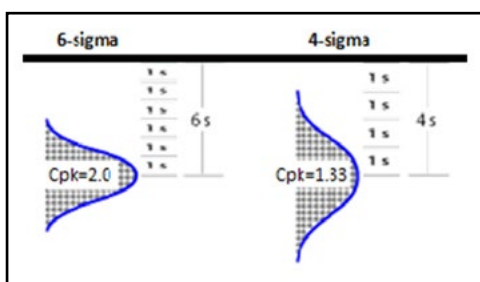


Birla Carbon rigorously tests its carbon black through internationally recognized test procedures and participates in the development of international testing standards. All Birla Carbon laboratories participate in industry-wide proficiency testing to ensure standards are aligned, checks are performed daily to ensure the reliability of measurements and testing facilities are regularly monitored for compliance.



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

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



## Working with ASTM

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 the American Society for Testing and Materials International (ASTM International), 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 Talaja, India. This commitment to sharing best practice ensures our laboratories meet the very highest global standards.

Birla Carbon actively participates in the ASTM D24 Technical Committee, 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 D24 Technical Committee](#)

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## Our global quality management approach



### Certificate of Analysis (CoA)

A CoA contains the required product quality information for our customers and 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 continuously 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 the Technical Service Managers to discuss and implement best practices in the area of quality.



## How we are supporting the SDGs



### Partnerships for the goals

We work with our customers, as well as external organizations such as the IATF, ASTM International and ISO, to improve our quality management processes.



### Industry, innovation and infrastructure

Our product helps by supporting the development of quality, reliable, sustainable and resilient infrastructure, and we perform rigorous testing to ensure our product is consistently of the highest quality.



### Sustainable cities and communities

Our product enhances sustainable urbanization, and we have global systems in place to ensure it meets both our own standards and the expectations of our customers.

## Our Product

The social value of carbon black

How carbon black is made

Product responsibility

The big questions

Product quality

Research and development



**4.8% profit reinvested** in research and development in FY2020.

## Research and development

When our ancestors painted on cave walls, they used carbon from fires to share stories. Sharing that fire lit the way for humanity to migrate and discover new frontiers. Today, we are constantly searching for a deeper understanding of our products and their applications so that we can build for the future through innovative and state-of-the-art processes.

Our development and use of the best available technology enables us to improve our product, progress new opportunities for carbon black applications and closely assess our sustainability efforts – including developing more sustainable forms of carbon black. We are committed to investing more into new research channels, and our teams are always working to design products that address the problems our customers may face in the future rather than waiting for them to come to us.

### Leading through innovation

It has been over 75 years since our historic installation of one of the world's first industrial electron microscopes – but it is an invention that keeps innovating. Decades later, our laboratories and product development scientists continue to exploit this tool to gain insight into current and future carbon blacks. Our customers say that our carbon black identification technology (CB ID) is still the best in the industry, and we gladly share our process with them.

Our engineers continuously investigate and develop new approaches to carbon black production and improved efficiency, while minimizing its impact on the environment. To ensure we remain at the cutting edge of our industry, we depend on leading scientists, dedicated to taking us forward.



#### Innovating with circularity in mind

**Doug Barr**

As we continue to explore new product possibilities, circularity is not just something we aspire to but a key consideration in our

research and development process. We are actively working on some key technologies to enable this circularity.

In FY2020 we entered into a joint development agreement with [CHASM Advanced Materials](#). Through this agreement we are working to advance the development of nanomaterials for a variety of uses, including high-performance tires and next-generation batteries. The hybrid nanomaterials, which will be manufactured through combining research and engineering capabilities, bring together carbon substrates with carbon nanotubes to produce a stronger, more sustainable material for customers.

We also conducted an open innovation campaign on Seeking Sustainable Feedstocks for Carbon Black in FY2020, inviting ideas from outside the company. We are currently evaluating submissions, looking for ideas to further research.

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 area, including a recent US Department of Energy grant winner – [SkyNano](#) – which will allow us to capture and convert our CO<sub>2</sub> emissions into carbon nanomaterials which we could then incorporate back into our products.



If the twentieth century was dominated by iron and steel, the twenty-first century will be dominated by carbon. This versatile element has a near-infinite number of uses and, if we can efficiently recycle carbon dioxide, it forms the core of a perfectly circular economy. With the innovations underway in Birla Carbon today, we are perfectly positioned for this future.”

#### DOUG BARR

Director of Materials Innovation

We encourage innovation from any area of our organization – not just research and development. We know that to build on our Share the Strength ethos we must look for innovative ideas from every department, and we are making sure we spread this message widely to create an open culture of innovation. Read more about how we are [promoting a culture of innovation across Birla Carbon](#).

To facilitate innovation, we provide our scientists with state-of-the-art research facilities. We bring together our Research and Development and Manufacturing teams from around the world to Share the Strength and develop innovative ideas to bring real change to our products and processes. Our two principal Research and Development Centers are in Taloja (Maharashtra, India) and Marietta (Georgia, USA). They are supported by two regional satellite laboratories in South Korea and Brazil.

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

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



Taloja (Maharashtra, India) R&D center



Marietta (Georgia, USA) R&D center

Our Research and Development Centers employ around 80 leading scientists and technological experts in materials science, analytical chemistry, nanocomposites, physics and process engineering. They have access to computational fluid dynamics for engineering design and development, as well as laboratories fully equipped with high level personnel and equipment. This includes a range of sophisticated electron microscopes, which aid innovation, discovery and practical development to meet the ongoing challenges of the twenty-first century.

## Meeting customer needs

The Product Technology group works with our customers and global Technical Service teams to ensure customers' 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 also achieve unseen jetness levels, superior performance and improved formulation costs.

## Enabling sustainable mobility

Rolling resistance is a key focus for our tire customers, who are concerned with sustainable mobility. Our objective is to develop new carbon black grades and sustainable materials to further lower the rolling resistance for the next generation of tires, and in the past four years we have commercialized two new grades created with this goal in mind. In partnership with GranBio, we have also released a Nanocellulose Dispersion Composite (NDC™). This material increases the renewable content of tires and rubber goods, allowing our customers to achieve their sustainability goals and Birla Carbon to further drive our commitment to environmental stewardship. Tires made with our new low-rolling-resistance carbon blacks or NDC™ will consume less energy in vehicle propulsion, resulting in greater fuel economy and thus lower CO<sub>2</sub> emissions.



### Developing materials that champion sustainability

Our collaboration with GranBio (formerly American Process Inc.) is working to enhance the sustainability of tires and rubber goods. In February 2020, we announced the introduction of a patent-pending Nanocellulose Dispersion Composite (NDC™) for qualification by tire and rubber companies. This NDC™ masterbatch, the result of a three-year joint development program with GranBio, provides optimal dispersion of nanocellulose in rubber formulations to improve tire rolling resistance and vehicle fuel economy. This innovative material not only enhances the in-service performance of tires, it also improves environmental performance, as nanocellulose is derived from renewable biomass resources, in line with our circularity aspirations.

## New areas of development

Over the years, our research into carbon black and improving it for our existing customers have remained priorities. However, we are also dedicated to expanding into research and development in 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.

We have a team of highly qualified scientists researching new, highly conductive carbon blacks for use in lithium batteries to improve energy efficiency, power density and charging speed. These batteries could then be used in the next generation of electric vehicles, in grid storage systems to improve the efficiency of wind farms, or for home energy storage. We are also investing to expand our battery material portfolio to include natural and synthetic graphite.

## Did you know?

There are over one trillion aggregates in a single gram of carbon black.

If laid out end to end along their longest dimensions, the aggregates in one gram of carbon black would more than encircle the Earth at its equator!

There is over 65,000 m<sup>2</sup> of carbon black surface area in a typical passenger tire tread.

In terms of size ratio, the difference between a primary particle of carbon black and a soccer ball is about the same as between a soccer ball and the moon!

## How we are supporting the SDGs



### Industry, innovation and infrastructure

Our aim is to support and facilitate sustainable and resilient infrastructure development with carbon black, supporting the development of new technologies and innovations. This includes increasing efficient resource use, and we are currently researching the potential for carbon black use in energy storage.



### Sustainable cities and communities

Carbon black is crucial in the development of safe, affordable, accessible and sustainable transport systems, particularly in terms of its role in tire safety, durability and improved rolling resistance.



### Partnerships for the goals

We help achieve the goals by working closely with our stakeholders, particularly our customers.



Environment

# Evolving to reduce our environmental footprint



Environment

Life Cycle Assessments

Carbon stewardship

Water

Waste

Air emissions

As an international business, with customers and operations in several countries, 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 minimize our adverse impacts.

## Beyond Durable

Carbon black has been a part of human life for centuries and will continue to be integral to our lives for centuries to come. 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](#)



I have a mantra: think until it hurts, then think a bit more. It's how I approach Sustainable Operational Excellence at Birla Carbon, always looking for ways we can improve. Through our OpEx program, we're identifying and investing in initiatives and technologies that will help us to reduce our environmental footprint on a global scale."

**DAVID NUNEZ**  
Global Technology Manager

## Reducing our environmental footprint at every step of our process



### Understanding our impact

We are committed to continually improving our environmental performance and perform regular Life Cycle Assessments (LCAs) to measure the impacts of every step of our carbon black production process, from sourcing feedstock to transporting the final product to our customers.

- > [Life Cycle Assessments](#)

### Reducing our carbon footprint

As a global company, we take our responsibility to environmental stewardship seriously and have made strides to reduce our carbon footprint throughout our operations. We are increasing plant energy use efficiency, sourcing local feedstock oil to reduce transport emissions and recovering energy from our processes to be recycled back into our operations or sold on to neighboring facilities.

- > [Carbon stewardship](#)

### Responsible water use

Working in areas where water scarcity is an issue, we have developed a water strategy that identifies areas where we can improve water use and where we can reduce the strain we place on potable water sources.

- > [Water](#)

### Innovative waste solutions

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.

- > [Waste](#)

### Cutting air emissions

Our processes produce emissions, and we are responsible for ensuring we minimize these as much as possible. We monitor our emissions and continue to invest in new technologies to guarantee compliance with local regulations in the areas where we operate.

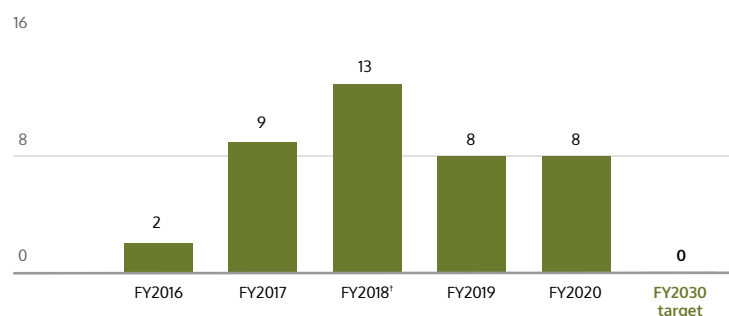
- > [Air emissions](#)



## Environment: progress towards our target

Record zero environmental releases year on year.

† In FY2018, we had two releases of carbon black/feedstock exceeding regulatory reporting limits to soil and one to air. The remaining releases were reported on a voluntary basis to regulatory authorities.



## Feature stories



### > Automating processes in North Bend to conserve resources

We are updating our systems with automated controls where possible, to reduce our energy requirements and improve resource efficiency.



### > Taking steps to reduce our CO<sub>2</sub> footprint at Patalganga

Through concentrated efforts, our site at Patalganga reduced CO<sub>2</sub> emissions by 4% in FY2020 compared to FY2019.

## How we are supporting the SDGs

To support the UN Sustainable Development Goals, we have aligned our approach to sustainability with the Aditya Birla Group Responsible Stewardship Framework and, through this, the UN Global Compact. We are taking steps to ensure we use resources such as water, energy and raw materials efficiently and responsibly while mitigating the impacts of our operations on climate change.

The SDGs we are supporting are:



Environment

Life Cycle Assessments

Carbon stewardship

Water

Waste

Air emissions

## Life Cycle Assessments

To better understand the impacts of our carbon black product from manufacture to end of use, we regularly conduct Life Cycle Assessments (LCAs).

LCAs are a recognized approach that evaluates all environmental impacts in a product life cycle: from raw material extraction through processing, manufacture, distribution, use, repair and maintenance, to product end-of-life by way of final disposal, recycling or reuse.

### Understanding our impact

Our Environmental Policy, published in FY2018, outlines our commitment to continually improve the environmental performance of our current and future products and services. We have used LCAs to measure the impacts of our feedstock and carbon black for the past five years.

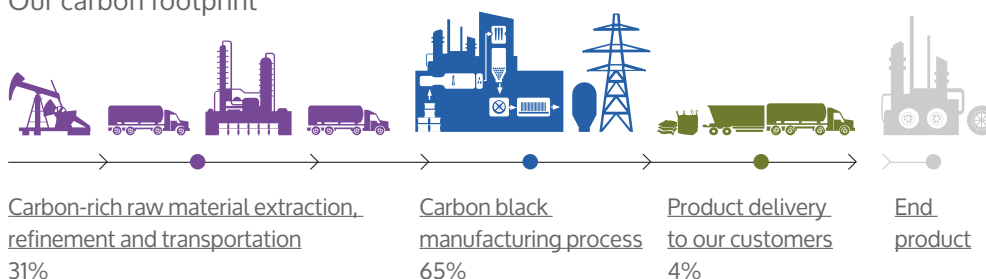
The scope of our LCA is from “cradle to gate”: from the moment the raw materials are extracted to the moment the carbon black is delivered to our customers following the International Organization for Standardization (ISO) 14040 guidelines. This enables us to better understand our impact with regard to CO<sub>2</sub> emissions and identify opportunities to reduce our overall carbon footprint.

Over the years, we have looked at feedstock delivery, production and product distribution data to establish a baseline and identify areas where we can reduce carbon emissions most effectively. In FY2020, we took the results of our LCA and used the data to develop a Carbon Footprint Statement. This statement is publicly available as a tool to help our customers determine the complete carbon footprint of their own products. It also ensures we are communicating transparently on our environmental impacts.

- ↓ [Environmental Policy](#)
- > [Carbon stewardship](#)
- ↓ [Carbon Footprint Statement](#)

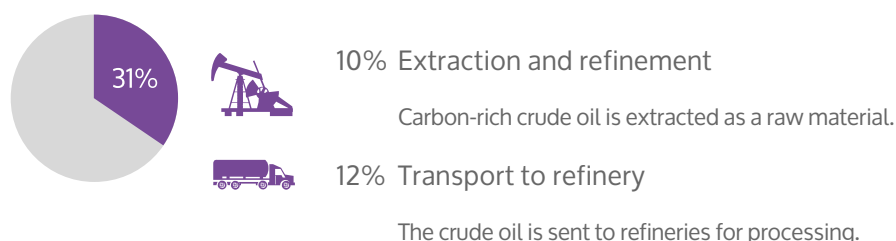
### Carbon stewardship across our value chain

Our carbon footprint



### Carbon-rich raw material extraction, refinement and transportation

Because we use a waste product of the oil and gas industry, Birla Carbon has little control over carbon emissions during the extraction and refinement stages.





### 8% Refinement

Through fractional distillation, crude oil is separated into different chemicals including gas, petrol and kerosene. The low-value carbon-rich fraction, a waste product from this process, is our feedstock.

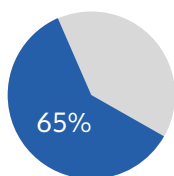
Birla Carbon has some control over the transportation stage.



### 1% Transport to Birla Carbon

The feedstock is transported to our manufacturing facilities. We source our raw materials from regional suppliers as much as possible, reducing the carbon footprint that we generate through this stage.

## Carbon black manufacturing process



### Manufacturing process

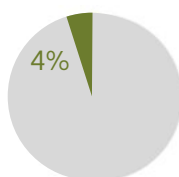
During our manufacturing process, the feedstock oil is converted into valuable carbon black. This stage comprises the single largest contribution to our overall carbon footprint, and it is also the stage at which we have the greatest ability to reduce our footprint.



### Energy management

Through co-generation, we convert the tail gas produced at our plants into heat, steam or electricity. The recovered energy is used in our own operations, and the surplus is distributed through local networks. Any remaining residual energy is flared, although we minimize this where possible.

## Product delivery to our customers



### Transportation

Carbon black is delivered to our customers in a variety of containers, ranging from bags to supersacks or bulk transportation.

## End product



Carbon black is used by our customers to produce countless different items, from tires to cables, from ink to food packaging. By engaging and working closely with our customers, we actively help them to understand the carbon life cycle of their own products.

## Reducing our footprint

The results of our most recent LCA, carried out in FY2017, indicate that our overall carbon footprint per tonne of carbon black has decreased by 12% relative to the FY2012 baseline.

We have been able to achieve this result through taking a holistic approach.

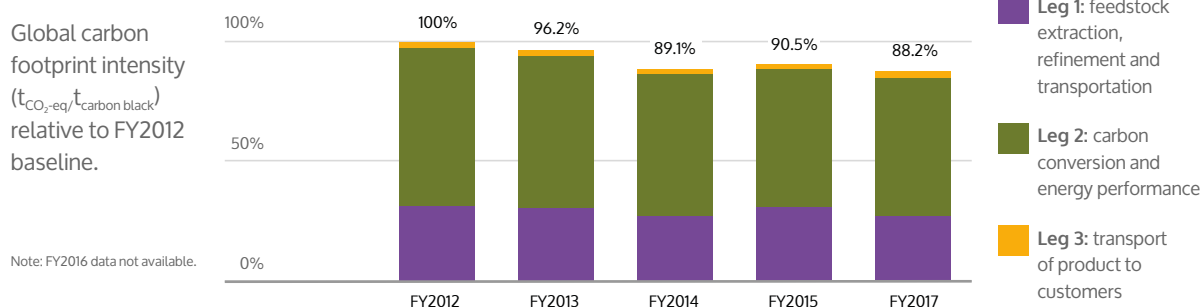
- Greater efficiency in:
  - Converting carbon into carbon black; and
  - Optimizing our energy performance.
- Increasing the proportion of our feedstock that is sourced locally.

The intelligent and efficient use of raw materials and feedstock, such as natural gas and oil, is crucial to our long-term viability, as it reduces our carbon footprint and environmental impact.

Traditionally, a large percentage of our feedstock oil has come from the US Gulf Coast in the form of fluid catalytic cracker oil. Despite the efficiency advantages of this oil due to its high carbon content, transportation costs and sulfur emission restrictions have led us to identify alternative local feedstock, especially in India, South East Asia and the Far East region.

Though the transport of our carbon black products to our customers represents just 4% of our carbon footprint, we are working to further minimize the impact of this process.

### Global carbon footprint intensity



In FY2017, we expanded our LCA to include other environmental indicators. These were estimated for each of our facilities, based on the energy imported and exported<sup>1</sup>.

#### The impact categories assessed comprise:

- Risk to humans (both carcinogenic and noncarcinogenic)
- Land and freshwater pollution, in terms of both chemical run-off and toxicity
- Mineral, fossil and renewable resources depletion
- Ozone layer depletion and smog generation
- Ocean acidification
- Particulates
- Land use

We have compared our LCA results with those of the general carbon black industry, which are recorded in a [database](#) maintained by [ecoinvent](#), an external company that specializes in developing LCA methodology and compiling data. While the ecoinvent process is not specific to Birla Carbon’s operations, and as such is not fully representative of our manufacturing process, it does represent a reasonable approximation of impacts for carbon black production globally. The results show that our carbon black production impacts are lower than industry averages. We are sharing these results with both key customers and suppliers to further reduce our global environmental impact.

Read more granular detail on our latest Life Cycle Assessment and the ecoinvent results.

#### > [Life Cycle Assessment](#)

<sup>1</sup> Feedstock input levels were excluded due to limitations of the LCA model.

## Ensuring our product has a second life

Our LCA looks at our product from when we first source the raw materials to when we deliver a final product to our customer. But our concern does not stop there. We are also interested in what happens to our product once it is with our customers, including how we can work with them to reduce waste generation.

We are currently researching the benefits of switching from paper packaging to plastic. While this may sound counterintuitive, a large proportion of our European customers can feed polymer-based materials, such as plastic packaging, directly into their products, reducing the amount of waste generated. We are industry leaders when it comes to sustainability, and want to help our customers develop their own sustainability practices. That is why we are constantly collaborating with interested customers to share best practices in developing recycling options and reducing waste emissions for a more environmentally sound business.

## How we are supporting the SDGs



### Responsible consumption and production

We strive to reduce our carbon footprint, which includes being more efficient in our energy cycle; we have been net energy positive since at least FY2016. We perform regular LCAs to track our emissions progress.



### Partnerships for the goals

We are working with our customers to explore how we can reduce waste generation in our production processes.

Environment

Life Cycle Assessments

Carbon stewardship

Water

Waste

Air emissions



75% of our plants are energy positive.

## Carbon stewardship

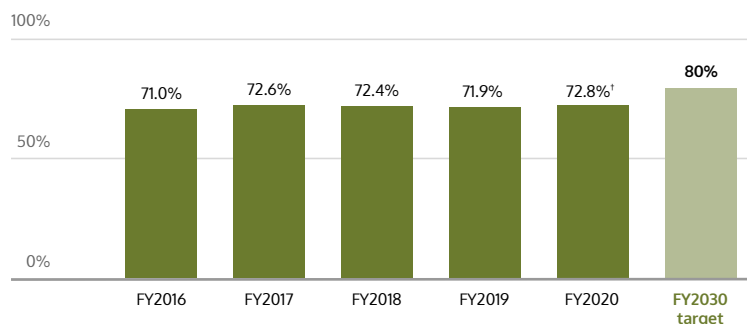
Our carbon stewardship strategy relies on two key factors: the conversion of more carbon from oil into carbon black and the optimization of our energy cycle. Our product LCA helps to identify actions we can take to reduce our overall carbon footprint.



### Energy: progress towards our target

Increase our absolute energy conversion efficiency to 80%.

<sup>†</sup> FY2020 results were impacted significantly by the COVID-19 pandemic.



### Net energy positive

Efficient energy use and recovery is critical to our business. We have been tracking our 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.

In FY2020, we continued to make progress on our energy conversion key performance indicator (KPI) despite reduced production and temporary plant closures resulting from the COVID-19 pandemic. With the lower production, we still must use the same amount of energy at some facilities to run our air emission control equipment, to maintain compliance with the stringent regulations.

As an example, annually, the Jining, China plant consumes over 60,000 MWh of electricity to produce carbon black; electricity that is internally generated through our energy-recovery systems. Some 25% of this consumption (around 15,000 MWh) is used to run large equipment such as fans and blowers, which enable us to comply with, and outperform, emission-control limits. This is equivalent to the electricity requirement of more than 1,200 homes. It demonstrates the challenges we can face in balancing different priorities when managing our environmental impact.



Our plant at Jining



Since we implemented our energy conversion KPI, we have made real progress: we now recover more energy from our own facilities and consume less energy per tonne of carbon black produced. Much of the energy we recover is used in our manufacturing process, while any surplus is sold to neighboring facilities and local grids in the form of electricity, steam, tail gas or hot water.

Globally, Birla Carbon is energy positive, selling more energy than we buy. We take a long-term view when it comes to making decisions about energy investments, and have a range of projects in the pipeline that will further increase our energy conversion rates in the coming years. For example, by making use of the best available technologies, our plant at Jining is energy positive and is already making a significant contribution to both our carbon- and our energy-related KPIs.

Our energy efficiency efforts are led by Regional Energy Managers, who assess the energy cycle of each of our plants and provide local expertise and support in areas where improvement is suggested. This knowledge is then shared across the rest of the business through our World-Class Manufacturing group. We also partner with the Aditya Birla Group's Corporate Technical and Energy Services team for knowledge-sharing purposes. Our Energy and Carbon Policy, published in July 2018, sets out our commitments not only to comply with but to exceed regulations by reducing our energy intensity and carbon footprint.

- ↓ [Energy and Carbon Policy](#)
- > [World-Class Manufacturing group](#)



### Saving natural resources at Birla Carbon Thailand

During the carbon black manufacturing process, a carbon black smoke is produced at a high temperature. This smoke needs to be cooled down before it is piped into a bag collector. Traditionally, the smoke is cooled by a direct contact evaporative water spray – however, this requires large volumes of water. In response, in 2019, Birla Carbon Thailand installed a heat recovery boiler in the process line to cool the smoke, reducing annual water requirements by 12,750 m<sup>3</sup>.

The heat recovery boiler produces steam as a by-product. The facility has been able to sell this steam and generate electricity from the high pressure that would have been otherwise extracted from the turbine. By doing so, the facility has been able to distribute an additional 2,100 MWh back to the grid each year. By producing energy on-site through recycling steam energy, Birla Carbon has reduced its reliance on fossil fuel-based sources, reducing annual CO<sub>2</sub> emissions.

- > [Sustainable Development Goals](#)



### Automating processes in North Bend to conserve resources

At our North Bend, Louisiana, USA facility, tail gas produced during the carbon black manufacturing process is repurposed for drying the carbon black pellets in dryers. It is also used to power boilers which generate steam to provide electricity.

The carbon black dryers were running in manual control, which can result in temperature variations, product wastage due to off-spec generation, operator fatigue and over-consumption of tail gas.

The plant team, together with our technology team, implemented an automatic dryer control. Thanks to this automated system, the facility has reduced tail gas usage by approximately 5%. These savings can then be redirected to our boilers to produce more of our electricity on-site, reducing our reliance on the grid by around 2,300 MWh each year. The new control system will also increase product quality and uniformity.

- > [Sustainable Development Goals](#)

## Reducing our direct CO<sub>2</sub> emission intensity

We continue to work to reduce our direct CO<sub>2</sub> emission intensity. While we reduced our absolute CO<sub>2</sub> emissions in FY2020, the intensity (per tonne of carbon black) increased as a result of temporary plant closures and reduced production due to the COVID-19 pandemic.

Through the implementation of best practices and continuous technology investments, we have already achieved 35% of our CO<sub>2</sub> emission intensity reduction target (FY2019: 42%). These results are accomplished through a series of capital-intensive global, regional and local initiatives. For example, we design reactors and technologies that enable us to optimize temperatures and gas flows, improving the conversion of carbon into carbon black.

Some of the challenges we face in achieving our carbon intensity target include the current low price of oil and a market demand for low-yield grades of carbon black. In the long term, these can help our customers reduce their carbon footprint through, for example, extending the life of tires or reducing the rolling resistance of tires and consequently vehicle fuel consumption. We still have several plants where significant improvements are expected to occur in the coming years.



### Taking steps to reduce our CO<sub>2</sub> footprint at Patalganga

Each of our sites is on its own path to sustainability. To help them along, we are establishing teams through our Operational Excellence program to focus 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 CO<sub>2</sub> 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 established. Performing gap analysis, data collection, evaluation and testing, the team established an action plan for the site with 16 areas for improvement and 55 actions to be taken.

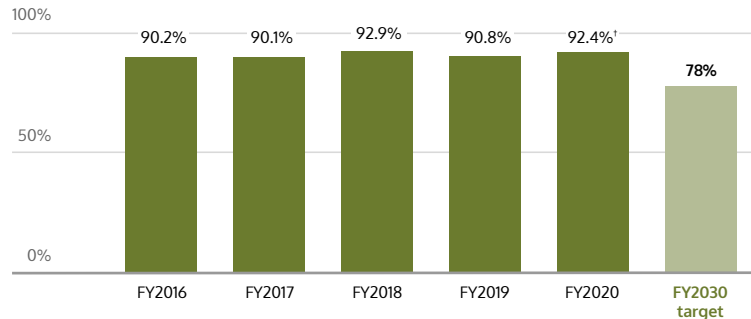
The team remained on-site for the first two weeks, following which they performed weekly calls and week-long visits on a monthly basis. Through a range of actions such as faster data analytics and equipment upgrades, the site achieved a 4% reduction in CO<sub>2</sub> emission intensity in FY2020 compared to the previous year, with further reductions anticipated for FY2021. Efforts are now underway to extend the learnings from Patalganga to two other plants.



## Direct CO<sub>2</sub> emissions: progress towards our target

Reduce our direct CO<sub>2</sub> emissions intensity by more than 22% against the 2005 baseline.

† FY2020 results were impacted significantly by the COVID-19 pandemic.



### Promoting transparency

CDP (formerly the Carbon Disclosure Project) is a nonprofit organization that works with companies and shareholders to disclose carbon emissions and the use of natural resources. In FY2015, we began to disclose our performance through the CDP online platform, something we continue to do annually. In FY2020, we voluntarily responded to their Climate Change questionnaire and replied to specific customer requests for information on our carbon footprint through our Supply Chain response.

### How we are supporting the SDGs



#### Affordable and clean energy

We continually seek opportunities to use more affordable and cleaner energy. Our facilities that contain co-generation units convert tail gas into energy that is then used in our plants, and excess is sold to the grid, supporting our commitment to circularity. Globally, we are energy positive.



#### Responsible consumption and production

We strive to reduce our carbon footprint, which includes being more efficient about the energy we consume; we invest in cutting-edge technologies to keep our CO<sub>2</sub> emissions below the industry benchmark.



#### Climate action

We focus on carbon stewardship, being net energy positive and reducing our GHG emissions, and our facilities are externally recognized for these efforts.



#### Partnerships for the goals

We work with CDP to disclose our carbon emissions performance, and voluntarily respond to questionnaires and customer information requests regarding our carbon footprint.

Environment

Life Cycle Assessments

Carbon stewardship

Water

Waste

Air emissions



All manufacturing locations use recycled process water and/or rainwater in their operations.

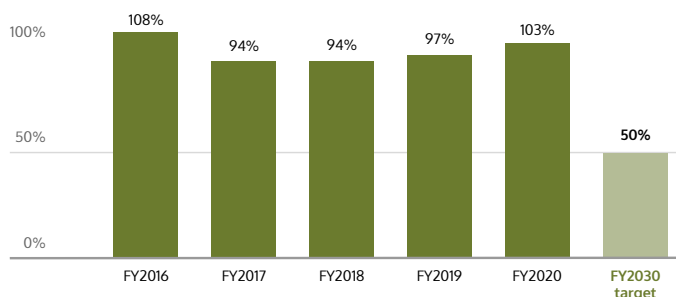
# Water

Effective water stewardship is a key priority, especially in locations where water is scarce or where it is predicted to become scarce in the future. Our water strategy considers short-, medium- and long-term scenarios to further develop our understanding of our water cycle and identify areas in which we can improve and mitigate water risks at our facilities. We want to develop a more circular approach to water use and are constantly looking for ways we can reuse the water we withdraw.



## Water: progress towards our target

Reduce our water withdrawal intensity ( $m^3/t_{\text{carbon black}}$ ) by 50% versus FY2013 baseline at our high- and medium-risk sites.



## Assessing our water vulnerability

We partnered with the World Business Council for Sustainable Development (WBCSD) and the World Resources Institute (WRI) to assess the water stress level at each of our manufacturing sites using the WRI's Aqueduct™ tool. For our plants based in India, we complemented the assessment using the specific India Water Tool. This approach provided us with an informative, high-level and generic assessment for all our sites.

Using the results of our assessments, we have determined which sites are at a medium or high risk for water availability to include in our Water Withdrawal KPI<sup>1</sup>.

- [World Business Council for Sustainable Development \(WBCSD\)](#)
- [World Resources Institute \(WRI\)](#)
- [Aqueduct™](#)
- [India Water Tool](#)
- > [Governance](#)

## Our water risk management approach

Our [Water Stewardship Policy](#) sets out the commitments we are making to protect and conserve water resources through management practices and governance systems.

Our water risk management approach is inspired by a six-step methodology advocated by the [European Water Stewardship Standard](#), the [Alliance for Water Stewardship Standard](#) and the [ABG Technical Standard \(Water Management\)](#):

<sup>1</sup> Sites comprised Hickok, Cubatão, Gummidipoodi, Alexandria, Weifang and Bahia.

### 1. Commitment

Our recognition that risks must be assessed.

↓ [Water Stewardship Policy](#)

### 2. Water inventory

Our experts collate site-specific water balance data, an inventory of water challenges and an understanding of water conveyance and treatment systems.

### 3. Water risk assessment

We carry out a generic water risk assessment, coupled with a detailed local source vulnerability assessment.

### 4. Water risk mitigation plans (WRMPs)

We develop the plans required for both internal and external mitigation.

### 5. Implement and monitor WRMPs

We deploy the plans, including internal actions and external engagement, tracking progress.

### 6. Communicate performance

We report on our progress, both internally and externally.

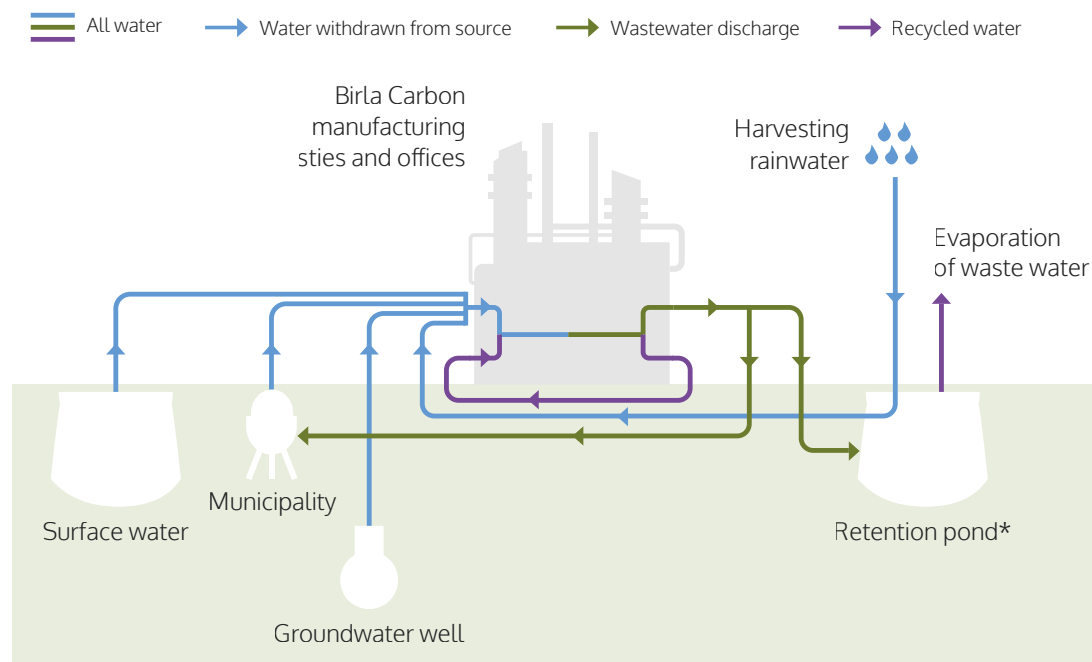
We have recently integrated our water risk management approach into our wider [Enterprise Risk Management](#) (ERM) strategy, while high-risk sites are now incorporating WRMPs into their Business Continuity Plans. These mitigation plans identify both existing and additional strategies for managing critical water risks. New mitigation measures are actioned with deadlines set for completion, while existing risk and mitigation strategies are reviewed at least annually through our ERM process.

## 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 Sustainable Operational Excellence (SOE) strategy.

### Our water cycle

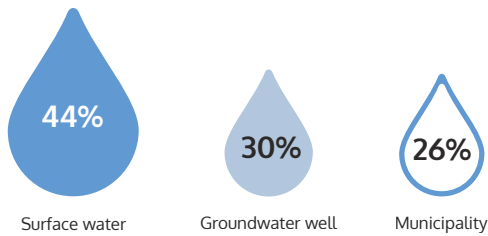
#### The water cycle at Birla Carbon sites



\* Approximately 3,459,000 m<sup>3</sup> (18%) reused from retention ponds in FY2020. Recycled process water and rainwater is collected in retention ponds and pumped back into the process.

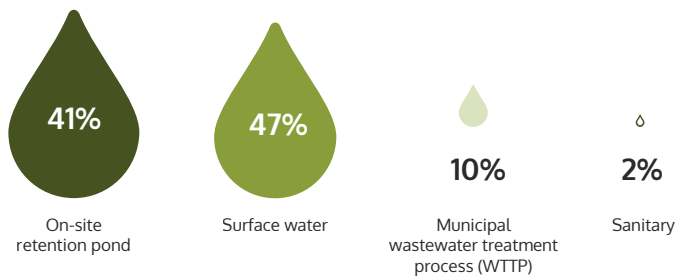
### Water withdrawal by source

FY2020  
16,554,087 m<sup>3</sup>



### Water discharge by destination

FY2020  
6,422,203 m<sup>3</sup>



### Maximizing resource reuse through creative solutions

We are constantly exploring, and investing in, the best available technology to reduce our environmental impacts, looking for smart solutions that will deliver multiple benefits. The water we require for carbon black manufacturing is primarily used for cooling the gas stream that is produced during our manufacturing process. Reducing the need for this is key to reducing our water consumption.

In Alexandria, Egypt, we continue to identify ways to optimize waste water reuse while minimizing the amount of potable water we need to use. The Egypt site is a zero-liquid-discharge facility, meaning no liquid is discharged from our settling pond to off-site areas and water must be reused at an appropriate rate to maintain the pond level and avoid flooding.

However, not all discharge water can be circulated back into use at our plants, and there are quality requirements that must be met before water can be reused. The team in Egypt identified a stream that was going straight from the cooling tower blowdown to the settling pond. This presented an opportunity to instead direct this water to a pretreatment process and then on to the reverse osmosis plant.

By redirecting water in this way, the Egypt facility was able to decrease the amount of water in the settling pond and decreased freshwater requirements by approximately 270 m<sup>3</sup>/day. Ongoing improvements in water reuse systems have helped reduce water withdrawal in Egypt by 35% over the last three years.

> [Sustainable Development Goals](#)

### How we are supporting the SDGs

**3 GOOD HEALTH AND WELL-BEING**

**Good health and well-being**

We seek to prevent illnesses indirectly by reducing water pollution and to minimize our impact on water scarcity through assessing water vulnerability in the areas where we operate.

**6 CLEAN WATER AND SANITATION**

**Responsible consumption and production**

We monitor our water use, and recycle and reuse as much as possible to limit the stress on potable water sources and to increase the circularity of our production facilities.

**17 PARTNERSHIPS FOR THE GOALS**

**Partnerships for the goals**

We look to other organizations to influence our water risk management approach and to increase our knowledge of best practice.

Environment

Life Cycle Assessments

Carbon stewardship

Water

Waste

Air emissions



**60% of our waste is repurposed** – a commendable improvement over previous years.

## 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 at all stages of our industrial process, from manufacturing to packaging, and we are implementing strategies to reduce, reuse and recycle this waste, increasing the circularity of our operations.

### 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 health, safety and environmental requirements and we ensure waste materials are sent for disposal in the most sustainable manner.

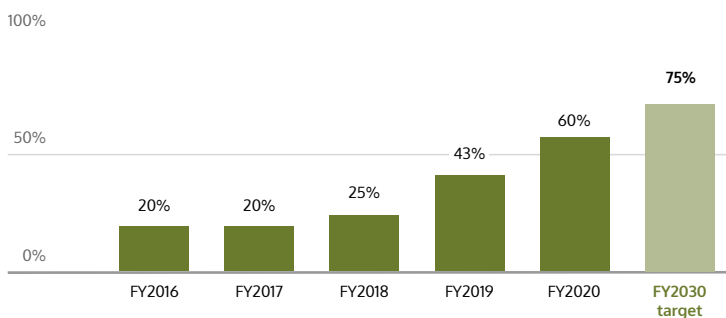
We have fully implemented our Waste Management Standard, which outlines internal requirements for the proper accounting, handling, transfer, storage, transport and disposal of solid and hazardous wastes generated during construction of and operation at our facilities. The Standard specifies roles and 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 at least annually.

Our waste management approach continues to evolve as we have improved identification and accounting of our waste. As a result, in FY2017 we introduced a new KPI to repurpose 75% of waste, whether it is recycled, reused or recovered, by 2030. This will drive further best practices in waste management throughout our manufacturing sites.



### Waste: progress towards our target

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



Achieving this target will be challenging. We expect the repurposing of gypsum to make a significant contribution to our performance, but there are currently limited outlets available for doing so in some locations. We are exploring solutions to this challenge with our Aditya Birla Group peers. 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 in FY2020.

### Reprocessing 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. 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.



### Reduce waste in our facilities

The canteen in our Trecate, Italy facility is taking a range of steps to drive progress towards sending zero waste to landfill. In a bid to reduce food waste, Vincenzo De Bortoli, a colleague at the Italian plant, has volunteered to collect leftover bread from the facility and deliver it to a local kitchen, where it is used to make free dinners and lunch boxes for people in need.

The efforts of the Italian facility do not stop at reducing food waste. Converting from single-use plastics, all plates in the canteen are now

made from cellulose pulp and are fully compostable at end of use. Single-use cups are also made from compostable materials. The polylactic acid polymer used is derived from plants such as corn, wheat or beets and can be broken down in industrial composting facilities once it has been used. To encourage employees to participate in these efforts and to take responsibility for their own plastic consumption, more bins have been placed in office areas to separate plastic from other waste so it can be recycled.

In our Gummidipoondi, India, plant, composting of canteen food waste has been standard practice since 2016. This compost is then used in the plant's organic vegetable garden. Each month approximately 25 kg of food waste is composted through this initiative. In Patalganga, India, employees are made aware of the amount of food they are disposing of with signs, updated on a daily basis with the quantity of waste thrown away that day. Any food waste is converted into composite fertilizer, currently around one tonne every year.

> [Sustainable Development Goals](#)

## How we are supporting the SDGs

**3 GOOD HEALTH AND WELL-BEING**

**Good health and well-being**

We seek to prevent illnesses indirectly by reducing waste pollution and by improving handling of hazardous waste materials.

**12 RESPONSIBLE CONSUMPTION AND PRODUCTION**

**Responsible consumption and production**

We strive to consume and produce responsibly by implementing robust strategies to reduce, reuse and recycle any waste we produce.

**17 PARTNERSHIPS FOR THE GOALS**

**Partnerships for the goals**

Through our local procurement teams, we are assessing the possibility of replacing existing packaging with biodegradable alternatives or options certified as containing recycled material.



## Environment

Life Cycle Assessments

Carbon stewardship

Water

Waste

Air emissions



**Approximately \$17M** invested in process improvements related to energy efficiency and reducing GHG emissions.

## 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 SOE guides our approach to emission 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, which ensure maximum containment and recovery of carbon black dust. In addition, we proactively evaluate innovative technologies that can help reduce air emissions, and how they can be implemented across our operations. A balanced approach is key; technologies for air emission 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 into a consent decree with the US Environmental Protection Agency (EPA) to further reduce emissions of nitrogen oxide (NO<sub>x</sub>), sulfur dioxide (SO<sub>2</sub>) and particulate matter (PM) from our plants in Franklin, Louisiana and Hickok, Kansas. Birla Carbon is currently working on the installation of emissions control equipment at these two locations.

At our Kansas facility, the installed control system will be in place and operating by January 2021, alongside strict controls on feedstock. This will ensure that the site can continue to provide high-quality carbon black products in a sustainable manner.

The Louisiana facility will have its state-of-the-art control systems installed and operational by October 2021. This technology will be the first of its kind, to the best of our knowledge, in the United States. It combines low NO<sub>x</sub> combustion technology, selective catalytic reduction technology and a seawater scrubbing system which will minimize the environmental impact of the control systems. The technology utilizes the brackish water in the Gulf Inter-Coastal Waterway to reduce sulfur components to salts which are naturally found in oceans. By utilizing this technology, Birla Carbon has eliminated the transportation and disposal issues associated with traditional wet limestone scrubber systems, which generate a gypsum-like waste.



### Reducing NOx emissions through investment and cooperation

In 2016, we launched a project at our plant in Tiszaújváros, Hungary to investigate solutions for reducing NOx from the stack emissions created by two high-pressure boilers, which account for the majority of emissions at the site. To begin this process, we tested solutions on a smaller combustor to ensure the technology was effective before investing in applying it to the larger industrial boilers.

As well as reducing environmental impacts, the investment has enabled us to reduce the regulatory costs for emitting NOx into the atmosphere. This success would not have been possible without close cooperation and sharing of information between head office and on-site teams – a great example of how we can do more when we make the most of our Compound Knowledge and the Familiar Bonds within our global company.

> [Sustainable Development Goals](#)

## How we are supporting the SDGs



### Good health and well-being

We seek to prevent illnesses indirectly by reducing air pollution and have invested in technologies to decrease stack emissions from our plants.

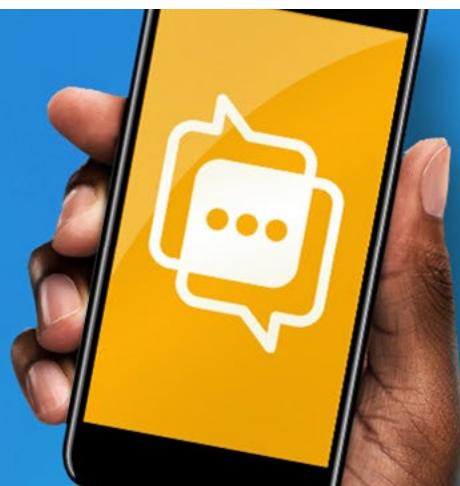


### Partnerships for the goals

We have entered into agreements with environmental organizations to reduce emissions from our facilities in Louisiana and Kansas.

Customers and suppliers

## Engaging with customers and suppliers to perfect our business



Customers and suppliers

Customer engagement

Supplier management

Focusing on what is now 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 that we all meet our high ethical standards and align our sustainability strategies to take us Beyond Durable, for the long term.

### 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.



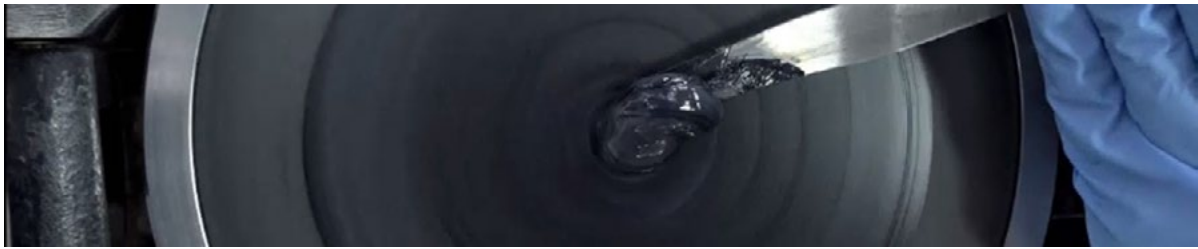
> Find out more about our five [Purpose Principles](#)



At Birla Carbon, sustainability is not confined to our plants and the environment we operate in. It has a much broader role to play in our business. It's an integral component of our Customer Value Management Process and together they form the core of our Sales & Marketing DNA. Sustainability as a key intangible differentiator has helped us to create real value for our customers globally."

**JAYANT GEHLOT**  
Area Marketing Manager – Asia

## Working to create value for our customers



### Building strong customer relationships

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 the feedback of our customers to improve the products we offer, but also ensuring we are transparent about our ongoing sustainability efforts.

- > [Customer engagement](#)

### Creating a sustainable supply chain

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 Ethics and our ethics and compliance standards.

- > [Supplier management](#)

### FY2020 highlights

We were awarded a gold rating by EcoVadis for the fourth consecutive year for our advanced sustainable practices.

- > [Global recognition](#)

Our Net Promoter Score (NPS) was 59 in FY2020 (FY2019: 55).

- > [Customer engagement](#)

We updated our internal Procurement Policies in FY2020 to require due diligence screening of all suppliers.

- > [Supplier management](#)

### Feature stories



#### > [Birla Carbon's first Global Purchasing Symposium](#)

In an effort to align our global processes, in February 2019 we hosted our first Birla Carbon Global Purchasing Symposium.



#### > [Empowering customers to make the right choices for them](#)

Through the launch of a new Birla Carbon app, we are making it easier for customers to find the perfect products for their needs.

## How we are supporting the SDGs

Through working closely with our supply chain, as well as with all of our employees worldwide, we promote the responsible consumption of raw materials and ensure measures are in place to improve the sustainability of our production processes. Through partnering with our customers, we are learning what we need to do to better address sustainability targets that protect both people and the environment.

The SDGs we are supporting are:



Customers and suppliers

Customer engagement

Supplier management



**59 was our Net Promoter Score for FY2020,** demonstrating our customers' high satisfaction.

## Customer engagement

We stand strong with our customers; our unique and effective global collaboration is what enables us to achieve our Purpose, to Share the Strength with the world.

We seek to nurture open, trusting relationships with all stakeholders and to maintain these relationships by offering our customers a consistently high-quality product, excellent service and global supply security. By aligning our sustainability strategy with those of our customers, we are growing together with them to be a company they know they can trust.

### How we engage with our customers

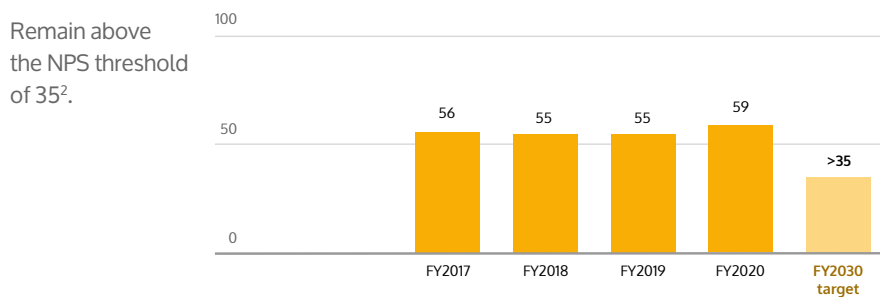
We aim to develop long-term relationships with our customers so that their business, and ours, can succeed. Our cross-functional engagement model is spearheaded by our Key Account Management (KAM) program. KAM is designed to increase points of contact across the customer's organization to establish valuable 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

Introduced in FY2017, our customer satisfaction KPI is based on the well-established Net Promoter Score® (NPS®<sup>1</sup>), 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?"

### Customer loyalty: progress towards our target



Through the NPS process, our sales representatives 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 continued 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.

1 The NPS model, developed by and registered to Fred Reichheld, Bain & Company and Satmetrix, measures customer loyalty by asking for direct feedback.  
 2 Net Promoter Scores range from -100 to +100

A company's NPS is calculated by subtracting the percentage score of Detractors from the percentage score of Promoters. In FY2020, our global NPS was 59 on a scale of -100 to +100 (FY2019: 55), and there was good uniformity across regions. This score is considered excellent for a business-to-business company such as ours. Our objective is to maintain our score above 35. Although this is still considered to be a "good" score, dropping to this value would alert to us the need to improve our performance; our historical results suggest that this threshold would correspond to a 10-point drop from our quarterly low.

## Turning feedback into action

We use customer feedback to drive continuous 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).

In FY2020, our ratings from Detractors included specific comments relating to the following issues:

- Price
- Supply
- Communication

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 review all customer dissatisfaction, whether it relates to products, sales or the supply chain, thoroughly before responding to the customer.



### Together for Sustainability

Together for Sustainability (TfS) is an initiative that brings together chemical and pharmaceutical companies to monitor the sustainability performance of all their business partners and to integrate sustainability into their procurement processes.

One of Birla Carbon's customers, a member of TfS, requested our participation in a formal audit at our Tiszaújváros, Hungary plant. The audit was conducted and validated by an independent third party, with results made available to all TfS members.

The audit process is composed of five sets of criteria: Environment, Health & Safety, Labor & Human Rights, Management and Governance. The overall score of 96% for our Hungarian facility demonstrates the positive work we are doing there, with a very limited number of issues identified, all of which are easy to correct. Only three recommendations were highlighted, two minor and one major. The main recommendation arising from the audit was to ensure that our business ethics clause is included in all contracts with suppliers, and this is already being implemented through our global efforts standardizing our Terms & Conditions of Purchase. We are pleased that our plant received such a positive outcome: confirmation of our commitment to embedding sustainability in our practices.

## Developing our customer complaint resolution methodology

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. Through following these eight steps for each customer complaint we receive, we endeavor to respond in a targeted and timely manner every time.

## Sharing sustainability strategies

Transparency is key to building joint strategic sustainability approaches with our customers and other stakeholders. Our customers increasingly look to us to supply data on our own sustainability performance to aid transparency in their supply chains.

We invite our customers to visit our plants and offices to carry out their own audits and process reviews. They place a high level of value in having a secure supply – a requirement that we meet through our business continuity strategy and enterprise risk management approach.

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 Life Cycle Assessment (LCA) approach, and in FY2020 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 their own 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.

- > [Business Continuity Plans](#)
- > [Life Cycle Assessments](#)
- ↓ [Birla Carbon Carbon Footprint Statement](#)



### Empowering customers to make the right choices for themselves

Kevin Brown

In February 2020, Birla Carbon took the Tire Technology Expo 2020 in Hannover, Germany as an opportunity to announce the launch of the new Birla Carbon mobile app. Through the app, customers can search for the right carbon black solutions across tires, rubber, plastics, inks, coatings and other niche industries.

A Solutions Guide helps customers to identify the right options for their specific needs, while the Hardness Calculator Tool provides guidance on comparative carbon black loading levels for rubber compound formulation development. A dispersant calculator is also available on the Solutions Guide to assist formulators of inks and coatings with the optimal dispersant dosage to stabilize their formulation. Having selected the products and solutions which best meet their needs, the app then directs customers to the option to discuss their specific needs further with a Birla Carbon expert.



We built the app to help customers narrow down their carbon black choice to a manageable list, while still giving them the option of choosing specific application performance parameters to offer a solution. We wanted to show customers we had the information, technology and experience to help them find a solution to all of their carbon black needs."

**KEVIN BROWN**

Technical Service Manager

- > [Sustainable Development Goals](#)



## How we are supporting the SDGs



### Partnerships for the goals

We help achieve the goals by working closely with our stakeholders, particularly our customers. In FY2020, we continued to work with our customers to identify products in our range that will support their circularity pledges.

## Customers and suppliers

Customer engagement

Supplier management



All 9,000+ Birla Carbon vendors and suppliers screened using NAVEX Global's RiskRate® due diligence system, with **over 95% receiving green ratings.**

## Supplier management

With operations in 12 countries on 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.

### Evolving towards a Global Purchasing Program

#### Code of Ethics

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, which include a clause establishing the ethical principles with which we expect our business partners to comply.

#### > [Ethics](#)

#### Performing due diligence

We see procurement as being central to business, legal and regulatory risks, and sustainability considerations. Between FY2015 and FY2016, we reviewed and analyzed 100 key distributors and agents through NAVEX Global's RiskRate® to identify any potential risks posed. In FY2019, we extended the process to 9,366 – our entire supplier base. The process is now well established and runs automatically for all suppliers.

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

In FY2020, over 95% of our suppliers were highlighted by RiskRate® as being green. It marked 4.2% as yellow suppliers, while 0.6% 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. Enhanced due diligence is being performed for these suppliers through our Legal department. We have terminated 18 red-flagged vendors since September 2019 and cleared an additional 7 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 over seven years, we have continued to explore further ways to encourage best practices through 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, reputation 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.

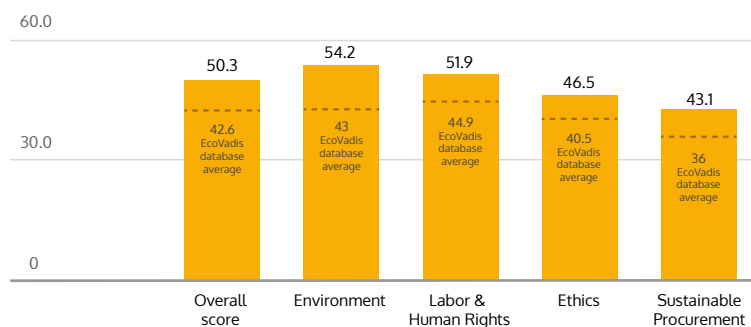
In FY2020, all 278 of our critical suppliers were invited to participate in our EcoVadis screening program. EcoVadis screening is a voluntary program for our suppliers, and many have already shared their scores, which are split into four categories (Environment, Ethics, Labor & Human Rights and Sustainable Procurement). Our average supplier sustainability score is 50.3, significantly higher than the average of 42.6 throughout the EcoVadis database, which comprises over 55,000 companies worldwide. This suggests that, globally, our key suppliers are already performing above average in the four criteria. For instance, over 70% of our critical suppliers report on energy consumption and CO<sub>2</sub> emissions; over 60% report on health and safety issues, have a policy on corruption and are ISO 14001 certified.

However, fewer than half are disclosing their carbon footprint 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.

## EcoVadis scores

A sustainable supply chain, recognized by EcoVadis.

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



### Birla Carbon's first Global Purchasing Symposium

In an effort to align our purchasing processes on a global scale, in February 2019 the first Birla Carbon Global Purchasing Symposium was hosted at our headquarters in Marietta, Georgia, USA. During the three-day event, best practices were shared among our purchasing managers and key stakeholders globally and three key goals were highlighted:

- To ensure all our suppliers were screened for compliance through NAVEX Global's due diligence software, RiskRate®.
- To foster sustainable procurement practices and profiling of our suppliers through the EcoVadis platform.
- To drive consistency in our Terms and Conditions (T&Cs) of Purchase, which we share with our vendors worldwide.

> Sustainable Development Goals

## Making compliance more comprehensive

In FY2017, we worked with legal advisors in various regions to customize our T&Cs of Purchase to address the different local legal requirements. In FY2018, we began a similar process with our T&Cs of Sale. Our T&Cs of Purchase have now been translated into several languages, making them more comprehensive in all our operating locations.

Our Supply Chain and Procurement Policy, published in FY2018, guides each of our sites to ensure supply chain compliance with the relevant legislation and the Birla Carbon Code of Ethics. Standards we expect include promotion of resource conservation, use of alternative materials and renewable energy, water stewardship, safety, health, respect for human rights and elimination of child and forced labor across the supply chain. This policy is part of our wider Sustainable Procurement management system, which is deployed across all our buyers and our 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](#)

## Response planning and preparedness

We strive to ensure that our sites and suppliers have up-to-date inventories available at all times. Challenging and unexpected global circumstances can impact inventory approaches for both ourselves 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.

> [Business Continuity Plans](#)

## How we are supporting the SDGs



### Responsible consumption and production

We support responsible consumption and production by ensuring that our feedstock comes from suppliers close to our facilities, which we are now screening for risk management purposes.



### Peace, justice and strong institutions

Through our internal governance mechanisms, we prevent corruption and bribery from taking place in our business. This reinforces our own institutional accountability and transparency as well as that of our customers.



### Partnerships for the goals

We encourage our suppliers to respect human rights through the Terms and Conditions on our contracts, which we have now translated into several languages.

## Our People

# Bringing out the best in our people to bring out the best in our business



## Our People

Health and safety

Attracting and retaining talent

Employee engagement

We believe that our value is increased not only by creating industry-leading products, but also by creating a supportive workplace where employees feel encouraged to develop and be their best. We are committed to providing learning opportunities to our employees across the globe as well as ensuring their safety and wellbeing so they feel inspired to continue making great products.

## 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 five [Purpose Principles](#)



What the caterpillar calls the end of the world, the rest of the world calls a butterfly. When we were hit by a sudden storm here in Italy, rather than stopping operations, we took it as an opportunity to evolve by foreseeing and adapting to change. It took time, working tirelessly to change established work patterns. We survived and have emerged at the other end better and stronger."

**GIUSEPPE ZANOTTI**  
General Manager, Birla Carbon Italy

## Becoming an employer of choice



### Ensuring safe work environments

The health and safety of our employees is paramount at Birla Carbon. We encourage our people to take responsibility for their own safety and that of their colleagues through our Commitment Based Safety (CBS) approach.

- > [Health and safety](#)

### Attracting the brightest minds

We believe that to be the best we can be, we must have an engaged and diverse workforce. We seek to attract the best people to Birla Carbon and offer many opportunities for them to learn, develop their skills and progress within the industry.

- > [Attracting and retaining talent](#)

### Inspiring our workforce

Keeping our global workforce motivated and working together to achieve our goals is fundamental to our success as a business. To ensure our employees are engaged, and to determine areas where we could be doing more, we conduct regular employee surveys as a method of gaining feedback from our people.

- > [Employee engagement](#)



### FY2020 highlights

Birla Carbon saw a 40% reduction in Lost Time Case Rate, the lowest rate in seven years.

- > [Health and safety](#)

We conducted our Vibes 2019 Global Employee Engagement Survey, receiving a 98% response rate.

- > [Employee engagement](#)

We launched our Gyanodaya Virtual Campus (GVC) Learning App COVID-19 Channel to share important resources with employees.

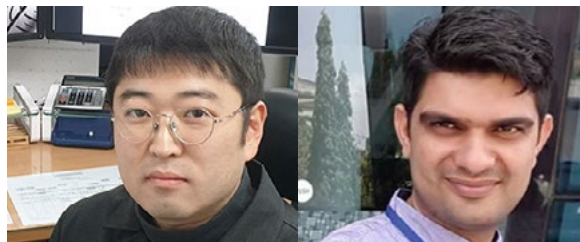
- > [Health and safety](#)

## Feature stories



### > Inviting innovation from everyone

We are encouraging all our employees to Share the Strength and to submit the ideas they have for innovation at Birla Carbon.



### > Offering employees global training opportunities

Two of our employees share their experiences of the first year of Birla Carbon's Global Rotation Program.

## How we are supporting the SDGs

Through our operations we seek to promote the wellbeing of our employees and to build a strong and just institution. But caring for our people is more than just how we develop the workplace; we are also working to ensure clean water and energy for all and to safeguard our planet for future generations.

The SDGs we are supporting are:



## Our People

Health and safety

Attracting and retaining talent

Employee engagement



**Birla Carbon saw a 10% reduction in TRIR in FY2020 as compared to FY2019.**

## Health and safety

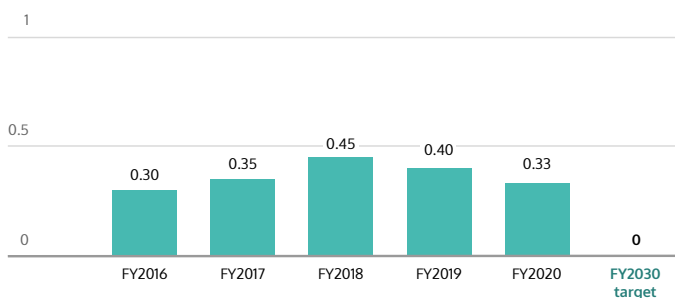
The health and safety of our people is paramount. In FY2020, we have continued to establish a culture of safety excellence within Birla Carbon – steered by strong leadership and driven by the commitment of our own people to setting as a priority their own safety and the safety of others. In light of the global spread of COVID-19, we acted quickly to ensure each of our employees was kept safe and healthy no matter where in the world they were.

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.



### Safety: progress towards our target

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



## Reducing workplace injuries

We are responsible for ensuring that everyone at our facilities is safe, from the moment they arrive to the moment they leave. Our injury rate continues to position us as a leader in our industry. In FY2020, Birla Carbon reported the lowest Lost Workday Case Rate (LWCR) in company history as well as one of the lowest TRIRs in recent years. Ten sites completed the year without a recordable injury to an employee and 14 sites completed the year without a recordable injury to a contractor. We can still do more as we strive for zero incidents, but our progress to date demonstrates that people have understood our safety expectations and are taking care in their daily work.

**In FY2017, we introduced leading indicators, designed to proactively prevent incidents and injuries before they occur. These indicators focus on:**

- Health, Safety and Environment (HSE) training and qualification;
- Responding to hazard reports or employee concerns within 48 hours;
- Investigating near misses within two business days; and
- HSE self-assessments and the completion of action plans to address findings.

Focusing on these key indicators, we continue to see positive results. Facilities reported 100% completion of all required HSE training. Nearly 300 near misses were reported in FY2020, with 92% of investigations of these events completed within two business days, an achievement which is considered world class. All sites completed a second round of perception surveys in 2020 and results suggest an increased level of engagement from employees and leaders in HSE initiatives, resulting in a positive change in safety culture. We expect these leading indicators to continue to drive improvements over the coming years and intend to refine them as our culture matures.



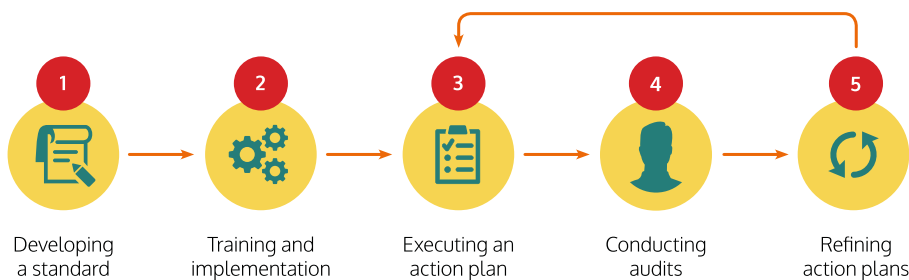
## Our health and safety programs

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



#### 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.



#### 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.



#### 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.



#### 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. Safety managers from our other sites also participate in the review process, sharing best practices.



#### Refining action plans

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



### Caring for our people during COVID-19

As the COVID-19 pandemic spread globally, our first priority was to ensure every one of our employees was kept safe. Crisis Management teams were established globally, regionally and locally to ensure the health and safety of our people.

We developed a range of online resources for our employees, from a designated intranet page with links to resources to our GVC Learning

App COVID-19 Channel. The Channel provides employees with information on safety, resilience, managing teams, maintaining a positive and productive mind-set and returning to work.

Building on our Purpose to Share the Strength, we leveraged our global footprint to ensure employees had the correct personal protective equipment (PPE) no matter where they were. When our facility in China faced a shortage in masks, the team in Korea sent thousands to them. In turn, when masks could not be found locally in Korea, we shipped them from our team in Brazil, who also sent PPE to Italy. Local vendor relationships in the US helped us to acquire face masks to ship to Spain.

### Serious Injury and Fatality initiative

In FY2019, we rolled out our Serious Injury and Fatality (SIF) focus initiative. This program focuses on higher-risk tasks and situations. Central to this initiative is a re-emphasis on the Safe Six: key areas where high precision is essential to prevent a serious injury or fatality. These areas are lockout-tagout (LOTO), working at heights, mobile equipment, electrical, hot work and confined space.

The focus on SIF is based on the fact that although globally many companies have made great strides to reduce the overall frequency of injuries, there has not been a proportional decline in the number of serious incidents and fatalities.

A critical element of this initiative is the focus on near-miss reporting. According to the Campbell Institute at the National Safety Council, 85% of all serious injuries and fatalities are preceded by near-miss events, and so we also aim to improve near-miss reporting.

This effort continued in FY2020, with sites identifying and implementing best practices for SIF prevention. Likewise, reporting of near-miss events improved, with investigation findings quickly communicated to all sites. Emphasis on SIF prevention and the Safe Six will continue through FY2021 and beyond until they are a part of our safety DNA.

### The Safe Six: key health and safety risks



We encourage individuals to make a personal safety commitment to change the overall safety culture. Among the factors that we ask our employees to consider are these six occupational health risks, which every person working at our sites must be aware of.



#### Working at height

Use all prescribed PPE for the task, including fall protection where 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.



#### Control of hazardous energies/lock-out

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.



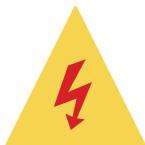
#### Mobile equipment

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



### Confined spaces

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.

While all of our employees receive regular training and education related to these six critical areas, we believe that this dedicated campaign to increase awareness and reinforce these requirements will help us achieve flawless execution of these principles on a daily basis. In late FY2020, the HSE team began developing micro-learning modules focused on our Safe Six standards. These modules present a full training program for employees in small, easy-to-understand segments that can be viewed over a mobile phone or other portable device.

## Changing our health and safety culture

At Birla Carbon, we believe a culture of safety is created and maintained by engaged individuals who actively manage their risks every day. We are continuing to deploy the Commitment Based Safety (CBS) process, through which individuals make personal commitments to manage and discuss the individual risks they face.

Through CBS, we expect every person at every level to take responsibility and be accountable for both their own safety and the safety of those around them. 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.

Specific risks and the behaviors required to manage them are identified at a site level, and employees create safe habits by providing daily reports on their progress. The understanding is that full compliance is not automatic but that improvements can be made each day and that, once employees can manage their own commitments, they will be more effective at looking after others. We continued to emphasize CBS in FY2020, creating animated CBS modules as part of a micro-learning course.

## Protecting our contractors

Improving our health and safety performance demands that we work closely with contractors, who may not work to the same standards that we expect from all our employees. Since we introduced our Global Standard on Contractor Management in 2015, we have seen contractor safety performance improve significantly, with the incident rate halved. In FY2020, we maintained focus on the importance of contractor management and saw a significant reduction in contractor incidents from FY2019 (13 to 6). In FY2020, our contractor TRIR was 0.20 and the LWCR was 0.07.

In FY2018, our sites in North America contracted Avetta, a third-party risk management provider, to improve the qualification process. Avetta collected information from contractors, including safety incidence rates, insurance coverage, and health and safety programs, based on Birla Carbon specifications. The information was evaluated and scored, with each contractor assigned a rating. Only those that met Birla Carbon requirements qualified to work in the plants. The process has also saved the sites time in qualifying and selecting contractors. We are now evaluating the feasibility of expanding the Avetta contractor qualification process to our facilities in other regions.



## Our award-winning safety culture in Spain

We have always placed a strong focus on the health and safety of everyone who steps into our facilities. Nowhere is this clearer than at Birla Carbon Spain. The continued dedication to ensuring a strong safety culture has resulted in the plant receiving 10 awards for safety over the last three years.

Each initiative and program implemented at Birla Carbon Spain is designed with the health and safety of both employees and contractors in mind. As a result, accidents are rare at the facility and everyone takes ownership of their own safety and that of those around them.

### Safety awards won by Birla Carbon Spain

COASHIQ (Autonomous Safety and Hygiene Commission of the Chemical Industries of Spain) for zero employee accidents	2017, 2018, 2019
Social Security Government of Spain. Grant due to zero accidents of own personnel in 2016. Grant invested in safety improvements in the site	2017, 2018, 2019
FEIQUE (Spanish Federation of Chemical Industries) for zero employee accidents	2018, 2019
Birla Carbon Award for "Completing two years without Recordable Injury"	2018, 2019
ICBA Gold award in safety. More than three years with zero lost time on-site	2019

#### > Sustainable Development Goals

## Auditing our performance

We regularly perform audits across our operations to determine compliance with our regulations and standards. Enablon, our integrated sustainability management system, facilitates data tracking and supports the development of a better understanding of specific issues. It also provides a platform for devising and tracking action plans, ensuring their completion and reinforcing accountability for sites and individuals. In FY2020 we conducted 18 audits at our sites: nine for health and safety and nine for environmental performance (2019: 18 audits).

In FY2020, we completed our first interval of scored HSE audits for all operating facilities. This audit-scoring process enables us to identify common strengths and opportunities for improvement across the organization. These audits encompass compliance with HSE regulatory requirements as well as Birla Carbon's internal standards. They also assess key leadership activities and management systems on-site.

The average audit score for all sites was 90%. Future audits will stress accountability for improvement against previous results. Results are tracked to completion in an action plan and reported on to company leadership on a monthly basis.

Our HSE standards are central to our audits, which analyze working practices and evaluate standard effectiveness on-site, reporting monthly. Each standard also includes a self-assessment section, which requires site leaders to monitor and track improvements. Several new standards were implemented, with other key standards revised in FY2020, in areas such as inspection, testing and maintenance of fire protection and emergency equipment, and management of change, to improve and reinforce expectations in key areas and address gaps identified in audits.

## How we are supporting the SDGs



### Good health and well-being

We encourage individual accountability for the health, safety and wellbeing of our employees through our CBS process and a range of health and safety programs.



### Decent work and economic growth

The health and safety of our people is a shared value that is integrated into all of our activities. We want our employees to look out for not only their own safety but also the safety of their colleagues.



### Partnerships for the goals

We help achieve the goals by working closely with our stakeholders, including community groups, universities, nongovernmental organizations and the Aditya Birla Group. This extends to ensuring our contractors adhere to our safety standards.

Our People

Health and safety

Attracting and retaining talent

Employee engagement



Over 80 interns gained work experience at Birla Carbon in FY2020.

## Attracting and retaining talent

We believe that we achieve the best results when we are open to others' 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.

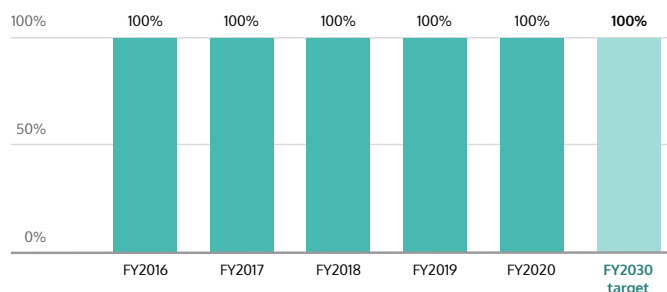
We enable our employees to develop their skills and potential, offering exciting opportunities for career development, learning, recognition and wellbeing, in alignment with A World of Opportunities, the Aditya Birla Group's Employee Value Proposition.

[Our Group Employee Value Proposition](#)



### Talent development: progress towards our target

100% of Birla Carbon managers to have stated and measured goals set annually.



## Our HR vision and strategy

Our 2020 Human Resources (HR) Strategy aims to build a high-performing organization by engaging the hearts and minds of all employees in a culture of leadership, collaboration and innovation. It focuses on four key pillars:

- **Profitability** – building a high-performing organization through a performance management system, with shared goal setting, roundtable discussions and aligned standards and ratings;
- **Leadership** – creating an environment that builds capability, leadership and knowledge, including bringing in stronger talent, encouraging horizontal movements and focusing on diversity;
- **Engagement and culture** – building engagement through Inclusion and Leadership Connect and driving the One Birla Carbon culture through a common purpose; and
- **Employer brand** – recognition as a strong employer brand, both internally and externally.

These pillars will be supported by a modernized HR governance model that is equipped to achieve our 2020 aim, and we have high expectations for our strategy's success.

## How do we attract and retain talent?

We seek to be an employer of choice in every region where we operate. We place emphasis on talent development, targeted internal movement and continuous engagement with our employees.

Our progress as a company is driven by both the expertise of our seasoned carbon black professionals and the continuous 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. In FY2020, we provided over 80 internships to students.

Participants in the Aditya Birla Group Leadership Program (ABGLP) are offered global project opportunities in varied business functions, such as operations, marketing, finance and HR. In FY2020, 12 participants from leading schools and universities in India and across Asia completed projects with Birla Carbon through this program. We have also hired one ABGLP participant at Birla Carbon, and have given two internship projects to participants of the Group Internship project.

### Identifying leaders through our talent management system

Our talent management process aims to build a community of competent and highly engaged global leaders. Our talent management philosophy encompasses the following tenets:

- Leaders can be developed.
- Leaders are responsible for identifying, building and nurturing future leaders.
- Development is best achieved through multiple, diverse experiences.
- Each employee is responsible for sharpening their innate potential.

Our approach includes a range of initiatives:

- **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 development.
- **Development centers** – applying a rigorous process to assessing and creating a development plan for each individual based on their strengths and opportunities.

Cyclic assessment and review of individual potential is a fundamental part of our talent management and leadership development process – across both Birla Carbon and the Aditya Birla Group as a whole.

### Developing our people at all levels

From the plant floor to the sales floor, our passion for learning has no ceiling. We believe that continuous learning drives us to develop a deeper understanding of our products and their applications. As part of each employee's annual performance review, relevant learning needs are identified and documented in their personal development plan. We encourage our people to continue to learn throughout their career 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 to improve our business and conduct all training and development from a centralized source. The platform records all learning activities, and an online library of nearly 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 employees
- Collaboration and teamwork
- Finance essentials
- HSE
- Wellness
- Communication to influence and engage

In FY2020, we launched our GVC Learning App, a mobile application powered by artificial intelligence. The app is learner centric, providing a learning experience that is personalized for each user. It provides easy access to information, enabling employees to learn while on the go. It also provides social features, allowing employees to like, share and comment with one another.

## Growing employee knowledge with eAcademy

The Birla Carbon eAcademy, established in FY2017, aims to share the experience and knowledge of our business leaders and subject matter experts with employees, and to simplify key aspects of the business.

We have developed e-learning modules specific to Birla Carbon to institutionalize the knowledge accumulated by our subject matter experts through our long history. Modules developed to date include Carbon Black 101, Reactor Technology and Commitment Based Safety.

We conducted two eAcademy sessions in FY2020 on Risk Management and Sustainability. Previously, we have hosted similar sessions on topics such as Commitment Based Safety, Total Rewards Philosophy and Specialty Blacks.

In addition, our “Food 4 Thought” sessions provide an opportunity for employees to “lunch and learn” about different aspects of the business. Sessions completed in North America in FY2020 included Creating a Culture of Innovation.

## Providing learning experience through our Global Rotation Program

With the goal of providing employees with a range of technical, functional and management experiences, a short-term Global Rotation Program was launched in April 2019 for nine employees across the business in technical functions. Through the program, we provided high-performing employees with exposure to diverse technologies and practices, enhancing their functional competence and growth. The program gave participants the opportunity to work across diverse cultures and geographies through a structured approach. We leveraged our global presence to tap into a wide network of knowledge and resources. The program ran for four weeks, with a mentor assigned to help participants acclimatize to a new environment outside of their own region, accomplish learning objectives together and guide them through the program.

## Sharing knowledge through our mentorship program

Birla Carbon rolled out a mentorship program in FY2019 aimed at providing opportunities for selected employees to develop core skills in their focus areas and facilitating knowledge transfer and career development through deep personal relationships with senior management. The program ran from January to December 2019, with 38 employees being assigned to 17 mentors within the company. Over the 12 months, employees met with their mentor eight times, with feedback collected from the mentor at both the mid-term point and at the end of the program. The feedback received was extremely encouraging, and we are now evaluating a second round of the program.

## Using Core Conclave to build future leaders

The Aditya Birla Core Conclave is an annual event for middle and senior management – including our future leaders – that aims to build depth, broaden perspectives and foster interaction across the Aditya Birla Group. Over 140 Birla Carbon employees have participated in the first four Core Conclaves.

## Recognizing our people

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.

### Our 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
- Create and maintain a rewarding and appreciative working environment, providing global exposure and offering flexible work options where possible.



## Fair and competitive total rewards

Birla Carbon continuously assesses local and global standards of pay and benefits to ensure we remain competitive and compatible within and outside Aditya Birla Group.

- **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. We introduced the APPLAUSE platform in FY2020, our first real-time online global recognition program.

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

We also recognize exceptional individual and team performance 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 Aditya Birla Group Awards for Outstanding Achievement. Exceptional performers are nominated for individual awards, including Emerging Professional, Distinguished Achiever, Exceptional Contributor, Accomplished Leader and Outstanding Leader.

In addition, business-level awards recognize excellence in a company, area or unit where specific initiatives have enhanced shareholder value and business sustainability. In FY2020, Birla Carbon won seven awards at the Group level in various categories.

## Career movements with Birla Carbon

We have continued to make internal career paths clearer through a more streamlined framework for the Technology, Engineering and Operations areas. We encourage intra- and interregional movements of qualified employees, as well as transfers from other businesses within the Aditya Birla Group. For example, 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.



### Offering employees global training opportunities

In April 2019, we launched our Global Rotation Program. Through the program, high-performing employees are offered the chance to spend four to six weeks working in one of our other global facilities, developing their skills and sharing ideas with international colleagues. Here, two of our employees share their experiences from the program.

#### Byoungyoon Kim

Byoungyoon joined the program in July 2019, traveling from his home unit in Korea to spend four weeks with Birla Carbon Hungary. During his time with the Unit Leadership team in Hungary, Byoungyoon exchanged ideas on purchasing and inventory control for carbon black, learning new techniques to implement at Birla Carbon Korea. His mentor, Laszlo Dobos, found that the program was beneficial for Birla Carbon Hungary as well, as Byoungyoon brought with him strong experience and information that could be used to improve operations in Hungary.



It's good to be able to make friends at factories in other continents. I believe that through mutual exchange of views, the company will make better progress."

#### BYOUNGYOON KIM

Purchasing Supervisor, Korea Plant

#### Sachin Kumar

Sachin, from Birla Carbon's plant in Renukoot, India, got the opportunity to interact with the leadership team at the plant in Trecate, Italy in June 2019 through the program. During the month, he and his mentor, Dino Miglio, covered a range of topics including reactor chemistry, beading systems and the rubber properties of carbon black – information Sachin can use to improve processes in Renukoot.



It was a very good experience for me. The rotation stint helped me to enhance my knowledge of carbon black. I gained understanding of new technology of carbon black which is different from the Renukoot unit. This program helped me to think about new ideas and ways of working for continuous improvement."

#### SACHIN KUMAR

Shift in Charge, Operations, Renukoot Plant

## How we are supporting the SDGs



### Quality education

Our Code of Ethics training provides education to all our employees on human rights and diversity.



### Decent work and economic growth

We support our employees' career progression across all regions and offer a range of employment and career development opportunities.



### Partnerships for the goals

We want the achievements of our employees to be recognized, not just within Birla Carbon, but throughout the entire Aditya Birla Group.

Our People

Health and safety

Attracting and retaining talent

Employee engagement



We received a response rate of 94% for our One Voice employee engagement survey.

## Employee engagement

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

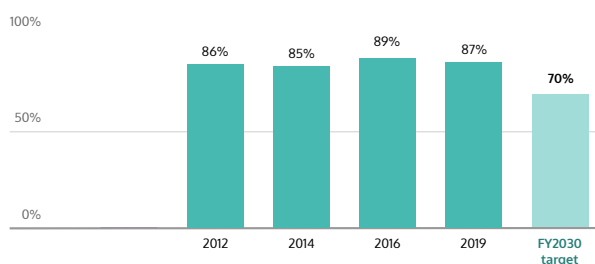
Maintaining a global workforce that is motivated and inspired is instrumental to our success, and learning how our employees feel is crucial for understanding how we are developing as an organization. We have a diverse workforce with a broad geographical spread, and we seek to engage all our people as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



### Employee engagement: progress against our target

Remain above the chemical industry annual benchmark for employee engagement<sup>†</sup>.

<sup>†</sup> 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.



### Our approach to engagement

Every two years, we conduct both of our employee engagement surveys: Vibes (for management) and One Voice (for staff and hourly workers).

We modified our Employee Engagement KPI in FY2020 to combine the results of the Vibes survey and our management-level Team Vibes survey. The KPI tracks employee engagement across Birla Carbon globally. Results are compared to both the Global High Performance Norm<sup>1</sup> and the Global Chemical Company Norm<sup>2</sup>, which in FY2020 was 70%.

#### One Voice

We conducted our second One Voice survey of all non-management level employees in FY2020. The survey was administered with questions prepared in nine different languages, and implemented across fifteen plants and five regional offices.

One Voice achieved an outstanding response rate, with 94% of employees participating. The results showed an improvement in employee experience across various topics such as alignment, execution, performance and development, fairness and ethics, values, recognition and safety compared to the last survey. Despite the improved scores, there was a decline in satisfaction in some areas, including work processes being well organized and efficient, encouraging employees to come up with new and better ways of doing things, and improving the overall communication process. Using these results, we have created action plans to address lower-scoring areas in FY2021.

#### Vibes

By maintaining open and continuous dialogue with our employees, we gain a better understanding of their expectations and can track our progress with regard to employee engagement. The Vibes survey is conducted at management level by an external provider every two years. It provides valuable feedback, which helps us develop and execute action plans in specific areas that are tracked at local, regional and global levels.

1 Results are compared against other companies meeting two criteria: (1) Above-industry-average financial performance for at least three years; (2) Above-average engagement scores.  
 2 Results are from a cross-section of chemical companies engaged in the manufacturing/distribution of chemicals for use in industry, agriculture, household and non-pharmaceutical personal use.

We conducted our most recent Vibes survey in FY2020, with a 98% response rate. The survey shows that we are now achieving, or scoring higher than, the industry benchmark for employee engagement. Employees are proud to work for Birla Carbon and consider it a great place to work. Since the last survey, improvements have been made in the areas of attracting talent, offering varied career opportunities and empowering decision-making. Strengths include the feeling that all backgrounds can succeed, attracting talent, and career and development. While the general perception is improving, there are areas for improvement, including the support managers offer to new starters across the business, work processes and provision of modern equipment.

The results have been distilled into action plans in each region and unit. We continue to track progress through scorecards during FY2021.

From FY2020, the Vibes and Team Vibes surveys were combined for all Aditya Birla Group businesses. Managers with four or more team members received a report for their effectiveness as managers. They then created action plans based on these reports.



## Inviting innovation from everyone

Caitlin Lawrence

We want employees to be engaged with every aspect of the business, to continue on the Purpose journey by Sharing the Strength and to promote a culture of innovation. To support our Senior Management Team in achieving this goal, the Innovation Action Team (IAT) was formed in 2019. The IAT is tasked with creating opportunities which empower employees to share their ideas, to build on them in

collaboration with their colleagues, and to innovate new solutions and products.

To further the innovation initiative, the first Hype Open Innovation campaign was launched in July 2019. The campaign, which ran over four weeks, invited employees from across Birla Carbon to submit their ideas via a secure, online platform. The campaign garnered support from across the organization; from the 87 ideas submitted, 18 were selected for implementation, including teleworking (just in time for COVID-19), improving diversity and developing a network of innovation ambassadors across the company.

Going forward, we are expanding on this initiative through additional innovation platforms including a Share the Idea SharePoint site and corresponding Share the Idea mobile app through which employees can share ideas anytime and anywhere.



Innovation is one of the key enablers for the continued success of Birla Carbon. The company is investing in its people through innovation platforms aimed at empowering employees to share their ideas, provide feedback and engage with colleagues globally. The smallest idea can have the largest impact.”

**CAITLIN LAWRENCE**  
Innovation Action Team

## Employee wellness

We want our employees to feel that we create a positive working environment. Their wellbeing, and our care for it, is an integral part of our relationship with our people. We continually look for ways in which we can encourage them to lead healthy lifestyles. All regions have their own employee wellness initiatives, tailored to match local health and wellness interests.

In FY2015, we signed the World Business Council for Sustainable Development’s Pledge for Access to Safe Water, Sanitation and Hygiene (WASH) at the Workplace. We fulfilled this pledge in FY2018 and will continue to invest in our facilities and communities to maintain and improve WASH conditions.

## Supporting diversity in the workplace

With operations in 12 countries, our diverse workforce includes many different cultural backgrounds, and with this a wide range of skills. We are strongly committed to supporting diversity and equality and believe all employees should be given the opportunity to progress based on their merits and abilities. We aim to ensure that our leadership is representative of the local workforce, that we hire local talent regardless of ethnicity, sexuality or social background and that skills are transferred equally throughout our operations. We comply with all relevant employment legislation in the countries where we operate, as a minimum.

In FY2020, a comprehensive study was done to understand industry best practices regarding gender diversity. A strategy was devised for Birla Carbon to identify and create business opportunities to foster gender diversity in line with our Purpose to Share the Strength.

Several initiatives were implemented based on this strategy, including:

- Celebrating International Women's Day across our locations, including screening a video from the COO and a video on Women at Birla Carbon;
- Reporting gender diversity metrics in the quarterly Chief Human Resources Officer dashboard;
- Ensuring women are a part of mentoring initiatives; and
- Ensuring equal growth opportunities for women at Birla Carbon.

## How we are supporting the SDGs



### Gender equality

We support gender equality by offering equal opportunities within Birla Carbon, without discrimination, and by empowering women to take control of their personal career progression within Birla Carbon.



### Clean water and sanitation

WASH is a priority for us, and we worked to ensure that all of our sites were providing safe access to WASH by FY2018.



### Reduced inequalities

Taking into consideration our global presence, we seek to reduce inequalities and to build a workforce diverse in ethnicity, sexuality and social background.



### Partnerships for the goals

We share the results of our employee engagement surveys with other businesses in the chemicals industry to compare results and determine areas where we can improve.

## Communities

# Collaborating with our communities to grow stronger together



### Communities

Community engagement

Access to healthcare

Quality education

Sustainable livelihoods

Community infrastructure

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 SDGs. Through addressing our communities' most pressing challenges, we are helping to make local people, and Birla Carbon, more resilient. Following the global outbreak of COVID-19, we have increased our efforts to ensure those in our local communities have access to the resources and support they need to stay safe and healthy during this difficult time.

### 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 five [Purpose Principles](#)



We endeavor to actively contribute to the social and economic development of the communities in which we operate. In doing so, we can help build a better, sustainable way of life for the weaker sections of society and raise the human development index of our country."

**MRS. RAJASHREE BIRLA**

Chairperson, Aditya Birla Centre for Community Initiatives and Rural Development

## Delivering benefits to communities

In order 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.



### Improving access to healthcare

As a global company, 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.

- > [Access to healthcare](#)

### Supporting young people

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.

- > [Quality education](#)

### Enabling communities to grow

We want to empower people in our communities to take ownership of their own advancement. By 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.

- > [Sustainable livelihoods](#)

### Building resilient infrastructure

As a responsible member of our communities, we believe it is our duty to partner with local people and organizations to provide practical and sustainable infrastructure solutions. In doing so, we help our neighbors access essential services and facilities.

- > [Community infrastructure](#)

## FY2020 highlights

Birla Carbon pledged \$270,000 to provide 11 students at Kennesaw State University in Georgia with scholarships.

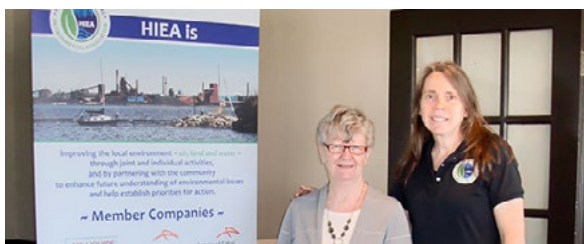
- > [Quality education](#)

In Trecate, Italy we donated a further €10,000 to help local charity organizations purchase masks for the local community in response to COVID-19.

- > [Access to healthcare](#)

We provided food to around 3,000 families in Angthong, Thailand during the COVID-19 pandemic.

- > [Community infrastructure](#)



> **Meeting our neighbors' needs**

Birla Carbon works with communities, businesses and other stakeholders to address community issues.

### How we are supporting the SDGs

Our community interactions support the SDGs in several ways. We have developed a range of initiatives that are designed to promote improvements in education, health, access to clean water and sufficient food, and fair opportunities for all. Through these programs, we are partnering with others to ensure we address the global goals in ways that best support the growth of both our local communities and our business.

The SDGs we are supporting are:





Communities

Community engagement

Access to healthcare

Quality education

Sustainable livelihoods

Community infrastructure



100% of our facilities participate in community engagement.

# Community engagement

As a member of the Aditya Birla Group, our commitment to social good is in our DNA. 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.

## How do we assess community needs?

Guided by the work of the Aditya Birla Group 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](#)

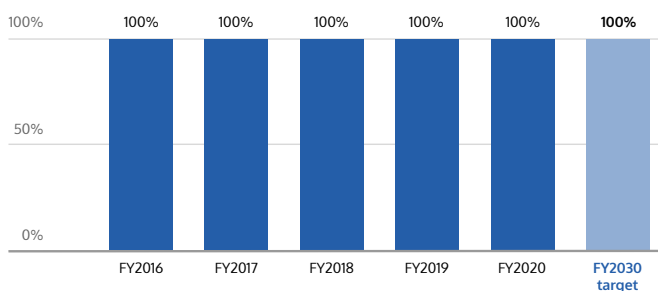
In FY2018, we published the Birla Carbon Stakeholder Engagement Policy, which includes clear standards for our sites to aim for when it comes to engaging with their local stakeholders, including embedding the principles of inclusiveness, transparency, materiality, completeness and cultural appropriateness in all engagement activities.

[Birla Carbon Stakeholder Engagement Policy](#)



## Community engagement: progress towards our target

100% of our facilities participate in community engagement.



## Identifying the right projects

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

## Our approach to communities

Partnerships are the foundation of our community strategy



## Our 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 do we do this?



We **identify** short- and long-term community risks.



We **assess** local impact and priorities of 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.

## Communities

Community engagement

Access to healthcare

Quality education

Sustainable livelihoods

Community infrastructure

## 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





Our Approach



Our Product



Environment



Customers and suppliers



Our People



Communities



Governance and ethics

## Promoting healthy communities

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

### Hickok, USA

Our Hickok unit supplied 40 respirators to local law enforcement and 40 respirators to the sanitation department.

### North Bend, USA

Our North Bend team contributed to Healthy Skin, an educational and screening program developed by The Skin Cancer Foundation. The program's purpose is to educate the public about skin cancer risks, disease avoidance and early-stage recognition. Approximately 1,000 people have received free skin cancer screenings and thousands more have benefited from sun protection and early detection education.

### Camaçari and Cubatão, Brazil

We donated mechanical ventilator equipment to the state of Bahia, Brazil as part of a partnership with chemical and petrochemical industries in Bahia led by FIEB (Bahia Industries Federation). Each industry donated at least one ventilator.

### Hannover, Germany

Our team in Germany recently promoted community health through sponsoring wheelchair basketball team Hannover United, which plays in the German National League.

### Santander, Spain

Birla Carbon Spain became an allied member of Amara Cantabria (the Association of Parents of Children with Cancer) in early 2018. In May 2019, 50 employees from our team in Spain took part in the Race Against Childhood Cancer in Cantabria. All funds raised went to Amara Cantabria and the Ronald McDonald Children's Foundation.

We donated 50 masks and 75 Tyvek protective suits to emergency services during the COVID-19 outbreak. Eight hundred masks, 100 Tyveks and 20 pairs of safety glasses were donated to the Cantabrian Health Service, which distributed them among hospitals and health centers in the region.

### Trecate, Italy

Despite being located in the center of the COVID-19 storm in Italy, Birla Carbon Italy has continued to help the community through donations to the City of Trecate for masks and those in need. We also provided the Red Cross with Tyvek protective suits. The team donated €1,500 to Novara Hospital to go towards the purchase of materials and machinery, and a further €10,000 to help local charity organizations purchase masks for the local community.

### Tiszaújváros, Hungary

We supported the Foundation for Pediatric Surgical Patients through generous donations from our team.

### Alexandria, Egypt

We established primary health centers in four villages. These provide access to health services for around 300 people every month, along with medical campaigns, a lab service and access to medicines. We provided Amreya District with sanitization tools and materials such as road sprayer tanks, backpack sprayers and chlorine. This year, we increased Ramadan boxes of essential commodities by 10% (compared to 2019) and distributed them to local low-income families, especially those self-isolating due to COVID-19 and those who do not have any source of income.

### Renukoot, India

We organized multiple mobile medical camps that reached 23 villages, providing them with general check-ups and free medicine. We supported the Pulse Polio Campaign and provided safe drinking water at remote locations. We also held health awareness camps twice a month in locations with limited access.

Masks and sanitation material were provided to the district administration. We also organized a COVID-19 awareness campaign for communities near the plant and surrounding localities.

## Patalganga, India

We organized a wide range of health initiatives, including dental check-up camps for school students, a blood group testing camp for college students and HIV/AIDS awareness programs to mark World AIDS Day. We also provided a reverse osmosis water system for clean and safe drinking water at primary schools, held various women's health seminars in the villages and supported the Pulse Polio Campaign.

At the request of the local community panchayat, we provided masks and sanitation materials during the COVID-19 outbreak.

## Gummidipoondi, India

We continue to support the Pulse Polio Campaign to promote childhood polio vaccination and provided multi-specialty health camps for local villagers and students in association with the Public Health Department.

We also teamed up with the Wockhardt Foundation to run a Mobile Clinic Project which provides general check-ups and free medicine. Two camps are held every day for six days, allowing us to reach 12 villages in a week.

At the request of the local community panchayat (village council), we supplied COVID-19 awareness materials, reusable cloth masks, sanitation materials and provisions.

## Angthong, Thailand

We funded a new bathroom at Tambon Huapai hospital and arranged a mobile health clinic to provide access to health services for villagers. We also launched our "Be Happy and Smile" project for the Huapai community to strengthen the relationship between our Angthong plant and our neighbors. During the event, around 50 local children were taught about the negative impacts of drugs.

Our Thailand plant collaborated with other Aditya Birla Group companies to source portable ventilators, PPE and masks to support ABG COVID-19 response initiatives in India.

## Yeosu, South Korea

We provided flu vaccines for employees and families and organized a blood donation drive for the Korean Red Cross. We also provided financial support to the Namsan Sanitarium, which provides care services and accommodation for the elderly.

## How we are supporting the SDGs



### Good health and well-being

We provide health support through a range of community activities, including facilitating access to vaccines and doctors.



### Partnerships for the goals

We collaborate with several organizations to achieve the goals and increase access to health and medical support.

## Communities

Community engagement

Access to healthcare

Quality education

Sustainable livelihoods

Community infrastructure

## Quality education

We believe that 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 the school systems do not always receive the support they need. As the leaders of tomorrow, we engage with local teenagers, 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





Our Approach



Our Product



Environment



Customers and suppliers



Our People



Communities



Governance and ethics

## 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.

### Marietta, USA

We have developed our partnership with Kennesaw State University in Georgia, now in its sixth year, pledging \$275,000 (up from \$250,000 last year), to offer scholarships to 11 students a year. As part of our partnership, we also provide internships and employment opportunities at Birla Carbon. Since 2014, 61 scholars have participated in the summer research opportunity. This year's cohort were recognized by the university at a symposium where scholars presented their work.

### Hamilton, Canada

Every year, Mohawk College in Hamilton selects four students from its Power Engineering program to complete a three-month training program at Birla Carbon. The traineeship provides students with hands-on operating experience of the cogeneration power plant and counts towards their Power Engineering certification.

### Camaçari and Cubatão, Brazil

We focus on supporting students at local public schools to help improve their employment prospects and career planning. Our volunteers talk about their own careers, highlighting the competences that students need to enter the labor market, as well as discussing the role of chemistry in our lives. Through a volunteer program, developed in collaboration with apprenticeship program CAMP, we hosted a lecture for students on how to prepare for their first job interview as well as career prospects and what to expect from application and recruitment processes.

In October 2019, the Health, Safety and Environment team at Birla Carbon Cubatão held a training session for students of the ETEC Dona Escolástica Rosa. During the session, students were given a tour of the plant and learned more about our safety procedures and best practices related to the carbon black industry.

### Santander, Spain

Birla Carbon Spain (BCS) sponsored and opened a special library for Marine de Cudeyo, a school in Cantabria. The library, which has been designed as a labyrinth with a secret entrance and a slide to exit, is one of five libraries that BCS has sponsored and built in collaboration with various companies and members of the educational community.

### Trecate, Italy

In September 2018, we began sponsorship of the Rodari Primary School in Trecate. In September 2019, phase two of this sponsorship was completed with the inauguration of the "ArchiLab." This space, which is located within the school's premises, will be an architecture and photography section for the whole city. Included in the space are architecture and design projects which were produced by students over the year.

We also sponsor an annual children's summer camp in Trecate. Each year, 30 children live together for a week, learning how to take care of themselves and others – from making their beds and cleaning their living spaces to learning about risks, safety and how to react in emergencies. And, of course, they get to play together too, developing valuable teamwork, social and communication skills. For one afternoon during the week, they also visit our nearby plant, where they find out how we handle our own risks and safety procedures.

In November 2019, Birla Carbon sponsored, and participated in, a high school fair in the Province of Novara. During the fair, middle and high school students and their teachers and parents could talk to members of the Birla Carbon Italy team to gain information about our business and industry. We also organized a workshop, where students learned more about carbon black and got to conduct small chemical experiments.

We participated in the Smart Challenge Project, an innovative project which is trialing a virtual schoolwork alternation for the first time, in the Piedmont region of Italy. Through the project, students were challenged to develop concepts for managing a company training database. Birla Carbon Italy awarded students from different high schools and challenged them on their problem-solving, creativity, innovation and teamwork skills.

## Alexandria, Egypt

We supported classes in three government-run schools to help 400 students achieve better grades. We also provided sports, arts and computer literacy activities to 1,300 students in village schools. Three nursery school facilities, benefiting 400 children and their families, have been established. We ran our “LEARN” program for the second consecutive year, expanding it to allow over 200 children from three villages to participate. The children prepared for the next academic year through a range of scouting, arts and crafts, and healthy habits classes. New activities were introduced this year, including recycling waste materials back into useful objects.

Birla Carbon Egypt’s (BCE’s) “Towards a Sustainable Tomorrow” competition for graduating students of the Faculty of Engineering at Pharos University, Alexandria encourages them to relate their graduation projects to sustainability in creative ways. Eight projects were submitted for consideration, with the top four receiving awards at a special ceremony in June 2019. The four winning projects covered the topics of turning waste plastics into fuel, developing more efficient fertilizers, increasing the energy efficiency of buildings and building sustainable cities.

## Renukoot, India

We provided free education at the Aditya Bal Vidya Mandir school, including classes in public speaking and personality development, and donated uniforms and educational kits to a nearby school. We also led various celebrations and rallies, including the “School Enrollment and Awareness Rally” and supported local sports teams.

## Patalganga, India

We distributed school uniforms, school bags and stationery items to students in pre-primary, primary and secondary years as well as providing computers and furniture to surrounding schools. We also supported creative learning through a wall-painting activity at a local Angawandi.

## Gummidipoondi, India

We continued our Water, Sanitation and Hygiene (WASH) project to promote access to safe water and hygiene facilities in two educational institutions, with around 1,275 children benefiting from the initiative. Our Eureka Super Kids After School Program, developed in collaboration with AID INDIA, aided 200 children from the poorest families with extra educational support. We also funded a range of scholarships and educational support to enhance students’ learning capacity. We funded the construction of several educational facilities, including a computer lab and two primary schools.

## Jining, China

We conducted community safety training at a local primary school for students.

## Weifang, China

In August 2019, Birla Carbon Weifang (BCW) hosted its third “Sail the Life” award ceremony, at which 80 students were presented with awards for excellent performance in college entrance examinations. Five students were further rewarded donations for their studies. During Children’s Day, 200 outstanding students were invited to visit the BCW plant to learn more about the value of carbon black and the focus the plant places on safety and environmental protection. In addition, we donated sports equipment to a community team.

## Yeosu, South Korea

We covered the operational expenses for a multicultural youth soccer club within the community.



## How we are supporting the SDGs



### Quality education

As a member of the Aditya Birla Group, which is strongly committed to education, Birla Carbon provides learning support to communities where we operate.



### Decent work and economic growth

We offer work experience and opportunities to young people in an attempt to reduce unemployment.



### Partnerships for the goals

We help achieve the goals by working closely with local community members and educational facilities.

## Communities

Community engagement

Access to healthcare

Quality education

Sustainable livelihoods

Community infrastructure

## 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, and 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 – both men and women – 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 micro-financing (women and farmers)
- Agricultural development
- Livestock development (including husbandry)
- Micro-enterprise development
- Skill development/vocational training



## Supporting local people

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

### Marietta, USA

We conducted a four-part series workshop for WorkSource Georgia to connect job seekers with careers in the state's leading industries. The four sessions, each of which lasted three hours, included marketing tips and strategies for conducting job searches. The sessions also covered preparation, creating a résumé, interview boot camp and interview role play.

### North Bend, USA

We supplied water bottles, toothbrushes, pedometers, hot/cold compresses and duffel bags to Chez Hope, an organization that supports families in need in Franklin, Louisiana. We also purchased 30 benefit lunches from the Baldwin Fire Department to donate to the foundation.

### Hamilton, Canada

Team members from Birla Carbon Canada held a food drive for the McQuesten Community Food Bank. The McQuesten neighborhood is approximately one mile from our Hamilton Plant and is home to over 7,000 residents, around 31% of whom are younger than 20. Distance from grocery stores and limited income are both major obstacles to food supply and healthy eating habits for community members. Our efforts provided 350 nutritious meals and brought children and their families together during the holiday season.

### Alexandria, Egypt

We equipped four centers with tools and materials to train 32 women in tailoring, with the aim of developing at least 20 more trainers in other villages. We have also financed 108 micro-projects in various trades (including poultry farming, fishing, tailoring and sewing, vegetable supply and the fodder trade), enhancing the living conditions of around 600 people in four villages. We developed a literacy program in Egypt to address adult education and illiteracy eradication. Local teachers have been employed and have delivered specialized training and coaching for 150 people in local villages. During the COVID-19 outbreak, BCE continues funding 60 micro-projects for needy families in the surrounding area to help them generate income by working from home.

### Renukoot, India

We continued to provide safe drinking water through a tanker at Khairahi village, along with a sanitization program and donation of blankets to poor villagers. We made a Model Election Booth for Women's Day and held a World Environment Day program for school students.

During the pandemic, we collaborated with district police, donating supplies to a police-run food bank. We also distributed food packets to the local community and to laborers.

### Patalganga, India

We hosted women from local villages to mark International Women's Day and promote activities designed to empower women. The celebrations included a session on women's health and a presentation encouraging the take-up of work experience by the leader of a local nongovernmental organization. We also continued our new school uniform stitching project, which provided training in tailoring skills to women who then made uniforms for female students. We provided special seeds to a kitchen gardening project in the tribal community so they can grow vegetables at home.

At the request of district administration, we donated provisions to feed migrant laborers stranded in the area during COVID-19.

### Gummidipoondi, India

We support the Kaushalya Project, a skills training center for unemployed rural youth that provides instruction in three trades – fitting, welding and hairdressing – with 70% of participants subsequently securing placements. We also train local women through the Women Economic Empowerment Initiative (ANYA) in 11 skills, including tailoring, embroidery, gardening and liquid soap making.

Through district administration, we provided food supplies for migrant contract laborers who were working with us before the lockdown and were stranded in nearby villages. We also provided supplies for laborers stranded at the state border.


### Angthong, Thailand

We supported the Pracharat Market scheme to promote the livelihoods of local people and supported farmers in the Huapai community, working with them to develop new agricultural practices.

### Yeosu, South Korea


In Yeosu, we funded a new kitchen for the Rainbow Women’s Shelter, an organization that helps victims of prostitution, while psychotherapy support was offered to female victims of sexual violence at the Ivy Shelter. We also supported the Immigrant Women’s Resting Place, which protects the human rights of women who have been victims of domestic violence and their children. To address the issue of hunger, rice was provided to people in need in local communities.

## How we are supporting the SDGs




### No poverty

We promote inclusivity and gender sensitivity through a range of community activities, including social support and education. This includes offering services to connect job seekers with work opportunities.



### Zero hunger

Our global community engagement programs include supporting farmers and contributing donations of food to those in need.




### Gender equality

We support gender equality by offering equal opportunities within Birla Carbon, without discrimination, and by empowering women to take control of their personal career progression within Birla Carbon.



### Reduced inequalities

Following in the path of the Aditya Birla Group, we seek to reduce inequalities through a range of approaches, from employing equality policies to creating programs to support the poorest and most vulnerable members of society.



### Partnerships for the goals

We help achieve the goals by working closely with local charities, community groups and training centers.

Communities

Community engagement

Access to healthcare

Quality education

Sustainable livelihoods

Community infrastructure

## Community infrastructure

Many of the communities where we operate are severely under-equipped 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
- Irrigation and water storage facilities
- Sanitation





Our Approach



Our Product



Environment



Customers and suppliers



Our People



Communities



Governance and ethics

## 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.

### Hickok, USA

We make annual donations to support the local fire department in nearby Ulysses, allowing them to purchase equipment and fund training. Ulysses is a small community, and the fire department is run by volunteers, including some of our Hickok employees. The Hickok Unit Head volunteered on the COVID-19 task force for Grant County.

### Trecate, Italy

We sponsor a local youth basketball team, with funding going towards basketball training at the local elementary school and the purchase of equipment.

### Tiszaújváros, Hungary

We supported the planting of new trees in the parks of Tiszaújváros. We also sponsored a marathon hosted in Tiszaújváros to celebrate Hungary's International Triathlon Week. Over 900 people participated, including several of our own employees.

### Alexandria, Egypt

Four community development centers are now up and running in nearby villages. The centers each house a nursery, literacy facilities, a primary health center, tailoring center, offices and other amenities.

### Gummidipoondi, India

We renovated a community health center in Pappankuppam village in association with the Rotary Club of Gummidipoondi Industrial City. We also provided funding to install household toilets and a reverse osmosis plant in two villages to ensure safe potable water for villagers. Development of an overhead water tank ensured villagers had a water supply even during times of power cut or low water availability. Mini mast lights and streetlights have been installed by Birla Carbon Gummidipoondi, reducing mugging and providing safer environments for our employees after dark.

### Patalganga, India

We donated school furniture to two classrooms and provided a shed to the local police station which is used as a waiting area for visitors.

### Renukoot, India

We provided access to safe drinking water to 2,000 people living in local villages and funded the purchase of a water tank to store clean water for 3,260 people in the village of Muirpur. We also supported the Clean India Campaign to clean the streets of local villages and provided clothes and blankets to people living in poverty. During the COVID-19 outbreak, we carried out sanitization of roads and streets in the local community.

### Angthong, Thailand

Collaborating with local traffic police, we set up barriers for incoming traffic control and related checkpoints in the province, to help control the spread of COVID-19. We also collaborated with the village chief of the Huapai, Saithong, and Posa sub-districts in Angthong to distribute food to about 3,000 families.

### Weifang, China

We support families in need through clothing donations. One of our Production General Foremen led a team of volunteers who disinfected local schools and public areas in January and February 2020. The team spent their personal time and purchased the equipment by themselves.

### Yeosu, South Korea

We provide financial support for the maintenance of local welfare centers for migrant workers, women and their families. We welcomed new arrivals and invited them to tour our facility.

## How we are supporting the SDGs

6 CLEAN WATER AND SANITATION



### Clean water and sanitation

Ensuring clean water and sanitation is a priority for us, and we invest in infrastructure programs to provide clean and safe water to villages in regions where we operate.

10 REDUCED INEQUALITIES



### Reduced inequalities

We fund the building of various community centers, ensuring everyone in the communities where we operate has access to basic services.

11 SUSTAINABLE CITIES AND COMMUNITIES



### Sustainable cities and communities

By investing in infrastructure projects, as well as those which promote community learning, we are helping to build safe, sustainable communities.

17 PARTNERSHIPS FOR THE GOALS



### Partnerships for the goals

We work with governments, as well as various community groups, to fund local infrastructure-development projects.

Governance and ethics

# Building an ethical company that customers can trust



Governance and ethics

Governance

Ethics

Compliance

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. As we look to go Beyond Durable, we uphold the highest ethical standards across all our business activities, and we expect our stakeholders to do the same.

## 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](#)



At Birla Carbon, Enterprise Risk Management is a fundamental element of sustainable operational excellence. By identifying risks as soon as possible and accurately assessing the potential impacts to the business, we can deploy strategies focused on avoiding or minimizing the risk, rather than having to react to a crisis. By doing so, we're making sure we always provide our customers with an uninterrupted supply of carbon black."

**STEVEN BRENSKE**  
Global Health and Safety Manager, Birla Carbon



## Working to the highest standards of compliance



### Our approach to governance

We are focused on building the strongest governance teams to ensure that we are performing to the highest standards and that our employees feel supported in their work development. We have modeled our governance on [Aditya Birla Group's Responsible Stewardship Framework](#), through which we are aligned with the UN Global Compact.

> [Governance](#)

### Building ethical operations

To deliver the service we aspire to, we must strive for the highest ethical standards with regards to human rights, fair business and labor. We expect our employees and our extended network of suppliers to adhere to these standards as well.

> [Code of Global Ethics and Compliance Standards](#)

> [Ethics](#)

### Industry-leading compliance

We can only continue to innovate our products if we comply with international laws, standards and codes of conduct with regard to safety and environmental stewardship. We aim not only to comply but to be an industry leader in best practice.

> [Compliance](#)



### FY2020 performance highlights

Over 300 site risks identified and managed since our enterprise risk management approach was updated.

> [Governance](#)

Six plants have received certification in the ISO 50001 energy management standard.

> [Compliance](#)

Due diligence screenings completed for all 9,000+ active Birla Carbon vendors.

> [Ethics](#)

## Feature stories



### > Keeping employees safe and connected during COVID-19

Thanks to our IT Business Continuity Plan, we are able to quickly transition to remote working while still keeping our employees connected during the COVID-19 outbreak.



### > Ensuring high standards of data privacy globally

In line with the 2018 EU enactment of the General Data Protection Regulation (GDPR), we have rolled out new data-protection policies to safeguard the privacy rights of all individuals.

Governance and Ethics

Governance

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Over 300 site risks have been identified and actively managed through our risk management information system, Origami.

# Governance

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

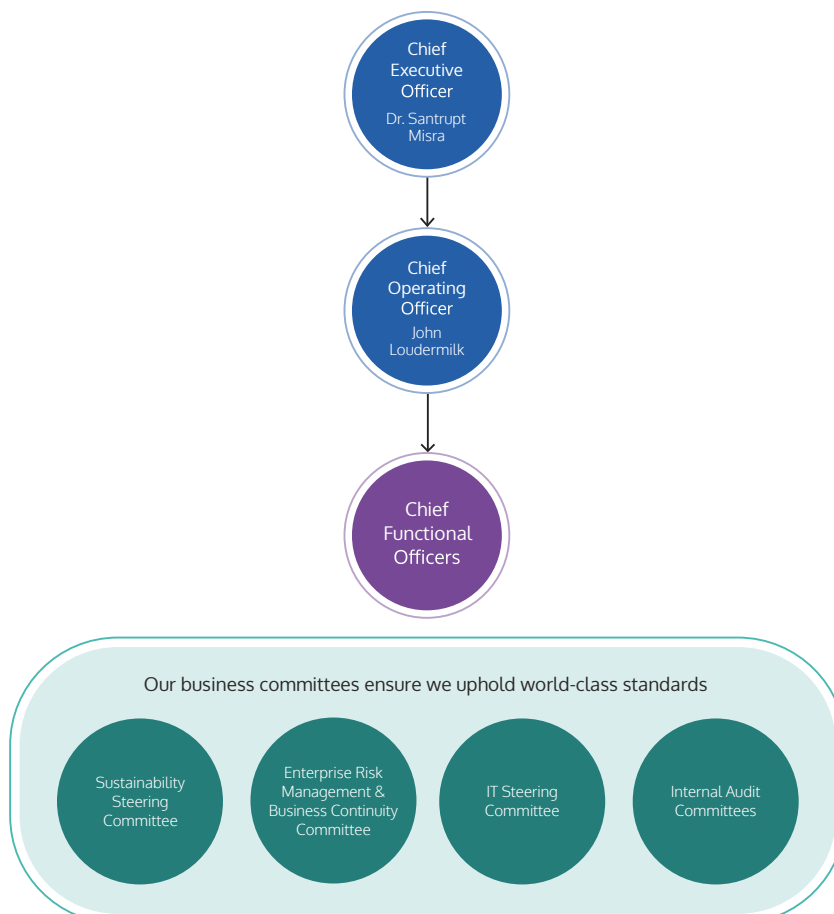
Our new organization structure will help share and implement best practices and take us to the next level of Sustainable Operational Excellence throughout Birla Carbon.

## How is our governance organized?

Birla Carbon restructured our governance system in 2020 to increase focus on customers, markets and operational excellence while driving our culture of innovation. Consistent with our Purpose, to Share the Strength, these changes will build on our spirit of collaboration to drive global consistency and rapid adoption of best practices across all aspects of our business.

Birla Carbon transitioned to a global functional organization from one which previously operated in five global geographic regions having responsibility for all business operations. The legal entities that comprise Birla Carbon are governed by a Board of Directors, led by our Senior Management Team (SMT). The SMT is made up of Dr. Santrupt B. Misra, Chief Executive Officer; John Loudermilk, Chief Operating Officer; and eight Chief Functional Officers (Sales & Marketing, Asia Manufacturing, Americas, Europe & Africa Manufacturing, Finance, IT, HR, Legal/Sustainability/SH&E, and Research & Development).

The diagram below illustrates how we organize our governance.



## Governance structure

The role of the Chief Sustainability Officer is defined by two elements: firstly, communicating the work of the Sustainability Steering Committee to the SMT, and secondly, acting as the guardian of sustainability principles and best practices, and supporting the SMT to adopt them within its business decisions.

### Sustainability Steering Committee

Our sustainability strategy is directed by the Sustainability Steering Committee (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 the 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 working group is made up of the Global Sustainability Director, the Sustainability Manager, subject matter experts, 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. The groups maintain contact throughout the year, meeting when needed. 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.

[↓ Birla Carbon Sustainability Policy](#)

[> Focusing on what matters](#)

### Governance and ethics – key topics discussed in FY2020

Key topics	Decisions made	Impact on business
Sustainable procurement strategy	Global Purchasing/ Sustainable Procurement Initiative authorized.	Standardized purchasing principles, policies and practices to ensure Birla Carbon manages its procurement functions and activities in an ethical, legal and sustainable manner.

### Customers and suppliers – key topics discussed in FY2020

Key topics	Decisions made	Impact on business
Customer engagement	Increase direct engagement with customers on sustainability.  Develop a better understanding of the recent circularity pledges made by select customers to enable us to better align efforts.	Align our sustainability initiatives and goals with our customers' to remain a strategic partner.
Supplier risk assessment	Implement a sustainability risk-based supplier engagement system in addition to legal, third-party due diligence screening.	A more resilient and ethical supply chain will enable us to ensure business continuity.

## Environment – key topics discussed in FY2020

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	Performed Enterprise Risk Management (ERM) review and updated processes taking into consideration the challenges posed by COVID-19.	
Energy and emissions KPIs	Continue to evaluate challenges in meeting goals.  Developed and published a <a href="#">Carbon Footprint Statement</a> to make verified Life Cycle Assessment (LCA) data readily accessible to stakeholders.	
Circularity	Investigate and quantify the level of circularity in our production processes, including implementing tools developed by the World Business Council for Sustainable Development and the Ellen MacArthur Foundation's Circulytics tool.	

## Our Product – key topics discussed in FY2020

Key topics	Decisions made	Impact on business
Product stewardship	Approved the roll-out 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.

## Our People – key topics discussed in FY2020

Key topics	Decisions made	Impact on business
Engaging our employees	Continue to ensure all sites have safe access to water, sanitation and hygiene (WASH).	A motivated workforce is instrumental to business success. We seek to engage our people and support them and their lifestyles.

## Community – key topics discussed in FY2020

Key topics	Decisions made	Impact on business
Global program	Benchmark our global Community Service program and identify opportunities for providing more global support to our regional programs.	Improving our contribution to the social and economic development of the communities in which we operate.

### Internal audit committees

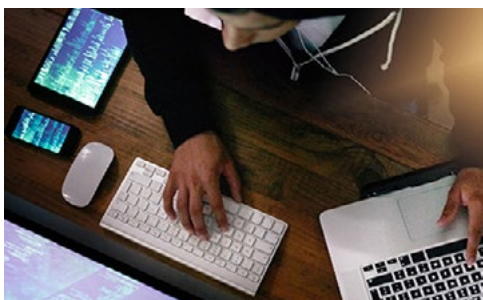
Under the guidance of our Internal Audit Department, we carry out regular audits and investigations across the business, covering financial, compliance and operational reviews.

In FY2020, 17 audits were conducted. Thirteen were global audits focused on plant operations, capital projects and production analysis processes. The remaining four were region specific and covered procure-to-pay feedstock, inventory processes and follow-up on management action plans. Results were shared with the SMT, while the Risk Committee is updated twice a year on the implementation progress of related management action plans.

### Mitigating sustainable risk – our Enterprise Risk Management and Business Continuity Program

Serving our customers is the number one priority for Birla Carbon. Any event that interrupts our operations and prevents a constant supply of carbon black to our customers is unacceptable to us. Our robust ERM program helps identify and mitigate these risks, ensuring resilience and safeguarding our vision to be the most respected, sustainable and dynamic global carbon black business.

Through our ERM program we oversee and monitor our company’s risk assessment and mitigation. To create a holistic view, not only do we look at risks from the top down, but we also fully engage our regions and individual sites in our efforts.



#### Ensuring a constant supply for our customers

COVID-19 caught everyone off guard. However, the culture of business continuity is well established at Birla Carbon, meaning we were already armed with a guide and the mindset needed to quickly develop a recovery plan.

Carbon black is a crucial element of emergency vehicle tires, water pipes and packaging ink. In Europe, many companies wrote to governments on our behalf to communicate this essential nature of

our carbon black products, our business and the need for our facilities to stay open. We also worked with local officials in China to educate them on our products and why it was essential to remain open.

We have taken several additional steps to ensure a constant supply of carbon black for our customers. In Italy, we transferred some of our products to an external warehouse for certain market-sensitive grades. Due to curfews in Egypt, several of our employees found themselves being challenged by law enforcement during their commute from the bus stop to their homes. To ensure they could get to and from work without issues, we arranged the provision of company cars.

## Our structure

Our Enterprise Risk Management Committee (ERMC) consists of Birla Carbon's leadership team as well as functional heads of ERM. The implementation of risk management measures is overseen by Regional Risk Officers while site-based subject matter experts are responsible for identifying and managing any risks as they arise. We have developed a Corporate Working Group, a cross-functional committee with members from our financial, legal, IT, HR and other business areas, to identify and mitigate risks which relate to their departments.

Alongside these two groups, employees are encouraged to report any risks they identify. This includes reporting any near-miss safety instances, unethical activities or any other risky activities they observe.

## Our process – identifying and prioritizing risks

Across our global operations, we have identified over 300 risks. These risks are captured and prioritized through a Risk Register, based on potential financial impacts, probability of occurrence and volatility. Heat maps and dashboards are used to display information in a way that makes it easy to identify the most high-risk situations.

## Mitigation of our risks – business continuity

We see our detailed approach to risk mitigation as something that differentiates Birla Carbon from our competitors. We utilize the finest loss-protection engineers to help us identify and minimize risks at our facilities. We use a network of worldwide brokers to identify emerging risks and provide insurance, while assuring we are compliant in the countries where we operate. Our Business Continuity Plan (BCP) program is central to our ERM program, preparing us for issues and providing solutions, protecting our operations and helping prevent unforeseen events.

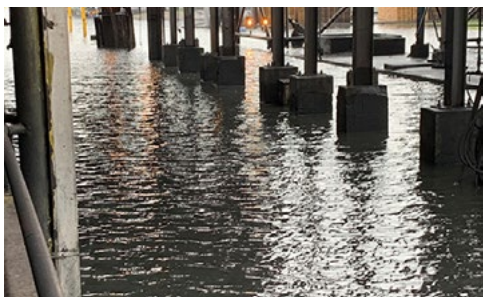
Over 300 individual site risks have been identified and actively managed through Origami, our risk management information system. We also use this system to manage our Risk Registers, BCPs, reviews, schedules and ownership of risks.

Each of Birla Carbon's locations has a comprehensive Disaster Recovery Plan and BCP 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. The BCMS guides recovery strategies for our most crucial processes and activities to ensure the continuous supply of carbon black to our customers.

Several regions have held intensive BCP workshops during FY2020, using the information gained to standardize business continuity planning processes globally. This includes ensuring a thorough risk identification and assessment process, with each critical business risk accompanied by a comprehensive BCP. Information on material risks identified at the site and regional level is captured on a Risk Register that is maintained at the enterprise level and reviewed during ERMC meetings.

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.

[↓ BCP statement](#)



### Hurricane Barry: Our Business Continuity Plan in action

In July 2019, our North Bend, Louisiana facility was impacted by Hurricane Barry, which caused a landslide a few miles from the site. Thankfully, North Bend management not only had a well-vetted, complete BCP, they had also conducted a tabletop exercise, testing the BCP just two months prior. During the exercise, key department heads practiced a scenario in which a hurricane made a direct hit on

the plant. This was an excellent opportunity to test the emergency response plan and BCP. Changes were made to both plans based on the exercise, ensuring the site was better prepared for the event.

As a result, our North Bend facility was fully operational and serving our customers within six days of the hurricane, even as neighboring companies were still in the recovery phase.



## Keeping employees safe and connecting during COVID-19

COVID-19 has posed a series of unprecedented challenges for people and businesses. However, thanks to our BCP for IT, we had already prepared for a scenario in which all our employees would have to work from home. While there were still challenges in transitioning to this new, remote working plan, much of the preparation work had already been done to keep our employees connected even as they continued to work off-site.

Most of our employees had already been provided with work laptops, while virtual meeting platforms had been involved in our operations for many years already. Our digital network was already in place and, while modifications had to be made to account for more traffic, all employees were already familiar with the network, making the transition to home working much smoother. Training was offered to all employees to ensure they had, and could use, all the tools they needed.

Our quick response to remote working meant that we were also set up to enable vendors responsible for servicing our network to continue providing us with necessary assistance. Going forward, the pandemic has served to highlight the need for us to accelerate the digital transformation of many of our systems to increase automation and remote access. It has also demonstrated the benefit of Birla Carbon's dedication to preparedness, quick response times and continuous improvement through our BCP.

### IT Steering Committee

Established in FY2018, the IT Steering Committee ensures we leverage the latest innovative technology and provide governance and oversight to make sure our IT strategy and integration is aligned with business and sustainability goals. The IT Steering Committee, which feeds directly into the SMT, is made up of representative leaders from all business functions and the Head of Human Resources.



## Committing to online security

As part of Birla Carbon's commitment to online safety, in FY2019 we initiated a new mandatory training program on information and computer security for all employees. The course represents our information security standards, establishing guidelines to ensure that our day-to-day actions protect the safety and integrity of our IT and intellectual property.

The training is designed as a resource for understanding IT risks, provides tips for appropriate online and offline conduct and explains the policy standards that apply to our employees. The course builds a key understanding of the risks faced when working with computers, the internet and other IT systems to safeguard Birla Carbon's assets, both physical and virtual.

> [Sustainable Development Goals](#)



## Operational excellence: Building quality mindsets and quality processes

Our sites continuously work towards building operational excellence and world-class manufacturing practices into day-to-day activities through regular external and self-assessments. Tools such as 5S, a lean manufacturing management system for better workplace management, and Kaizen projects by employees and small groups, result in ownership of areas, equipment and processes. This ultimately improves the quality of products and services that we deliver. In FY2020, we increased the focus of our Operational Excellence program in key areas such as Health, Safety and Environment (HSE), Process Efficiency and Quality. While these areas have always been part of our program, we have established new internal metrics for tracking and reporting on performance. We have also created new multi-regional, multi-discipline support teams to help guide the sites we have identified as having the most room for improvement.

Progress towards implementation of best practice is monitored via semi-annual assessments and scorecards detailing the status of each manufacturing facility. Biannual on-site assessments are also conducted to ensure that local management teams fully understand best practice.



### Striving for world-class standards in information technology

At Birla Carbon, we strive to leverage world-class IT standards and infrastructure to provide consistent support and advice across our entire global business. This means we can be confident in the information we base our decisions on and that we share with our customers.

The evolution of IT is integral to our business, requiring an internal IT organization fit to support our business strategy. Since a realignment in May 2018, our IT organization has been designed to encourage deeper engagement with business requirements and priorities. It focuses on driving technology optimization across everything from procurement and manufacturing to logistics and customer invoicing. Managing cybersecurity is a top priority as we strive to deliver a secure environment for all our stakeholders.

Through our IT organization, three pillars have been established: Enterprise Systems, Information Security, and Infrastructure Services and Operations. These pillars are designed to help us utilize technological innovation, seize opportunities quickly and implement business strategies successfully, including maximizing end user productivity and protecting our information assets. We have made some significant strides in the past five years.

One of our key initiatives involved establishing a single enterprise resource planning system through which all processes and functions are managed globally. It plays a key role in ensuring business continuity and provides a robust foundation upon which we can grow and which will enable more value-added capabilities in the future.

As we continue to evolve, we are working to enhance and develop solutions step by step, and are looking across our processes to identify opportunities. One example is the work we are doing to present quality, real-time information to the control rooms in manufacturing facilities so that they can make effective and timely interventions and we are able to provide the assurances and information our customers require.



Leveraging the opportunities of digitization is central to advancing corporate sustainability and driving positive change at Birla Carbon. By investing in our technology infrastructure and capabilities, our aim is to be the most agile, responsive and innovative in the industry."

**ROBYN HOOKER-MCCALL**

Chief Information Officer

## Governance and Ethics

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**17 calls received** through our employee grievance hotline in FY2020.

## 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.

### 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.

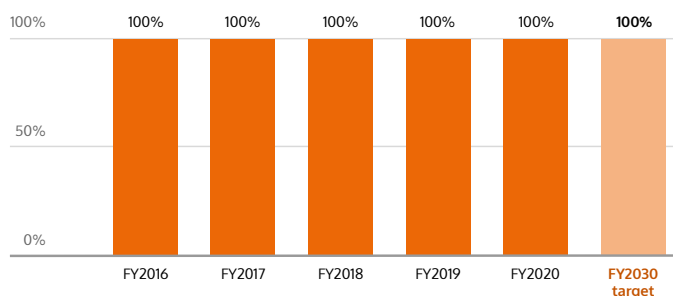
Our compliance program was developed back in 2011, following the acquisition of Columbian Chemicals and the need for a more coordinated approach to ethics and compliance. Having re-evaluated our Code of Ethics, in 2014 we rolled out a new code, which would be effective in every region we work in, as well as an online training program that reintroduces our employees to the Code of Ethics on an annual basis.

[Code of Global Business Ethics and Compliance Standards](#)



### Ethics: progress towards our target

100% of active employees to receive Code of Ethics training.



## Human rights

For us, respecting human rights is not negotiable and we recognize the valuable role we can play in the protection of these rights. It is crucial to our reputation and our license to operate that respect for human rights 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. As a global business, it is a complex challenge, requiring collaboration and investment of resources and time.

We engage with employees at every level of our operations to ensure our commitment to human rights is 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 rights of the people we employ, do business with or interact with.

[Supplier management](#)  
[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 FY2020, no allegations of corruption were raised.

## 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 employees to anonymously report, via telephone, text message or email, any illegal or noncompliant 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.

### Grievances received

Grievance measures	FY2019	FY2020
Hotline calls (total)	10	17
Calls investigated	10	16
No further action needed	3	6
Resolved through collective bargaining	0	5
Disciplinary actions	7	5
Formal community grievances	0	0

### Labor, human rights and environment

Labor, human rights and environment grievances	FY2019	FY2020
Labor grievances at the local level	14	17
Labor grievances resolved	12	17
Human rights grievances filed and resolved	0	1
Environmental grievances filed and resolved	3	0

## 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 FY2020, the percentage of unionized Birla Carbon sites was 75%. If conflicts occur, we have communications and conflict resolution measures in place for our employees to make their concerns known.

## Suppliers

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.

- In **FY2016**, we reviewed the contractual Terms and Conditions (T&Cs) that we expect our suppliers to agree to.
- In **FY2017**, we worked with legal advisors in each region to tailor our standard T&Cs of Purchase to local requirements.
- In **FY2018**, we followed this by conducting a similar process for our T&Cs of Sale.
- In **FY2019**, we standardized our T&Cs for all of our suppliers. While these terms may be negotiated subsequently, this standardization provides a baseline from which to begin discussions with potential new vendors.
- In **FY2020**, we updated our Purchasing Policies to require use of these standard T&Cs.

We partner with [NAVEX Global's RiskRate®](#), a third-party due diligence screening program, to vet all of our vendors. 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](#)

[> How we engage with our suppliers on ethical issues](#)

## How we are supporting the SDGs



### Peace, justice and strong institutions

Through our internal governance mechanisms, we prevent corruption and bribery from taking place in our business. This reinforces our own institutional accountability and transparency as well as that of our customers.



Our Approach



Our Product



Environment



Customers and suppliers



Our People



Communities



Governance and ethics

## Governance and Ethics

Governance

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Compliance



**All sites are certified to the IATF 16949 standard**, a quality management system whose standards are above those for ISO 9001.

## 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 adopt best practices and internationally recognized standards that guide our work and allow us to take greater industry leadership.

### Management systems

All our operating manufacturing plants are certified to the ISO 14001 environmental management standard. By FY2020, six plants (38%) had 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. We expect all our sites to attain ISO 50001 in the coming years. In FY2020, we finished certifying all our sites to the IATF 16949 standard, which is an automotive quality management system certification with a quality management standard 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 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 the Corporate HSE Managers through **Enablon**, our integrated sustainability management tool. In FY2020, we conducted eight audits of our environmental performance and nine of our health and safety performance.

### Investing in world-class facilities

To improve efficiency, we continuously invest in and enhance our older plants while also developing a new generation of facilities to support future sustainable business growth. In FY2020, we invested approximately \$17 million in state-of-the-art technology to help us maximize the efficiency of our manufacturing processes and enhance our environmental 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 the plants' appearance for the wellbeing of the employees and the communities.



## Ensuring high standards of data privacy globally

On May 25, 2018, the European Union enacted the GDPR to harmonize data privacy laws across Europe and reshape the way organizations approach data privacy.

Birla Carbon is committed to preserving the privacy rights of all individuals whose personal data we process, not just in Europe but globally. We have put in place a new 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 the baseline rules and procedures for all processing activities involving personal data within Birla Carbon – in Europe and throughout the world. We have rolled out our training to all our active employees in Europe.

> [Sustainable Development Goals](#)