

ADITYA BIRLA



BIRLA CARBON

OUR PROGRESS ON THE PATH TO **SUSTAINABLE BUSINESS**

BIRLA CARBON
SUSTAINABILITY REPORT 2017





OUR APPROACH



GOVERNANCE AND ETHICS



OUR PRODUCT



ENVIRONMENT



CUSTOMERS AND SUPPLIERS



OUR PEOPLE



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At Birla Carbon our vision is to be the most respected, sustainable and dynamic global carbon black business.



DR. SANTRUPT MISRA
CHIEF EXECUTIVE OFFICER

"We continue to strive to maximize our potential. We must continue to learn, adapt and evolve our capabilities to break new grounds. I welcome you to our fifth Sustainability Report, covering FY2017, and invite you to see for yourselves the progress we have made."

OUR VISION

is driven by our Sustainable Operational Excellence (SOE) strategy.

SOE influences every decision: from designing and operating our plants to engaging with our customers, our employees and the communities where we operate.

SOE is driven by our action and influence on three key elements:



PEOPLE

We believe in supporting our employees and the communities that we interact with, enabling real and lasting social development.



PRODUCT

Our product is a key component of everyday life: it offers real social value, enabling many of the things we take for granted.



PROCESS

We embed sustainable thinking at every level to tackle increasing environmental and societal concerns and challenges.



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Key highlights of our year

Only got a minute? Have a glance at our FY2017 key highlights.

Our stakeholders recognized our progress through a Gold Rating from EcoVadis, noting our progress in fair business practices and sustainable procurement.



We protect our business by building resilience into our operations – as demonstrated by our response to a cyclone in India.



We continually assess, evaluate and adapt our approach to the environment. In FY2017, we focused on strengthening our water and waste approaches.



We are constantly searching for ways in which we can enhance our product and develop more environmentally friendly processes – such as our FY2017 investigation into innovative nanofiber technology.



We continued and improved our energy positivity, generating more than we consume, which we either return to our operations or sell to local grids.



Our community engagement activities are framed by the broader work of the Aditya Birla Group. We primarily focus on good health, quality education, sustainable livelihoods and community infrastructure.



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To be the most respected, sustainable and dynamic global carbon black business. We can achieve this through our Sustainable Operational Excellence (SOE) strategy.

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

As outlined in the Birla Carbon Sustainability Policy, the three pillars of our SOE strategy are:



PEOPLE

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



PRODUCT

We are committed to producing a consistent supply of world-class carbon black for our customers, while reducing its environmental impact and ensuring that it generates real social value.



PROCESS

We strive to be a responsible steward of the environment by optimizing the conversion of carbon to carbon black, minimizing our carbon dioxide (CO₂) emissions and maximizing the recovery of the energy generated by our manufacturing process.



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To achieve SOE, we...

...**engage** with our stakeholders;
...**enable** our people; and
...take leadership through **action**.



At an operational level, our SOE strategy is managed through six operational focus areas:



Governance and Ethics



Our Product



Environment



Customers and Suppliers



Our People



Communities

We have KPIs and Targets to 2020, which measure our progress in achieving SOE for our most material issues.



How we are adapting for the future

To meet ever-tightening regulations and increasing stakeholder expectations, we have aligned our efforts with the Aditya Birla Group's three-step agenda, which will help us continue to achieve sustainable operations over time.



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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DR. SANTRUPT MISRA
CHIEF EXECUTIVE OFFICER

"We continue to strive to maximize our potential. We must continue to learn, adapt and evolve our capabilities to break new grounds."

Birla Carbon has come a long way as a business – from its origins as a regional carbon black supplier to the present, where it now stands as a global leader in the industry. Its benchmark standards, across all operational areas, have also grown in line with the business’ growth.

Formal external communication on our sustainability journey began in 2013, with our first Sustainability Report. Since then, Birla Carbon has surged past many of its sustainability milestones, of which health, safety and environment (HS&E) have been key elements. These accomplishments have not been limited to one region, but rather across all the regions where we operate.

We are very proud that we were the first Aditya Birla Group entity to create sustainability as an independent function and, in doing so, took a decisive lead among our industry peers. Since then, our united vision for a comprehensive sustainability agenda has been well acknowledged by our stakeholders.

We continue to strive to maximize our potential. I believe that potential is a combination of building key capabilities and being prepared to unleash them when the time calls. However, it is important to note that a business’ ultimate potential constantly evolves in response to the new challenges it faces.

Thus, the journey that we have been on so far cannot be the journey that we continue to take. We must continue to learn, adapt and evolve our capabilities to break new grounds. Many of our technology and product developments are testimony to this, and we continue to make investments.

To us at Birla Carbon, sustainability is not just about the health and safety of our employees – nor can it just be about environmental stewardship. I believe sustainability is also about creating and bettering one’s business model to ensure that an enterprise is truly building for the future. It requires a long view of issues that transcend the many shortcomings of myopia. Therefore, while a sustainability initiative may be in play today, its real results may materialize much further down the line.



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A large part of our sustainability agenda concerns our customers and their emerging needs. It is this agenda that has allowed us to build excellent relationships, some of which date back more than half a century. Yet we are taking steps to progress these relationships to the next level: co-development of products, joint workshops to solve product performance issues, the creation of innovative solutions and partnerships are all key to our sustainability agenda – of which our customers are an integral part.

We are proud that our stakeholders acknowledge and recognize our sustainability efforts. They have been generous with their awards and invitations to think tanks on sustainability, and have given us numerous best supplier scores. But we continue to ask more of our business and our employees. It is my ambition that such introspection will continue to drive Birla Carbon’s growth and strategy. We hope to continue to *do well by doing good*.

However, we cannot rest on our laurels. We must engage our employees even more in sustainability projects, and increase their awareness on issues of safety, health and the impact (positive or negative) that each individual can have on the environment.

Despite the dispersed nature of our global organization and market uncertainties, we have laid a strong cultural foundation that unifies our people across the globe as One Birla Carbon. It is this strong culture that has helped us weather many turbulent economic and geopolitical cycles. Our culture will continue to be the cornerstone of our business in the years to come.

Birla Carbon shares the sustainability vision of the Aditya Birla Group as articulated by our Chairman, Mr Kumar Mangalam Birla: *“the Aditya Birla Group endeavors to become the leading Indian conglomerate for sustainable business practices across its global operations, balancing its economic growth with environmental and societal interests.”* To this end, we draw support from the rest of the Group and are happy to extend that same help.

Our stakeholders can continue to expect more from Birla Carbon, built on the ability and hard work of our people. We will carry on making incremental changes in our regular operations and occasionally leap-frogging; we are not afraid of capitalizing on opportunities when they present themselves.

I welcome you to our fifth Sustainability Report, covering FY2017, and invite you to see for yourselves the progress we have made.

Dr. Santrupt Misra
Chief Executive Officer



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KEVIN BOYLE

CHIEF OPERATING OFFICER

“FY2017 has been a year of continued progress for us on many fronts – setting us up for what will be a very exciting FY2018. Our new facility in Jining, China, will start production by year-end, bringing with it significant changes in Birla Carbon’s presence in the region and our production capacity. The optimism is palpable; conditions are right for us to move forward.”

In general, oil prices have stabilized, even drifted up a little, creating a more stable operating environment for us. Sadly, we had to close our German site in Hannover, as the modernization it would have required was not feasible. Conversely, by closing Hannover, we have driven innovation elsewhere in the region and successfully compensated for the production shortfall. In FY2017, we also faced severe economic challenges in South America, which reduced production, while in India, there was immense demand, calling for more carbon black. We are proud of the agility and efficiency of our global network, which enabled us to adapt to successfully tackle these challenges.

We are seeing that, as customers grow and evolve, they start to expand into new countries or regions. Having a strong presence in many parts of the world puts us in a good position to support our customers. For instance, our greenfield plant in Jining will complement our existing plant in Weifang to better align with the growth agenda of our customers in China.

Once operational, the Jining facility will not only increase our regional capacity but also be our most sustainable plant. There is an increased focus on environmental awareness everywhere, and China is no exception – Jining has been designed not only to meet but to exceed environmental performance requirements.

Safety and the environment are issues that will always be at the forefront of our industry. In terms of safety, we’re continuing to push for zero accidents, an achievement that many facilities have reached by themselves during FY2017. Although incident severity is down globally, incident frequency is up. This is an area of concern, so we continue to focus on finding further opportunities to drive progress and instill a culture of safety.

As responsible stewards, our approach and targets are frequently reviewed and challenged to ensure we continue to drive progress in evolving environments. For instance, in some parts of the world, access to fresh water is already a challenge, while at the same time, we must implement water-intensive technologies to reduce air emissions from our operations.



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This is true for other areas as well. As responsible stewards, accountable to the wider community, our aim is to identify all areas where we can most effectively prioritize our work.

Thank you for choosing to read our Sustainability Report, and taking the opportunity to learn more about how we're preparing ourselves to go further in our journey to Sustainable Operational Excellence.

Kevin Boyle
Chief Operating Officer



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JOE GAYNOR

CHIEF LEGAL, SUSTAINABILITY AND RISK OFFICER

“We have come a long way on our sustainability journey but we have a long way to go. The most important thing is that everybody understands that sustainability is a forward-looking exercise. When we look forward, we shape our future and what sustainability means in the long term – what will allow us to not only be available to customers, but what will differentiate us as the preferred supplier.”

We can see this journey in our work. We continue adapting our processes, and there is increasing excitement visible in our employees. Now that we have everybody engaged, we are redefining the path ahead.

Carbon black plays a key role in everyone’s life, and yet the wider public does not understand our product. There are several levels to its social value, but essentially, carbon black makes products stronger and more durable. It enables the everyday: from tires to shoe soles, from water pipes to newspaper ink, from sealants to power cables.

Carbon black makes it easier for us to interact with the world around us in many ways. It makes **movement** easier and safer through longer lasting and stronger tires; impacts **health** through effective clean water transportation; facilitates more efficient **agricultural** practices; is a key component of the wires and cable technology that **power** our lives; and provides a deeper, darker **black** that we see every day in our clothes, electronics, ink and plastics.

Carbon black enables human connections.

It is important for us to make our product more visible and to demonstrate its sustainable attributes. Through responsible stewardship, we have differentiated ourselves from our peers for our customers. We have achieved significant milestones, including the EcoVadis Gold rating recognizing our best-in-class performance, notably in fair business and labor practices. We took on greater leadership with our peers, and worked with other industries. Our work with the Sustainable Leadership Forum (SLF) in the USA and the UK enhanced our profile, as does being represented at the Vice-Chairman level at our industry body, the International Carbon Black Association (ICBA).

We have further engaged in FY2017 with two of our key stakeholder groups: our customers and our suppliers. For instance, we entered into a partnership with a company specializing in nanotechnology to create more resilient tires. We also held Customer Leadership Dialogues with large Indian customers to align our sustainability expectations. In terms of our supply chain, the management of risks, particularly ethical risks, is key to be a preferred supplier. Building on our work in FY2016, we are strengthening our vendor due diligence by implementing a third party screening program.



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A key concern for us and our stakeholders is water. It is important that Birla Carbon focuses on water because we operate in some areas where it is not abundantly available. We are in the process of improving our water management, including how we access, measure and ensure efficient use of this resource.

Other key environmental areas for us are air quality, energy use and carbon conversion efficiency. We lead the way in our industry in terms of pollution control technology and aim to be as efficient as possible in our carbon mass balance efforts; the more efficient we are, the more effectively we capture and utilize the carbon in our feedstock and we reduce our impact on the environment.

We constantly look to the future and the megatrends that we think will impact our business. The trends that we can see show an ageing global population, a growing middle class in developing countries and an increased demand for mobility and communications. Our partnership with Forum for the Future is helping us to anticipate what these external factors could mean to our industry.

Our people and stakeholders are fully engaged and are contributing to ensure we continue to steward resources responsibly. We have been a reliable partner with our customers for over 150 years and we intend to remain so for the next 150 years.

Joe Gaynor

Chief Legal, Sustainability and Risk Officer



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Our sustainability strategy is defined by our stakeholders and the issues that concern them most, as well as the areas that have a material impact on our business. We continually review which issues are most important to our stakeholders, assessing which most influence their views. When determining boundaries, we consider internal as well as external impact.

Our Sustainability Steering Committee (SSC) utilizes quantitative and qualitative analysis to determine the materiality of each issue. The quantitative analysis looks at data such as employee surveys and Health, Safety and Environmental (HSE) metrics reports; the qualitative focuses on customer feedback and community input on the issues that are important to each. The SSC then reviews each issue for materiality by considering the influence of stakeholder assessments and decisions, and the significance of our economic, environmental and social impacts.

To validate our assessment and ensure our reporting achieves Global Reporting Initiative (GRI) Principles of Completeness, we regularly evaluate the scope of our material issues, the boundaries identified for each and the timescale considered. The SSC has attributed each of its material issues to a relevant material topic, occurring internally or externally to the organization, as per the GRI Standards. The result of the process is approved by the Chief Legal, Sustainability and Risk Officer, Joe Gaynor, on behalf of Birla Carbon's [Senior Management Team \(SMT\)](#).

The issues listed below were identified as the most relevant and significant for Birla Carbon and our key stakeholders. They are ranked by the level of interest to stakeholders and business impact.



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Governance and Ethics



Product Responsibility



Environment



Customers and Suppliers



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Major



[Ethics](#)
[Business Continuity](#)



[Product Stewardship](#)

[Product Consistency](#)



[Energy](#)
[GHG](#)
[Water](#)



[Sustainable Procurement](#)



[Safety](#)
[Employee Engagement](#)

Significant



[Human Rights](#)



[Innovation](#)



[Waste](#)



[Global Presence](#)



[Customer Engagement](#)



[Community Engagement](#)

Moderate



[Governance Framework](#)



[Air Emissions](#)



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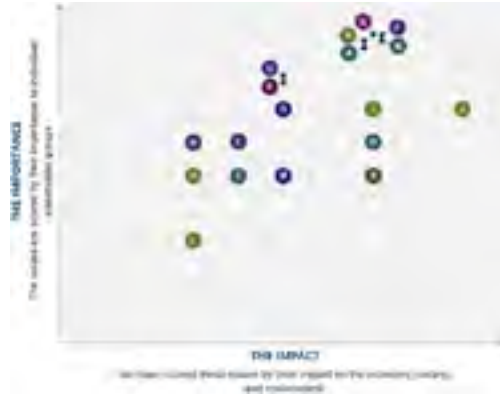
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Explore which issues are of the greatest importance to each our stakeholder groups:

Overall average



Customers and suppliers



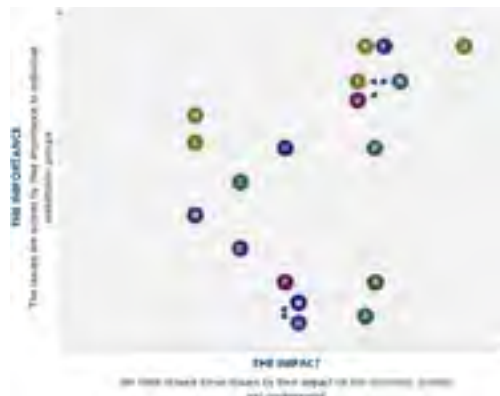
ABG and employees



Community



NGOs and regulators



GOVERNANCE AND ETHICS

- A Business continuity
- B Ethics
- C Governance framework
- D Human rights

OUR PRODUCT

- E Innovation
- F Product stewardship
- G Product consistency

ENVIRONMENT

- H Air emissions
- I Energy
- J GHG
- K Water
- L Waste

CUSTOMERS AND SUPPLIERS

- M Customer engagement
- N Global presence
- O Sustainable procurement

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- P Employee engagement
- Q Safety

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- R Community engagement



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For clarity, we explain below our interpretation of each issue, grouped by our six focus areas:



Governance and Ethics



Business continuity

The ability to meet customer supply requirements, despite negative or damaging events.



Ethics

Ensuring labor and fair business practices, including anti-corruption, anti-competitive behaviour, antitrust and collective bargaining, among others.



Governance framework

Our management structure, including policies, standards, compliance mechanisms and world class manufacturing processes.



Human rights

Maintaining full respect for economic, social and cultural rights, including no child labor, fair wages and decent working conditions.



Our Product



Innovation

Developing our processes, technology and products to meet the evolving market, regulatory and societal demands.



Product stewardship

Proactive care to ensure our products reach high standards, incorporating health, safety, environmental and regulatory considerations in our product development and maintenance.



Product consistency

Our efforts to guarantee that our product continues to meet high quality standards while meeting market demands.



Environment



Air emissions

Non-GHG emissions from our operations, including sulfur oxides (SOx), nitrogen oxides (NOx) and particulate matter.



Energy

The efficient use of energy resources, including consumption, recovery and generation.



GHG

Direct and indirect GHG emissions, focusing on CO₂ as other GHGs emitted by our operations are negligible.



Water

Our water supply, collection and wastewater management practices and governance systems.



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.



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Customers and Suppliers



Customer engagement

How we build, nurture and manage relationships with customers, including aligning our sustainability agenda with theirs.



Global presence

Our manufacturing and distribution footprint, relevant to customer locations, resources and suppliers.



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



Employee engagement

How we build, nurture and manage relationships with our people through training and development, recognition and feedback mechanisms.



Safety

The health and safety of our employees, from the moment they arrive at work each day to when they leave.



Communities



Community engagement

Building, nurturing and managing relationships with the communities we impact by understanding and responding to their expectations.

A crucial aspect of our materiality process is how we perceive 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](#), will enable us to plan scenarios for the long term by developing our future materiality matrix.



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Sustainable development goals

In FY2016, we mapped the United Nations' Sustainable Development Goals (SDGs) to our business. This year, we linked the SDGs to the three key levers of our Sustainable Operational Excellence strategy, which are People, Product and Process.



Goals 14 (Life below land) and 15 (Life above land) are less applicable to our operations and are therefore not mapped below.

PEOPLE

We support the SDGs through the direct and indirect jobs we create as a global employer. With our support, our people actively engage with local communities, helping to address needs. Our people and communities have an impact on the following SDGs:



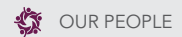
No poverty
Through our community activities, we support pro-poor and gender-sensitive approaches, including social support and education.



Zero hunger
Our community engagement programs include support for small-scale agriculture by investing in infrastructure, financial support and training for farmers.



Good health and well-being
We provide health support through our community activities, such as providing access to vaccines where needed and access to doctors.



Our Commitment Based Safety approach encourages employees to make commitments to their own health and wellbeing, including safe driving into and out from plant.

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



Quality education
As a member of the Aditya Birla Group and its commitment to education, Birla Carbon provides education support through its community activities across all regions where we operate.



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



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



OUR PEOPLE



COMMUNITIES



Clean water and sanitation

Water, Sanitation and Hygiene (WASH) is a priority for us, and we have been working to ensure that all of our sites provide safe access to WASH by FY2018.

Four of our facilities have yet to meet our WASH target.

We have started to assess the impact that we have on the community by extracting water from areas of scarcity.



OUR PEOPLE



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.

When our plants face difficulties and even closure, this can impact jobs.

Our development opportunities are currently relatively limited geographically and in terms of seniority.

We must ensure that our people leave work each day as healthy as when they arrive.



OUR PEOPLE



COMMUNITIES



Reduced inequalities

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

We could open our apprenticeships to more people around the world.

Due to the nature of our business, and our industry as a whole, our operations could be more diverse.



OUR PEOPLE



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Partnerships for the goals

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

We can strengthen our engagement.



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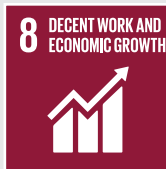
PRODUCT

Carbon black enables sustainable development through its many applications, helping make products safer and longer-lasting. Carbon black and its applications have an impact on the following SDGs:



Zero hunger  OUR PRODUCT

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



Decent work and economic growth  OUR PRODUCT

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




Industry, innovation and infrastructure  OUR PRODUCT

Our product helps by supporting the development of quality, reliable, sustainable and resilient infrastructure, and in 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 and by 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.



Reduced inequalities  OUR PRODUCT

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



Sustainable cities and communities  OUR PRODUCT

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 also enhances sustainable urbanization and reduces the adverse per capita impact of cities.



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PRODUCT continued



Responsible consumption and production
Carbon black helps society become more efficient in its use of resources, facilitating consumption and production.

The lifecycle of our product and its inherent qualities prevent its recyclability in certain products, including packaging.

OUR PRODUCT



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

OUR PRODUCT
CUSTOMERS AND SUPPLIERS

PROCESS

Our processes ensure that we minimize our impact on natural resources and produce carbon black efficiently and in an ethical manner. Through our processes, we have an impact on the following SDGs:



Clean water and sanitation
We monitor our water use and recycle and reuse as much as possible. We have recently implemented a more detailed water risk assessment approach, designed to give us a site-specific performance appraisal.

ENVIRONMENT

We are still developing our understanding of our impacts to devise appropriate mitigation plans.



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 used either in our plants or sold to the grid. Globally, we are energy positive.

Our feedstock is still essentially of fossil origin.

ENVIRONMENT



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

ENVIRONMENT
CUSTOMERS AND SUPPLIERS

We strive to reduce our carbon footprint, which includes being more efficient about the energy we consume; we have been net energy positive since FY2016. We aim to avoid emissions and leaks as much as possible. We 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 are still in the process of developing more responsible procurement practices.



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Climate action

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

Our operations continue to generate emissions, whose reduction we are working on.

ENVIRONMENT



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 still in the process of making our supply chain more robust.

GOVERNANCE AND ETHICS



Partnerships for the goals

We help achieve the goals by working closely with our stakeholders, including our suppliers, regulators and governments.

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Responsible stewardship

We constantly analyze our operations to ensure that we maximize any resources that we apply and minimize any negative impact to the environment, our employees and the communities in which we operate.

Responsible stewardship is the first step in our sustainability strategy. We made significant progress in this area in recent years; our previous reports, and this one, are testament to what we have achieved. We have grown; we have matured.

Our leadership within our industry is built on responsible stewardship: it gives us our license to operate. We continue to hold ourselves to the highest standards in our work, including ensuring that our operations have a minimal impact on the environment and communities around us. The health and safety of our people is also a key priority. For more information on what we do, read our [Compliance](#) section.

Birla Carbon's sustainability work wins Gold

Birla Carbon is an industry leader in key sustainability fields, according to EcoVadis, a third-party consultant that awarded the company with a Gold rating in FY2017. EcoVadis assessed Birla Carbon's profile on sustainability indicators, comparing scores to a benchmark of over 150 other suppliers from related industrial sectors. With an overall score of 65%, which puts us in the top 2% of all suppliers surveyed, Birla Carbon led the way in three out of four areas:

- Environment – top 11%
- Labor Practices – top 4%
- Fair Business Practices – 1%



Although we scored less highly on Sustainable Procurement, our scores showed improvement from our previous Silver rating. We believe that we have achieved this through dedication, hard work and perseverance; the Gold rating is recognition of the success of SOE.

"Birla Carbon continues to monitor and assess its environmental impact and adapt to the planetary and social megatrends coming our way so as to ensure that we maximize any resources that we apply and minimize any negative impact to the environment, our employees, and the communities in which we operate."

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



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Stakeholder engagement

As we have reached a level of maturity in our responsible stewardship, we can now engage more efficiently with our stakeholders to align our sustainability strategy with theirs. We have built strong relationships with the aim of understanding the externalities and trends that could affect us in the future, by engaging with our key stakeholders, conducting life cycle assessment of our product 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. It is by engaging with our stakeholders that we can help them while creating and sharing value.

Our stakeholder groups include:

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

We have identified a sub-group of stakeholders that have the greatest impact on our business. Our engagement with this group can make a difference and we are currently directing our strategy based on what is material to them.

	How we engage	Examples in FY2017
Customers	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 through engagement on sustainability issues and aligning our sustainability agendas. Our dedicated Global Engagement Managers (GEMs) regularly engage with customers, through our Key Account Management (KAM) program.	We perform satisfaction surveys using the Net Promoter Score® (NPS®) 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.



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	How we engage	Examples in FY2017
Employees	Our employees provide us with feedback through our bi-annual surveys and we encourage continuous dialogue between managers and employees daily. We also provide a hotline through which our personnel can air grievances anonymously.	We conducted our latest Vibes survey in FY2017 , with a 98% response rate. The survey showed that we perform well in customer centricity, employee pride and employees feeling connected to overall business goals, while we can still perform better at attracting talent, offering varied career opportunities and providing a workplace attractive to young people. In FY2017, we held our first One Voice employee survey , covering 100% of employees. As of FY2017, all our employees have safe access to Water , Sanitation and Hygiene (WASH); however, four sites have yet to achieve the full WASH target
Suppliers	As our business depends on suppliers, we work closely with them to develop strong relationships. Our suppliers' behavior reflects on us; we work to ensure they uphold our high ethical standards.	Over the last three years, we have rolled out our Code of Ethics with contractual terms and conditions that we expect every supplier to sign. We review our global feedstock suppliers and encourage our suppliers to audit our own operations. One such audit took place in FY2017, at our plant in Cubatão, Brazil. We partnered with a third party due diligence screening provider , who reviewed over 150 of our distributors and sales agents in FY2017.
Aditya Birla Group	Our parent company, the Aditya Birla Group, follows a three-step sustainability agenda: responsible stewardship; stakeholder engagement; and future-proofing.	We have aligned our sustainability strategy with the Group's three-step agenda . We participate in a weekly sustainability webinar across the Group, in 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 to share knowledge and best practices internally.
Communities	Our approach to community relationships is localized, based on an understanding of the varying regional social and cultural priorities. We focus on delivering long-term socio-economic benefits, namely health, education, social support and charitable giving.	See our Communities section, where we describe our community engagement in greater detail.



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How we engage

NGOs, civil society, academics

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 or participation in events where we share knowledge with our peers.

Examples in FY2017

We engaged in face-to-face meetings with the World Business Council for Sustainable Development (WBCSD) to extend our understanding of how we should shape our sustainability strategy, which we have described in greater detail in this report.

Through the Aditya Birla Group, we have engaged with [Forum for the Future](#), who is helping us to define how we [future-proof](#) our business.

We participate in the [Sustainable Leadership Forum \(SLF\)](#), a group representing business leaders from a range of industries who share knowledge on common sustainability issues affecting their business.

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 [Sustainable Development Goals \(SDGs\)](#).

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

Our Corporate Risk Manager chairs the Education Committee of the [Risk Management Society \(RIMS\)](#) Atlanta Chapter in the USA and coordinates their annual conference which provides education and engagement opportunities for risk professionals.

Our Corporate Health and Safety Managers participate in the American Society of Safety Engineers, the largest professional safety society in the world. In FY2017, we presented at the 2nd Annual Professional Development Conference and Exposition in Hyderabad, India where we shared our experience around the 'Role of Leadership in Sustainable Safety Culture'.



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Engaging with industry in Brazil

Through our facilities in South America, we form part of the Brazilian Chemical Industry Association (ABIQUIM), which represents local manufacturers of chemical products and covers a broad range of issues. These include:

- Quality, health, safety and environmental issues;
- Human resources;
- Statistics and economic studies;
- Product advocacy; and
- Free trade agreements and tariff negotiations, among others.

With over 160 members, ABIQUIM gives us an excellent opportunity to connect with other chemical industry leaders in the region. Birla Carbon contributes to monthly health, safety and environmental indicator meetings; for example, we helped to develop indicators, metrics and associated definitions and manuals for ABIQUIM and its members to use to assess their performance. Our involvement in ABIQUIM enables us to influence and review state and national regulations and participate in benchmarking, educational opportunities and best practice sharing.

“Through our participation, we are able not just to influence decisions that could impact our industry, but also learn from other leaders about best practices and the challenges they’ve overcome.”

Alessandra Gómez, Health, Safety and Environment Director, South America



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Future-proofing

The third stage of our SOE journey demands that we look to the future, determining how we can adapt to the planetary and social megatrends coming our way. Horizon scanning and scenario planning are tools available to help identify external factors which could potentially impact our business. Risks and opportunities are then considered, which shape our strategy going forward.

We are exploring what future-proofing means to us in practice – finding ways in which we can build the resilience of our business. We continue to invest in people and technology, making strong progress on our key performance indicators, which in turn enables our operations to be sustainable for the short to medium term.

We engaged with [Forum for the Future](#), a specialized non-governmental organization, 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.

The megatrends that could affect Birla Carbon

Although our analysis of key global megatrends is at a preliminary stage, 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 ppm of carbon dioxide was permanently crossed in 2016. The Paris Agreement committed developed nations to achieve zero net emissions by 2035, and developing nations to reach zero net emissions by 2050. This entails a massive shift in the global energy system, affecting transportation, electricity generation and heating. Governments are increasingly considering radical policy. The conventional expectation is that regulation in this area will become increasingly strict.

Any change to transportation regulations will have a real 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, from a material impact there could be more demand for carbon black, as tire ingredients that improve efficiency may be prioritised.

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 is squeezed. While there is certainly strong growth potential in USA shale oil, it currently represents less than 5% of global supply and is not thought to be able to scale up to match the projected decline in conventional oil over the period.

Oil availability and supply will inevitably have an impact on our business, as carbon black production requires feedstock that is a by-product from 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.



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A huge shift is underway from fossil fuels to renewables in both rich and developing nations. 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

The circular economy is still nascent, but with increasing investment it is expected to be much more mainstream by 2030, with tracking methods such as materials passports to enable proper reuse and recycling. Waste legislation is expected to tighten over this same period across the world.

This represents a future challenge for Birla Carbon if used tires cannot be landfilled or combusted. There is an increased preference for renewable, recyclable and 'closed loop' materials. Companies are already applying various technologies to recover low grade carbon black from old tires for use in low-end applications.

Water

This is a key area for all industry – 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 experience – e.g. 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, which could reduce 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 challenge for Birla Carbon.



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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 they use carbon black in their battery technology. Driverless cars are more uncertain in their effect, especially as they may enable a transition to fleet models of shared mobility, replacing ownership and presumably leading to fewer cars, 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 push for walkable and bike-able cities, with visible efforts worldwide to reduce congestion by shifting away from 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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To meet our vision, we have reviewed and adapted our set of key performance indicators (KPIs) and targets for FY2020 and launched projects that will advance our business.

Our targets and progress

On track to meet target
 Behind schedule
 New target
 Target met and retained

	Performance			Progress toward target	Target	
	FY2015	FY2016	FY2017		FY2020	FY2030
Business Continuity/Reputation Maintain our leadership position in terms of carbon black production capacity	No. 2	No. 2	No. 2		No. 1	
Business Continuity Approximately double our annual capital spending against FY2012 baseline to reach \$100M	\$64.4M	\$69.4M ¹	\$54.9M ¹		>\$100M	
Ethics 100% of employees to receive Code of Ethics training	100%	100%	100%		100%	
Air Emissions Reduce our direct emission intensity (tCO ₂ /t _{carbon black}) by over 22% against 2005 baseline	90.1%	90.2%	90.1%		<78%	
Energy Increase our absolute energy conversion efficiency to 80%	70.6%	71.0%	72.6%		80%	
Water Reduce our water withdrawal intensity (m ³ /t _{carbon black}) by 50% against FY2012 baseline for our high- and medium-risk sites	81%	87%	83%		50%	
Product Stewardship Record zero environmental releases year on year	4	2	9 ²		Zero releases each year	
Waste Waste repurposed	29%	18%	18%			100%
Waste Hazardous waste generation intensity (kg/t _{carbon black})	0.30	0.33	0.21			0.1
Safety Zero recordable injuries (report on TRIR progress)	0.43	0.40	0.55		0	
Management Team 100% of Birla Carbon managers to have stated and measured goals set annually	100%	100%	100%		100%	
Community Engagement 100% of our facilities to participate in community engagement	100%	100%	100%		100% each year	

1 The amount does not include the funds invested in our greenfield Jining project.

2 The increase in environmental releases is due to our voluntary decision to report releases which are even below regulatory requirements for our plants with communities in close proximity. The number of releases would have been two if reported following the same methodology as FY2016.



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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 in FY2017.



2016 Top Rubber Award from *Borracha Atual* magazine (voted on by readers).

Brazil



Platinum Award in First Annual Convention on Six Sigma Case Study Presentation organized by QCFI, Chennai.

Gummidipoondi



Gold Award in Regional Convention on Quality Circle Organized by QCFI, Chennai.

Gummidipoondi



Partner of the Year – India from Apollo Tyres.

India



Best Energy Improvement Project 1st Place Winner in ABG STRIDE (Successful Transformation & Recognition of Inspiring Development in Energy Efficiency) competition.

Santander



Singular Female Company Award from Local Chamber of Commerce.

Trecate



Risk Improvement Award from FM Global in Recognition of Ongoing Commitment to Property Loss Prevention with Emphasis on Significant Reduction of Potential Loss Exposures.

Yeos



Golden Peacock Award for Sustainability from the Institute of Directors.

Global



2016 Pirelli Suppliers Award.

Global



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Our fifth report draws on performance highlights from April 2016 to March 2017 (FY2017) 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.

Birla Carbon acknowledges that sustainability is a learning process and we welcome all suggestions and feedback from our stakeholders, including customers, employees and suppliers. We aim to fully embed sustainability into the core of our business. Sustainable Operational Excellence drives our continued progress across all the dimensions of sustainability and corporate responsibility programs. We aim to continue producing an annual Sustainability Report to document our progress and challenges in this area. This report was approved by Birla Carbon’s Senior Management Team. [Learn more about our Governance Structure.](#)

This report is in accordance with the Global Reporting Initiative (GRI) Standards at comprehensive level. A GRI content index can be found [here](#). The Index has been updated to include reference to the relevant [Sustainable Development Goals](#) affected.

Boundary

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

Our material topics	Material to stakeholders		Relevance outside the organization
	Internal	External	
Focus area: Governance and Ethics			
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.
Focus area: Our Product			
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.



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Our material topics	Material to stakeholders		Relevance outside the organization
	Internal	External	
Focus area: Environment			
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 transport 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 it is 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.
Focus area: Customers and Suppliers			
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 global and regional suppliers.
Customer Engagement	Yes	Yes	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.
Focus area: Our People			
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.
Focus area: Communities			
Community 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.
Philanthropy	Yes	Yes	Providing philanthropic support is critical to the development of local community organizations around our sites, including schools and health facilities. This can positively impact local people. Our philanthropic activities also enable our employees to engage in events that give back to the communities in which they live, which can help them develop skills and pride in their work.



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Feedback

Feedback on our fifth 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

birlacarbon.sustainability@adityabirla.com



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We uphold the highest ethical standards in our business and expect our stakeholders to do the same. Our global governance system is agile and streamlined, enabling us to react quickly to any situation and built a stronger and more sustainable company.



ROMEO RWAMBAISIRE
INTERNAL AUDIT DIRECTOR

“The role of Internal Audit is to help Birla Carbon accomplish its goals, providing independent assurance that our risk management, control, and governance processes are operating effectively.”

We embed ethics across our entire business, preparing for adverse conditions and sharing best practices.



Full adherence to ethics
100% of active employees annually complete and sign our Code of Ethics training.



Sharing best practices
453 operational best practices implemented through the World Class Manufacturing group.



Investing more in technology
\$21 million invested in state-of-the-art technology to enhance our performance.



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best practices implemented through the newly merged World Class Manufacturing and Best Practices group.

Governance

Our success depends on strong, effective and responsive management. Our structure supports regional autonomy to allow for efficient decision-making, as well as communication between our global functional leaders. This structure enables the sharing and implementation of best practices, and the integration of Sustainable Operational Excellence throughout Birla Carbon.

How is our governance organized?

Each of the various legal entities that comprise Birla Carbon is governed by a Board of Directors, led by our Senior Management Team (SMT). The SMT is made up of Chief Executive Officer, Dr. Sanjiv Misra; Chief Operating Officer, Kevin Boyle; five Regional Presidents; Chief Functional Officers; and a Specialty Blacks Business Head.

The diagram below illustrates how we organize our governance.



Within this structure, the Chief Sustainability Officer's (CSO) role is twofold. On the one hand, the CSO communicates the work of the Sustainability Steering Committee (SSC) to the SMT; on the other, the CSO acts as the guardian of sustainability principles and best practices, ensuring that the SMT is aware of these when making business decisions.

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Sustainability Steering Committee

Our [sustainability strategy](#) is directed by the Sustainability Steering Committee (SSC). The SSC is responsible for reporting, which it fulfills through the annual Sustainability Report, quarterly meetings with the SMT, and through ad hoc communications to 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 working groups. Each working group is composed of the Global Sustainability Director, the Sustainability Analyst, Subject Matter Experts, employees with relevant expertise and occasional third-party advisors.

Through the working groups, we identify areas of opportunity for integrating sustainability further into the business and develop action plans for implementation. The working groups maintain contact throughout the year and meet when needed. Ideas and plans generated by the working groups are ultimately presented to the entire SSC and evaluated. Final approval or rejection of projects lies with the SMT.

The SSC also ensures that Birla Carbon's sustainability strategy is aligned with the [sustainability vision](#) and approach of our parent company, the Aditya Birla Group.

Key topics discussed by SSC in FY2017	Decisions made	Impact on business
Focus area: Customers and Suppliers		
Supplier risk assessment	Implemented a third-party due diligence screening application.	A more resilient and ethical supply chain will enable us to achieve business continuity.
Customer engagement	Institutionalize the use of Net Promoter Score® (NPS®) to engage with customers and measure their satisfaction.	We aim to develop long-term relationships with our customers.
Focus area: Environment		
Solid waste management	Developed two new KPIs to better report on our progress in hazardous waste and waste to landfill management.	We seek to drive improvements around key stakeholder concerns.
Water risk assessment	Conducted local risk assessment for three priority sites rated as high risk per Aqueduct.	
Life Cycle Assessments (LCAs)	Updated our product LCA using FY2017 data.	
Energy and emissions KPIs	Maintain KPIs as-is for FY18, but addressed challenges with meeting FY2020 goals.	
Focus area: Our product		
Product stewardship	Decided to engage the public and share a broader understanding of the social value of carbon black. Formalized and published our Product Stewardship Policy.	We seek to engage with the wider public to introduce them to the everyday importance of our product.



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Key topics discussed by SSC in FY2017	Decisions made	Impact on business
Focus area: Governance and Ethics		
Horizon scanning and scenario planning	Conducted initial study with Forum for the Future on the external factors which could affect our carbon black business in the coming decades.	Through this engagement, we hope to begin the process of future-proofing our business by considering potential future trends and their impacts.
Focus area: Our people		
Engaging our employees	Ensured that all sites have safe access to Water, Sanitation and Hygiene (WASH) by the end of FY2018.	A motivated workforce is instrumental to business success. We seek to engage our people and support them and their lifestyles.

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 FY2017, 30 audits were conducted, covering both global and region perspectives, 20 of which were global and focused on Fixed Assets, Inventory Management, Expenditure and the SAP System and Infrastructure. The remaining 10 audits were region specific and covered Procurement, Statutory Compliance, Sales and Marketing and Logistics. Results were shared with the SMT; the Risk Committee is updated quarterly on the implementation progress of the related management action plans.

Enterprise Risk Management and Business Continuity Committee

One of our top priorities is to maintain uninterrupted operations and a constant supply of carbon black to our customers. Our Enterprise Risk Management (ERM) system helps us identify and anticipate risks across our business, enabling preparation for possible disruptions.

ERM Committee

The ERM committee meets three times per year and engages with regional and corporate function directors to identify potential risks and define mitigation strategies. The Chief Risk Officer then presents these risks and strategies to the SMT.

Participants from other business areas may be invited to attend ERM committee meetings to clarify and provide input on specific issues that require expert views. On a rotational basis, a Regional President is invited to attend each meeting to identify and discuss regional risks; those identified are now included in the ERM committee meetings agenda.

Two areas have been the subject of greater focus in FY2017:

- Cyber risks – the Chief Information Officer (CIO) and Chief Information Security Officer (CISO) developed a cyber risk map, which is discussed regularly at the ERM Committee meetings; and
- Water risks – a subcommittee working group was set up to assess water risks, focusing on economics, flooding and recycling in our production cycle at each plant location. The group produced a [map](#) to chart overall risks.



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Business Continuity Planning

Each of Birla Carbon's locations has a comprehensive Disaster Recovery and Business Continuity Plan (BCP) to prepare for interruptions due to natural disasters or disruptions. Our BCP approach has been developed over the years with a built-in local aspect: each plant focuses on key prevention elements and the ability to maintain our supply. Read more in our [BCP statement](#).

Since FY2015, we have been rolling out a Business Continuity Management System (BCMS), based on ISO 22301. The BCMS guides our specific recovery strategies for the most crucial processes and activities for our business, ensuring the continuous supply of carbon black to our customers. In FY2018, it is our intention to upgrade and standardize across all sites our recovery strategies in the BCP documents following the ISO 22301 standard.

World Class Manufacturing: empowering our people and sharing best practices

We expect our facilities to reach the highest standards – both externally and internally. One internal certification is the Aditya Birla Group's Corporate World Class Manufacturing (WCM) standard. The WCM initiative promotes and supports the highest standards in manufacturing and production. Its framework deals with all aspects of business excellence, focusing on leadership, stakeholders, operational and financial performance, customers and markets, processes, employees and society.

WCM began in the Aditya Birla Group in 1996, and has since matured, allowing all our sites to gain a greater understanding of the significance of business excellence. Four new plants have achieved bronze level certification and one has achieved gold in the previous Chairman's award process. These award-winning plants and previous award winners are working toward achieving higher levels of accomplishment, while others incorporate WCM concepts in their day to day operations.

Previously, WCM existed in support of our Best Practice Group: a system through which sites identified, developed, refined and shared proven techniques. This methodology, which helps enable SOE, has now been integrated within the WCM system – which pushes Birla Carbon to be a more responsible steward, globally.

Through FY2017, 27 new best practices have been implemented, bringing the total to 453. These new best practices were developed primarily to start incorporating WCM concepts into the existing process. To facilitate this change, two existing Best Practice categories (Maintenance and HSE) were modified, and two new categories (Work Environment and Quality) were developed and implemented. We plan to systematically incorporate WCM criteria into all the Best Practices until full integration is achieved.

Progress on implementation of the Best Practices is monitored via semi-annual assessments and scorecards detailing the status of implementation by each manufacturing facility. Bi-annual on-site assessments are also conducted to ensure that local management fully understands the Best Practices.



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Dealing with disaster in Gummidipoondi

An extreme example of our business continuity in action occurred at our facility in Gummidipoondi, India, in December 2016. The area, which is close to Chennai in Tamil Nadu state, was hit by Cyclone Vardah, a severe storm with winds reaching a peak of 135 km/h for six hours. The cyclone, which was the worst seen in the area in 25 years, flattened homes, snapped communication lines and damaged water and electricity supplies. Our facility was also affected; buildings shook, roofs fell and 1680 trees planted at our facility over 15 years were torn out of the ground.

Faced with these adverse conditions, our team reacted remarkably to ensure that our operations and shipments to customers continued unabated. This started by switching power supplies from electricity to steam, installing high capacity generators to keep operational water supplies running and maintain our high-quality standards.

With our product still in high demand, we needed to keep in close contact with our other facilities in India – with little communication and only one operating phone. Our team pooled together modems, converting the office boardroom into the center of operations and running our business from there, with workstations established for our Quality, Logistics and Warehouses departments. Our employees understood the situation and were fully supportive at all times, which enabled our success; they were supported with transport to and from distant locations, a 24-hour canteen and the swift removal of all fallen trees from access points to the facility.

The facility also provided remedial care to residents in nearby villages: after the cyclone had ended, we provided drinking water, food, and temporary medical camps, the latter benefitting more than 200 villagers. We supported other industries in the vicinity, supplying water to ensure that these industries could continue operating.

This situation continued for a week, until conditions were normalized. Despite its long and challenging duration, our team kept up a consistent supply of high quality carbon black to customers. This was only possible due to the commitment and dedication of our people and the preparedness of our unit.

BUSINESS CONTINUITY



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16 PEACE, JUSTICE AND STRONG INSTITUTIONS



Peace, justice and strong institutions

We have a robust governance structure based on regional autonomy and fluid communication.



5

concerns raised through our hotlines.

Ethics

Our business success depends on our operational integrity and how our people behave. We expect our employees to do business in alignment with our values: Integrity; Commitment; Passion; Seamlessness; and Speed. It is fundamental that we uphold these values at all levels of our work, conducting ourselves with fair business and labor practices.

Conducting business with ethics

Our ethics approach includes aspects that support 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 expect our employees, contracted workers and external partners to do the same.



Our five key values, aligned to the Aditya Birla Group, drive everything we do: Integrity; Commitment; Passion; Seamlessness; and Speed.

We embed high ethical standards across our operations by formally training each 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, as well as anti-money laundering.



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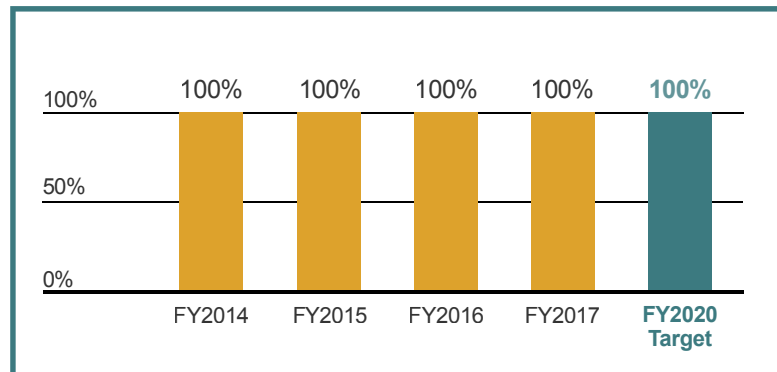
Ethics

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Progress towards target



Target: 100% of employees to receive Combined Code of Ethics training



FY2014	FY2015	FY2016	FY2017	FY2020 target
100%	100%	100%	100%	100%

Human rights

Human rights are of increasing importance to all businesses: it is important that respect for human rights is embedded across all activities and relationships. Making this happen requires investing resources and time. We engage at every level of Birla Carbon to ensure our commitment to human rights.

We respect human rights in all our business activities and strive to comply with the laws and regulations in place 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 people we employ, do business with or interact with.

Antitrust and anti-corruption

We are committed to complying with the antitrust and anti-corruption laws of all the 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 FY2017, two allegations of corruption were raised, investigated and found to be without merit.



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Grievance measures

We require our employees to voice any concerns or grievances they have about our operations, our employees or our products, and we expect contractors and suppliers to do the same. To this end, we provide reporting channels to enable them to do so. Our [hotline](#) is available for employees to anonymously report, via telephone, text message or email, any illegal or non-compliant behavior they observe. The hotline is run by an independent third party, 24 hours a day, 365 days a year and escalates issues to our Internal Audit Department and Chief Legal Officer.

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

Grievance measures



	FY2016	FY2017
Hotline calls (total)	17	5
Calls investigated	16	4
No further action needed	9	4
Resolved through collective bargaining	5	0
Disciplinary actions	2	0
Formal community grievances	0	0

Labor, human rights and environment grievances



	FY2016	FY2017
Labor grievances at the local level	15	16
Labor grievances resolved	4	13
Human rights grievances filed and resolved	1	6
Environmental grievances filed and resolved	4	1



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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 FY2017, the number of unionized Birla Carbon sites was 75%. If conflict issues occur, we have communications and conflict resolution measures in place for our employees to make their concerns known.

Suppliers

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 can demonstrate responsibility and transparency. Over the last two years, we sent our major suppliers a copy of the Code in their own language; in FY2016, we reviewed the contractual [Terms and Conditions](#) that we expect our suppliers to agree to.

In FY2017, we worked with legal advisors in each region to tailor our standard Terms and Conditions of Purchase to local requirements. We did this because some clauses and provisions may be unenforceable or not applicable in some locations. We plan to conduct a similar process for our Terms and Conditions of Sale in FY2018.



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A robust approach to ethics

Birla Carbon's acquisition of Columbian Chemicals in 2011 presented several opportunities and challenges – including creating a unified approach to ethics. It is our guiding principle that the highest standard anywhere will be the minimum standard everywhere. Since 2011, we have invested time and resources to carefully developing a Code of Global Ethics and Compliance Standards (Code of Ethics), which we have rolled out in the following ways:

- **Employees** – our Legal, Audit and Human Resources departments worked together and produced a new e-learning module in our [11 local languages on the Code of Ethics](#), which was launched in FY2014. All our employees complete this course annually.
- **Suppliers** – we contacted our major suppliers, representing over 90% of our total global purchases, initially to explain our expectations on ethics and subsequently to include a paragraph on ethics in our contractual Terms and Conditions. Over FY2017, we have started [screening](#) select supplier groups for their ethical performance.

We aim to take our ethics approach further in FY2018, by expanding our screening program to other suppliers and taking full control of our employee training system. We are constantly seeking new ways to ensure that the business we conduct meets and surpasses the highest ethical standards.

ETHICS | **HUMAN RIGHTS**



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\$21M

invested in state-of-the-art technology.

Compliance

Our license to operate is founded 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 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 FY2017, a total of seven plants had received certification in the ISO 50001 standard. ISO 50001 stimulates organizations to establish systems and procedures necessary to improve their energy efficiency, use and consumption. We expect all our sites to attain ISO 50001 soon.

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 Health, Safety & Environment (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 FY2017, we conducted eight audits of our environmental performance and seven of our health and safety performance.

Investing in world-class facilities

To improve efficiency, we are continuously upgrading and enhancing our older plants, while developing a new generation of facilities. In FY2017, we invested \$21 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.



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Building our future in Jining

Our work is driven by Sustainable Operational Excellence (SOE); it is present in everything we do. The greenfield facility that we are building in Jining, China, will produce carbon black to the highest standards from FY2018.

During construction, which began in FY2016, the facility has had exemplary environmental, health and safety performance: no injuries or environmental incidents have been recorded. We have also fully incorporated best practices, enabling us to successfully manage the waste generated during construction. The project has employed over 1,000 individuals, including third-party supervisors and sub-contractors, working on the site for a cumulative 1.7 million hours.

The Jining project has been a clear example of a successful greenfield facility, showing how we can deploy the skills and abilities of our people. We fully expect our new facility to be best in class, meeting and surpassing stringent local, regional and international standards.

GOVERNANCE FRAMEWORK



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Though invisible, carbon black plays a crucial role in improving all our lives. We ensure that our product is safe, manufactured to the highest standards and continually innovated.



DR. CHARLES HERD
DIRECTOR, RUBBER
CARBON TECHNOLOGY

“The fact that it is everywhere around us means that carbon black plays a key role in all of our lives. Through research and development, we continuously seek to improve our carbon black and identify new applications and opportunities.”

We supply our customers with carbon black of the very highest quality, that is safe to use and responsibly manufactured.



Investing in the future

We invested 4.8% of our profit into product and technology R&D in FY2017.



Embedding product stewardship

We rolled out our Product Stewardship Standard in four other facilities, meaning it is now active in 100% of our sites.



Talking to our customers

We sent over 1,300 letters in response to direct requests, with 100% replied to within 24 hours.



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Zero hunger

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



Decent work and economic growth

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

The social value of carbon black

Carbon black is a fine, black powder essentially composed of elemental carbon: a highly-engineered microscopic material contained in hundreds of thousands of different products with crucial, daily uses. It plays a key role in our lives: from car tires to shoe soles, from water pipes to power lines, from newspapers to car paint. Carbon black makes our lives better.

What is carbon black?

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 should not be confused with black carbon, more commonly known as soot.

The size of the particles and the way they are aggregated provide specific properties to the carbon black and define its use. For example, a large particle-sized, 'soft' carbon black grade will contribute to the elasticity of the tire sidewalls, while a small particle-sized, 'hard' carbon black grade will be essential to ensure the durability of the tire's tread.

What are its uses?

Carbon black enables the every-day. 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 a paint, ink or coating.

Reinforcement

Carbon black with its affinity for various polymers makes rubber products last longer, safer and save 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

Conductivity

Carbon black is so versatile that its morphology can be engineered to modulate the electric and thermal conductivity of many products. In many applications, it also helps dissipate electrostatic build-up. Examples include:

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



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Industry, innovation and infrastructure

Our product helps by supporting the development of quality, reliable, sustainable and resilient infrastructure, and in the promotion of inclusive and sustainable industrialization.



Reduced inequalities

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

UV Resistance

Carbon black, with its capability to absorb light, ensures that plastics and rubber products last longer despite exposure to sunlight. Examples include:

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

Pigmentation

Carbon black 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 wouldn't be able to drive for longer than 1,000 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 is produced worldwide annually – approximately 70% of which goes into tires.

Carbon black and you

We all interact with carbon black every day without noticing it. It enables key aspects of our lives, continuously adding value. Consider its unnoticed role in the following:

- **Movement** – carbon black gives us freedom to move by making tires safer and stronger for longer.
- **Society** – carbon black has a permanent presence in our lives – from the clothes and shoes we wear to the mascara we put on our eye lashes, from flowerpots to toys, from banknotes to newspapers.
- **Health** – carbon black plays an important role in water transportation through plastic pipes and rubber gaskets, keeping it safe to drink and preventing leaks.
- **Food** – carbon black enables more efficient agricultural practices, from irrigating to protecting crops and facilitating farming, such as liquid retention pools and mulching.
- **Power** – carbon black is an essential component of the wires, computers and technology that make our lives possible and connect us.



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How is carbon black made?

Carbon black is produced by thermal decomposition and pyrolysis of low-value oil residues at high temperatures under controlled process 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 as feedstock and sometimes natural gas. Our carbon black has real value: it is produced through the conversion of oil residue, which otherwise would have limited uses and would have been disposed of.



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.



Responsible consumption and production

Carbon black helps society become more efficient in its use of resources, facilitating consumption and production.



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17 PARTNERSHIPS FOR THE GOALS

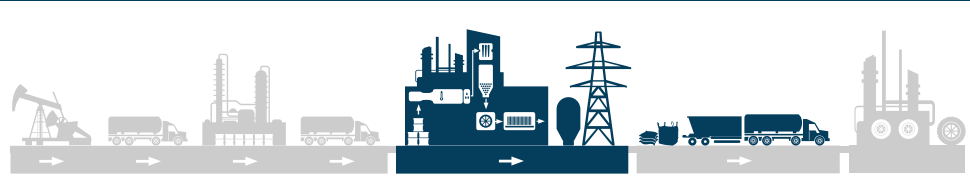


Partnerships for the goals

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

The carbon black manufacturing process

Our six step manufacturing process

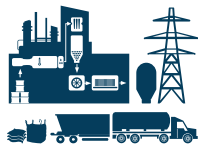


Carbon extraction, refinement and transportation

Manufacturing process

Transportation to customers

End product



Feedstock oil

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



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 0.01 of a second.



Water injection

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



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.



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.



Storage and packaging

In a 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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Decent work and economic growth

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



Responsible consumption and production

Carbon black helps society become more efficient in its use of resources, facilitating consumption and production.

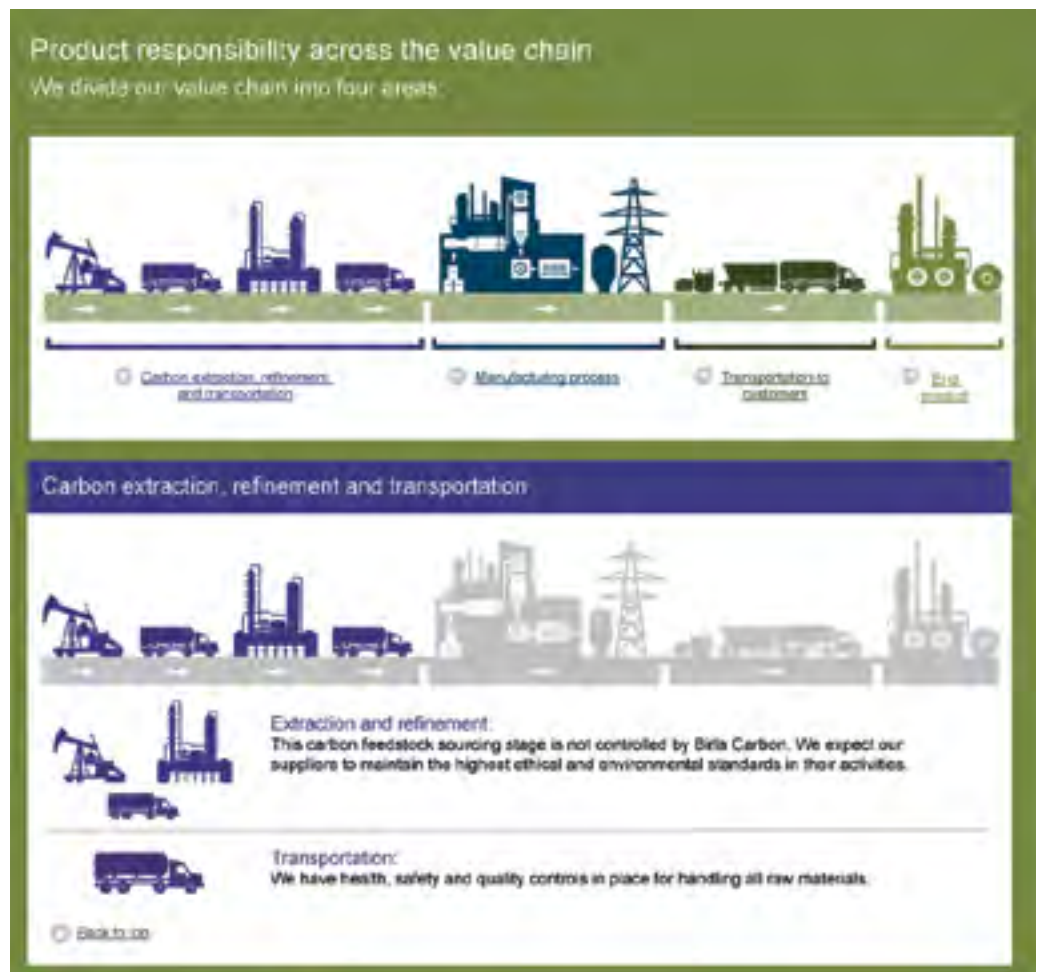
Product responsibility

Our approach to product responsibility is divided into two key focus areas: safety and stewardship. By safety, we understand that our carbon black is made safely for customers' specific use. At the same time, our product stewardship approach ensures that our people understand how our carbon black is made and their role in its manufacturing process. It is important that we help our customers handle and use carbon black effectively and safely, and that we act responsibly across our value chain.

How do we create safe products?

Our customers rely on us to produce safe carbon black for their own uses. We ensure that our product meets and exceeds all regulatory requirements. We also remain abreast of any regulatory or market developments, enabling us to support our customers in meeting their own regulatory obligations.

We thoroughly test our carbon black to ensure that it surpasses health, safety and environmental requirements and is a high-quality product.





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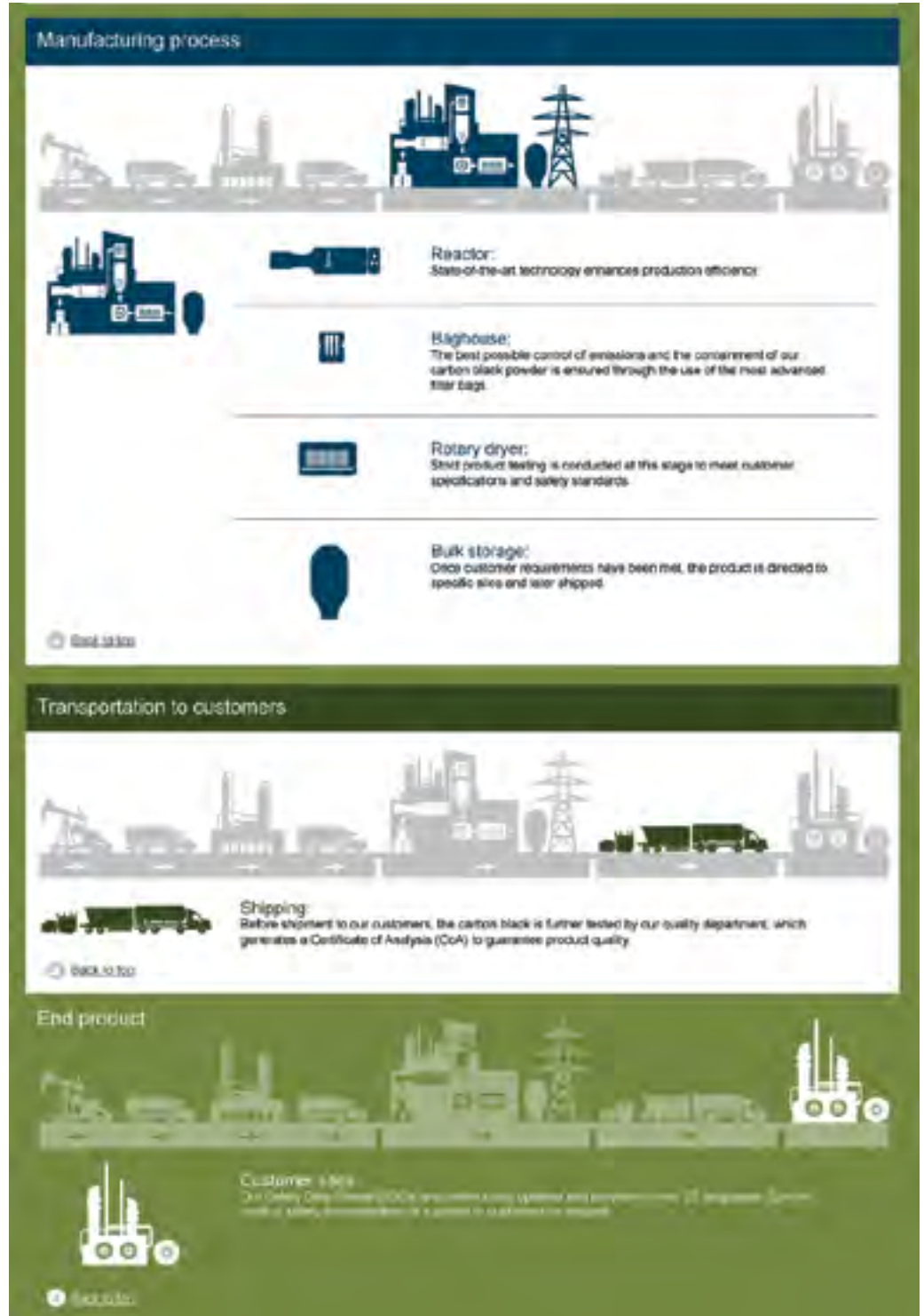
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17 PARTNERSHIPS FOR THE GOALS



Partnerships for the goals

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





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Investing in health and safety

We make sure that our internal and external customers are fully informed on the safety of our product, 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. Internally, in FY2017, we have improved access to our product safety information to better serve our technical sales organization.

Enhancing customer understanding

Customers and end consumers want to understand more about carbon black. Our customers can access up-to-date and accurate information through safety data sheets (SDSs), labels and generic statements. In FY2017, we have increased transparency by making our SDSs publicly available [online](#).

We also respond to direct queries from our various stakeholders. In FY2017, Birla Carbon received over 1,300 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 also continuously educate our sales and distribution network about carbon black product safety and its regulated applications.

Product stewardship

We continue to build a product stewardship culture in our operations by 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're doing before and during process development and production changes.

In the last two years, we have developed and rolled out our new Product Stewardship Standard (the Standard) across all our sites. The aim is to ensure all employees understand our vision and the benefits of applying the Standard. In practice, the Standard requires enhanced testing intervals for all products and a robust description of which actions trigger product re-testing at a manufacturing site. To effectively benefit from the Standard, we have also amended our Management of Change Standard to formally document any changes that would potentially impact our product.

The Standard is applied on-site by our Product Stewards, who also monitor progress and employee training through annual self-assessments. The stewards participate in regional Product Stewardship Committees, who report to a Global Product Stewardship Steering Committee.



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Over 1,200

tests related to product stewardship requirements performed on our product.



Rigorous testing, high quality productions

The Product Stewardship Standard was launched in FY2016, we have been conducting training and rolling it out in all our locations. This requires several different functions to work closely together, under the guidance of the global Product Stewardship Manager.

To keep up to speed with events in all facilities, the Product Stewardship Manager maintains a comprehensive database, checking on gaps and reviewing and adjusting schedules. Each site is requested to send samples of the carbon black they are producing to our world class laboratory in Marietta, where samples are logged into the laboratory information management system (LIMS), ensuring full traceability.

Once the samples are logged into the LIMS database, they are immediately scheduled for Product Stewardship testing. All analyses performed follow internationally recognized test standards. All data generated is maintained indefinitely in the LIMS and the document management system, SharePoint.

"Our Product Stewardship process provides a rigorous test for our product. The validity and strength of the testing is such that our customers feel able to give us their own products for certification."

Tina Rushing, Laboratory Information Supervisor, Marietta

PRODUCT STEWARDSHIP



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



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

Because of the confusion between **black carbon** (soot formed through the incomplete combustion of fossil fuels, biofuels or biomass) and **carbon black**, the engineered material we produce is often incorrectly perceived as a polluting, dirty, air contaminating, carcinogenic black dust, which is detrimental to society and

the environment. Birla Carbon is at the forefront of industry investigations into the potential effects of carbon black, both to humans and the environment. Through our work with the [International Carbon Black Association \(ICBA\)](#), we engage closely with health, safety and environmental officials across the world to ensure that accurate, scientific-based information is utilized in the regulatory process.

What is the ICBA?

We are an active member of our industry association, the [International Carbon Black Association \(ICBA\)](#). Birla Carbon professionals participate in leadership positions on the Board of Directors and the Regional ICBA's Product Safety and Regulatory Committees for North America, Europe and Asia. These industry groups meet on a regular basis to address the changing regulatory landscape of their specific region. 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 health, safety and environmental 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 our quarterly Product Stewardship newsletter, 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.



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Can carbon black cause health problems?

Black carbon is a known carcinogen; by association, our product (**carbon black**) is too often erroneously linked with cancer. 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, consumers are not directly exposed to carbon black through products placed on the marketplace.



Is carbon black safe to handle?

Carbon black is not dangerous to humans. 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; it may

be washed from the skin using mild soap and water along with gentle scrubbing. If carbon black has been spilled or requires cleaning up, dry vacuuming is the preferred method.

For more information on handling carbon black, please see our [safety data sheets](#) and the [ICBA Carbon Black User's Guide](#).



Is carbon black harmful to the environment?

Due to the nature of our manufacturing processes, we recognize that our activities can potentially have environmental impacts, particularly in terms of water use, greenhouse gas (GHG) emissions and waste generated. Through our practices, we are committed to ensuring that our production facilities do everything possible to prevent the release

of any carbon black into the atmosphere. We are working to reduce greenhouse gases (GHG) and other air emissions by proactively studying, experimenting and investing in pioneering air emission control technologies. 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.



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Industry, innovation and infrastructure

Our product helps by supporting the development of quality, reliable, sustainable and resilient infrastructure, and in the promotion of inclusive and sustainable industrialization.



Sustainable cities and communities

Our product enhances sustainable urbanization and reduces the adverse per capita impact of cities.

Product quality

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

Quality assurance

All our manufacturing sites are ISO 9001 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. The Quality Management System is integrated throughout the various functions within our manufacturing sites (operations, plant quality, maintenance and repair/instrumentation, warehouse/shipping) and is regularly reviewed and audited internally. As part of the Quality Management System, 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.

Improving our processes

We continuously seek to make our manufacturing processes better. In FY2017, following the requirements set by the International Automotive Task Force (IATF 16949), we started developing a system through which we can identify costs caused by poor quality. The system asks for tracking a series of items:

- Customer claims;
- Complaint handling costs;
- Returned material and associated freight due to complaints; and
- Internal standard and nonstandard inventory.

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. These data support our management review process to monitor trends, develop actions for reducing costs as well as improving customer focus and satisfaction.



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Responsible consumption and production

Carbon black helps society become more efficient in its use of resources, facilitating consumption and production.



Partnerships for the goals

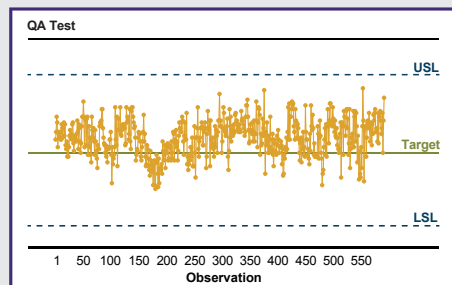
We help achieve the goals by working closely with our stakeholders, particularly our customers.



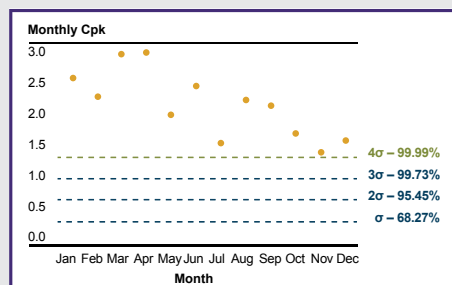
Focus on product consistency

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

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



Birla Carbon rigorously tests its carbon black through internationally recognized test procedures and processes. Based on customer requirements, and regular reviews of the correlation between our customers' laboratories and our own, we define Upper Specification Limits (USL) and Lower Specification Limits (LSL) for each test. Our products only leave our gates if all the required parameters are tested and the product is certified within these limits.



Our testing processes are validated through a process capability index (Cpk), which statistically measures their reliability. All our testing equipment in our quality departments are regularly serviced, checked and calibrated to guarantee maximum product quality.

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All 17

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

Working with ASTM

Our 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 investigations, with support from our two central laboratories. 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 quality assurance.

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 adopting the best available practices and technologies across Birla Carbon.



Manufacturing Systems Analysis (MSA)

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



Regional quality organization

Regular meetings are held between the regional quality leadership, the Quality Managers from each plant within the region and the Technical Service Managers to discuss and implement best practices in the quality area.





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Industry, innovation and infrastructure

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



4.8%

profit reinvested in research and development in FY2017.

Research and development

We invest in research and development to maintain leadership in our industry and 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, identify new opportunities for carbon black applications and closely assess our product sustainability attributes, including developing more sustainable forms of carbon black.

Leading through innovation

Our success is built on our product. We continuously investigate and develop new approaches to how we make carbon black and improve its performance. To ensure that we remain at the cutting edge of our industry, we depend on leading scientists, dedicated to taking us forward.

We provide these scientists with state-of-the-art research facilities. Our two principal Research and Development (R&D) centers are in Talaja (Maharashtra, India) and Marietta (Georgia, USA). These are supported by two regional satellite laboratories in Korea and Brazil. Our R&D centers are divided into five sub-laboratories, dedicated to the following activities:

- Analytical services and oil analysis
- Material analysis
- Microscopy
- Rubber applications
- Specialty applications



Talaja (Maharashtra, India) R&D centre



Marietta (Georgia, USA) R&D centre

Our R&D centers employ more than 50 leading scientists and technological experts in material science, analytical chemistry, nanocomposites, physics, and process engineering. Our Product Technology group works with our Technical Service teams throughout the world, and engages daily with our customers to ensure their needs are understood and met. Part of our work is the development of new grades to improve the performance of our customers' products. We also propose new carbon black products that are less energy demanding during the incorporation phase in rubber, plastic, ink or paint formulations.



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Sustainable cities and communities

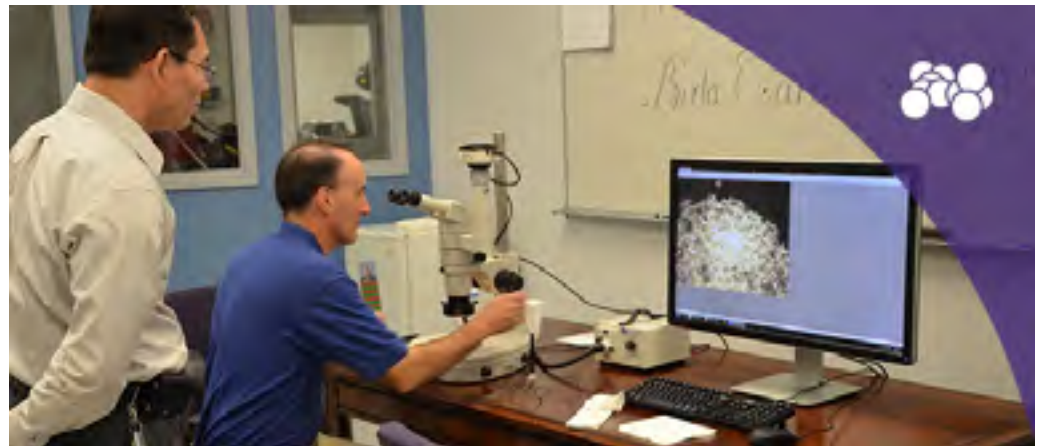
Carbon black is crucial in the development of safe, affordable, accessible and sustainable transport systems, particularly in terms of its role in tire safety, durability and improved rolling resistance.



Partnerships for the goals

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

When designing new products, we meet with partners to better understand their expectations. For instance, rolling resistance is a key focus for our tire customers. Our objective is to develop and commercialize new carbon black grades to further lower the rolling resistance for the next generation of tires. These tires will consume less energy in vehicle propulsion, resulting in greater fuel economy, thus emitting less CO₂.



Celebrating pioneering technology

Birla Carbon has long been committed to innovation. In FY2017, we celebrated the 75th anniversary of our installation of the first industrial electron microscope. An electron microscope uses a beam of accelerated electrons to reveal the structure of minute objects. As carbon black is tiny even in its aggregated form, these microscopes are essential for examining our product in detail. Electron microscopes have given us a real insight into the structural properties of our product, ensuring that our carbon black is better characterized and understood.

Before the microscopes existed, carbon black morphology was unknown – carbon black was marketed as ‘magic smoke’. The first electron microscope was invented in Germany in 1931 and perfected by Siemens in 1938 – but, as local political conditions prevented any exports from Germany, US scientists working for Columbia Carbon built the microscopes by hand in 1941. In the intervening years, our R&D teams have used 15 generations of electron microscopes, which we use to characterize and help develop unique grades of carbon black. We estimate that we have captured well over 1 million micrographs in that time span.

Birla Carbon has taken a proactive approach to carbon stewardship, supported by our R&D team. Our approach is driven by our Sustainable Operational Excellence (SOE) strategy, which influences all aspects of our business. Our pioneering use of innovative technology, including electron microscopes, means that SOE is a reality.

“We are committed to driving innovations that fulfil the needs of the customers and communities. We have invested in world-class R&D centers that focus on continual enhancement of carbon black technology by combining process modelling, microscopy and product innovation. Birla Carbon will continue to invest in technology to ensure we are meeting the challenging needs of our customers in the most sustainable way.”

Dale Clark, Chief Technology Officer

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Did you know?

- Birla Carbon pioneered the microscopic characterization of carbon black over 70 years ago.
- Traceable carbon black grades are used in fiduciary inks for bank notes.
- Carbon black adds over 6,000 m² of surface area to reinforce the tread of your tire, making it safe and durable.

Directing our technology

Our Technology Roadmap is designed to coordinate and reinforce our approach to technology and product development by focusing on three main drivers – growth, sustainability and cost and quality.

The three drivers of our technology roadmap

Growth

- Introduce a standard engineering design package to ensure we build and maintain industry-leading facilities.
- Establish strong relationships with engineering and construction firms in all our locations globally.
- Increase capacity for production of Specialty Black grades.

Sustainability

- Utilize tail gas as fuel commercially.
- Operate high temperature and pressure co-generation units to maximize energy recovery.
- Increase commercialization of low rolling resistance tread material.
- Proactively exceed all environmental regulatory requirements ahead of time.

Cost and quality

- Operate a new carcass black unit to significantly increase yield and quality.
- Commercially utilize alternative feedstock routes.
- Ensure all our plants meet a yield and energy recovery benchmark.
- Highlight our global product capability and consistency as a competitive advantage.



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We continuously adapt our environmental stewardship, seeking greater efficiency in the resources we use and minimizing our impacts.



JAGJEET S CHAWLA

GENERAL MANAGER, HSE & SUSTAINABILITY, SOUTH ASIA REGION

“Water is critical to life; we want to be a responsible consumer of this finite resource. We have developed an approach that we believe will enable us to take a closer look at how we manage our impact on water in the short, medium and long term, to understand where and how we can improve.”

Our operations use natural resources such as oil, gas and water, which we manage conscientiously and responsibly.



Taking steps to a smaller footprint

Our overall carbon footprint intensity has decreased by 12% since FY2012.



Globally energy positive

75% of our facilities are energy positive.



Reducing our water impact

We reduced our water withdrawal intensity by 5%, with nine plants achieving zero discharge.



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Responsible consumption and production

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

Life Cycle Assessments

We conduct Life Cycle Assessments (LCAs) to better understand the impacts of our carbon black product from manufacture to its end of use. LCAs are a recognized approach to review all environmental impacts in a product life cycle: from raw material extraction through material processing, manufacture, distribution, use, repair and maintenance, to disposal or recycling.

Understanding our impact

Over the past four years we conducted a Life Cycle Assessment (LCA) to measure the impacts of our feedstock and carbon black. LCAs review the environmental impacts of all stages of a product life cycle: from raw material extraction through material processing, manufacture, distribution, use, repair and maintenance, to disposal or recycling. Birla Carbon's LCA was, to our knowledge, the first conducted by a carbon black manufacturer.

The scope of our LCA is from 'cradle to gate': from the 'birth' or extraction of raw materials to the delivery of carbon black to our customers' gates following the International Organization for Standardization (ISO) 14040 guidelines. Our LCAs enable us to better understand our impact with regard to CO₂ emissions and identify opportunities to reduce our [overall carbon footprint](#).

Our LCAs have taught us that each stage of our manufacturing process has an impact on the overall carbon footprint. Over the years, we looked at feedstock delivery, production and product distribution data to establish a baseline and to better understand where we can reduce carbon emissions most effectively.



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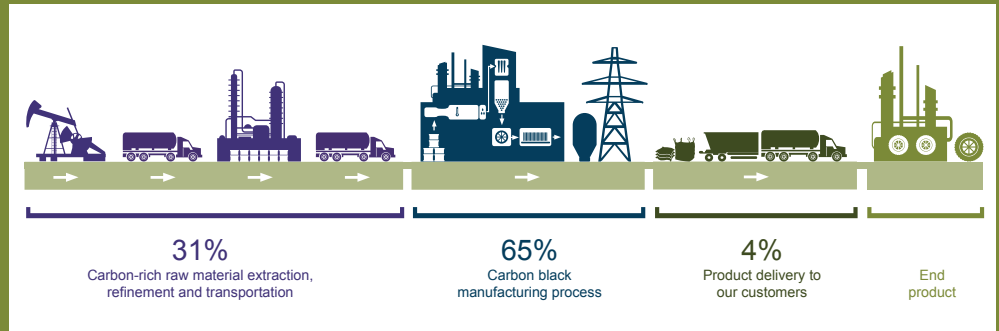


Partnerships for the goals

We help achieve the goals by working closely with our stakeholders, including our suppliers, regulators and governments.

Carbon stewardship across our value chain

Our carbon footprint:



Carbon-rich raw material extraction, refinement and transportation

31%



Birla Carbon has no control over carbon emissions during the extraction and refinement stages.

10%



Extraction:

Carbon-rich crude oil is extracted as a raw material.

12%



Transport to refinery:

The crude oil is sent to refineries for processing.

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 limited 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.



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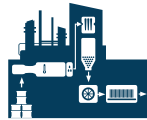
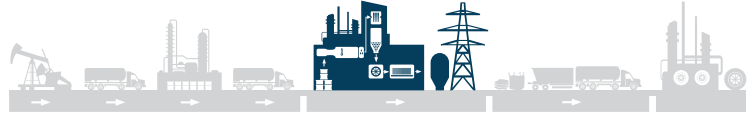
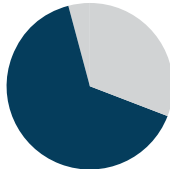
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Carbon black manufacturing process

65%



Manufacturing process:

During our manufacturing process, the feedstock oil is converted into valuable carbon black. This stage has the single largest contribution on our overall carbon footprint, and it is the stage over which we have the greatest control.

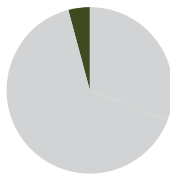


Energy management:

Through co-generation, we convert the tail gas produced into heat, steam or electricity. This recovered energy is used in our own operations, with the surplus distributed through local networks. Although any residual energy is flared, we minimize this where possible.

Product delivery to our customers

4%



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 and found in 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 better understand the carbon lifecycle of their own products.

The results of our most recent LCA 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 several key factors:

- Greater efficiency in
 - [converting](#) carbon into carbon black;
 - optimizing our [energy performance](#); and
- Increasing the proportion of our feedstock that is sourced locally.



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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 our environmental impact.

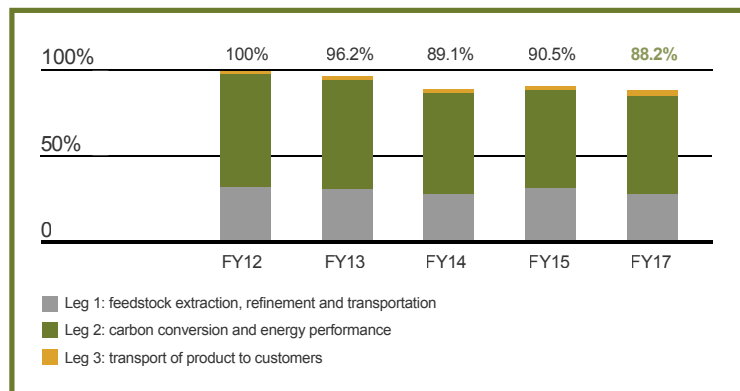
Traditionally, a large percentage of our feedstock oil has come from the US Gulf Coast in the form of Fluid Catalytic Cracker (FCC) oil. Despite the efficiency advantages of this oil due to its high carbon content, transportation costs and sulfur emission restrictions have led us to identify alternative local feedstock, especially in India and in the South East Asia and 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 minimize the impact of this process.

Global carbon footprint intensity



Target: Reduce our direct CO₂ emissions intensity by more than 22%



Global carbon footprint intensity (tCO₂-eq/t_{carbon black}) relative to FY2012 baseline

Global	FY2012 (%)	FY2013 (%)	FY2014 (%)	FY2015 (%)	FY2017 (%)
Leg 1: feedstock extraction, refinement and transportation	31.2	30.5	27.2	30.9	27.2
Leg 2: carbon conversion and energy performance	66.5	63.6	59.5	57.7	57.7
Leg 3: transport of product to customers	2.2	2.6	2.2	2.2	3.3
Global average	100.0	96.2	89.1	90.5	88.2

Note: FY2016 data not available



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In FY2017, we have taken our LCA further by expanding it to include other environmental indicators. These were estimated for each of our facilities, based on the energy imported and exported¹.

The impact categories assessed include:

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

We also compared our results with those of the general carbon black industry, as recorded in the [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 is not fully representative of our manufacturing process, it does represent a reasonable average approximation of impacts for carbon black production globally.

The results show that our carbon black production impacts are lower than the industry averages, which is encouraging. We hope to share these results with both key customers and suppliers in the near future so that we can engage with them to further reduce our global environmental impact.

Read more granular detail on our latest [LCA assessment](#) and the ecoinvent results.

¹ Feedstock input levels were excluded due to limitations of the LCA model.



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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 either in our plants or sold to the grid. Globally, we are energy positive.

Carbon stewardship

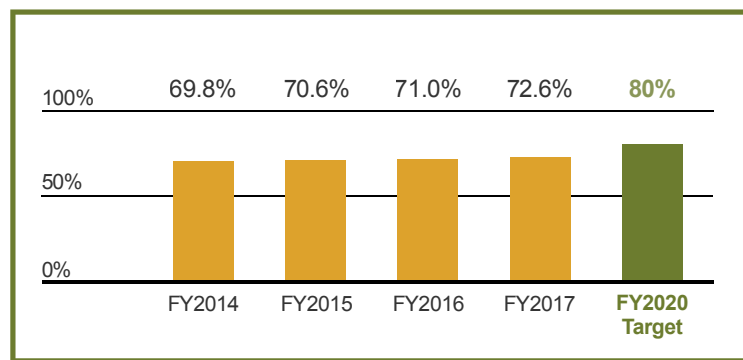
We base our carbon stewardship strategy on two approaches: the conversion of more carbon from oil into carbon black and the optimization of our energy cycle. Our assessment of our own product life cycle helps us strengthen our strategy and drive our actions on reducing our overall carbon footprint.

Net energy positive

Progress towards target



Target: Increase our absolute energy conversion efficiency to 80%



FY2014	FY2015	FY2016	FY2017	FY2020 target
69.8%	70.6%	71.0%	72.6%	80%

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 our absolute energy conversion efficiency to 80% by FY2020. This means that out of 100 carbon units, a minimum of 80 would be converted either to carbon black or to a useful form of energy.

In the two years 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 to produce a tonne of carbon black. The recovered energy is used for our manufacturing process, while the 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 buying. Our energy conversion experience has taught us that our initial FY2020 target was too optimistic and will probably not be reached; we will re-evaluate this objective in FY2018.



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Responsible consumption and production

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



Climate Action

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

Our energy efficiency efforts are led by Regional Energy Managers (REMs), who assess the energy cycle of each of our plants and provide local expertise and support. Knowledge gained is then shared across 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.



Energy positive solutions in China

Achieving energy positivity depends in part on the availability of a local energy market near our operations. These markets are not guaranteed, as shown by the recent example of China. Historically, the tail gas generated by our facility in Weifang was sold to its nearest neighbor: a coal-fired power plant. However, in FY2016 the power plant closed, depriving our facility of a useful outlet for the tail gas and forcing us to resort to flaring the gas.

We responded to this situation by investing in a co-generation unit in the Weifang facility in FY2017. The unit, operational since November 2016, combusts tail gas, using the heat to generate steam, which, in turn, is converted into electricity. The electricity is used internally with the surplus being distributed through the local grid. The co-generation unit has also been fitted with a desulfurization system, and no liquid is discharged in its operation.

Weifang is now back to being an energy positive carbon black manufacturing site.

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Partnerships for the goals

We help achieve the goals by working closely with our stakeholders, including our suppliers, regulators and governments.



Pioneering technology in Hungary

Our facility in Tiszaújváros, Hungary, implemented pioneering technology to improve its overall energy efficiency. The Tiszaújváros team installed a waste heat boiler in their dryer stack, and it was the first project of its kind at Birla Carbon. Flue gas generated by the drying process is now routed to the boiler, which generates steam for internal energy purposes and electricity. This reduces our dependence on electricity coming from fossil fuels.

By implementing this innovative technology, we are set to save money, increase the electricity we generate internally and improve our overall energy conversion efficiency. We anticipate that our other plants will be inspired by the gains generated by this technology and that this best practice will be shared across our facilities.

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75%

of our sites are energy positive.

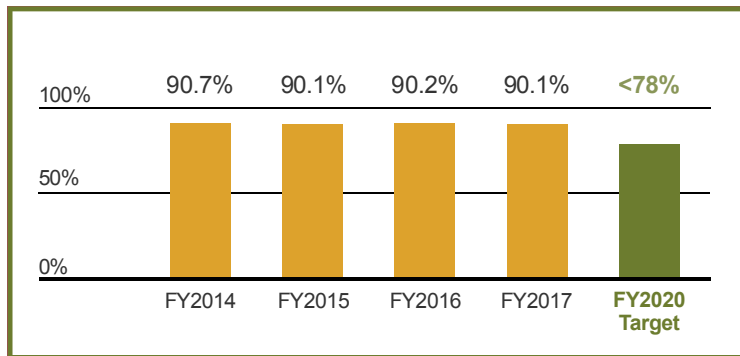
Reducing our direct CO₂ emission intensity

We continue to work to reduce our direct CO₂ emission intensity. Thanks to the implementation of best practices and continuous technology investments, we have achieved 40% of our ambitious FY2020 CO₂ emission intensity reduction target.

Progress towards targets



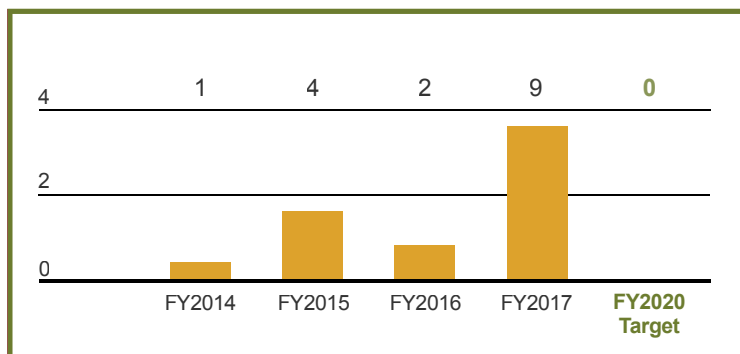
Target: Reduce our direct CO₂ emissions intensity by more than 22%



FY2014	FY2015	FY2016	FY2017	FY2020 target
90.7%	90.1%	90.2%	90.1%	<78%



Target: Record zero environmental releases year on year



FY2014	FY2015	FY2016	FY2017	FY2020 target
1	4	2	9	0



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Water

Waste

Air emissions

These results are accomplished through a series of global, regional and local initiatives that are capital-intensive. For example, we design reactors and technology that enable us to optimize temperatures and gas flows, improving the conversion of carbon into carbon black.

The current economic environment with a relatively low crude oil price makes these investments harder to justify. This environment is also forcing us to redirect our feedstock portfolio to lower-quality oil. Despite the lower-quality oil, we've sustained our efforts and maintained direct emissions performance over the last few years.

The Carbon Disclosure Project (CDP)

The CDP is a non-profit organization that works with companies and shareholders to disclose carbon emissions and the use of natural resources. We disclosed our performance through the CDP online platform for the first time in FY2015, and intend to continue disclosing annually.



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Water

Effective water stewardship must be a priority in areas which are currently water-scarce, but also those areas which are projected to become water-stressed in the next couple of decades. With this in mind, we have taken our water strategy further in FY2017, taking a closer look at the granular details of how our sites use this precious resource. Our water management approach varies for the short, medium and long term. Developing a greater understanding of our water cycle helps us identify where improvements can be made across our facilities.

3 GOOD HEALTH AND WELL-BEING



Good health and well-being

We seek to prevent illnesses indirectly by reducing water pollution.

6 CLEAN WATER AND SANITATION



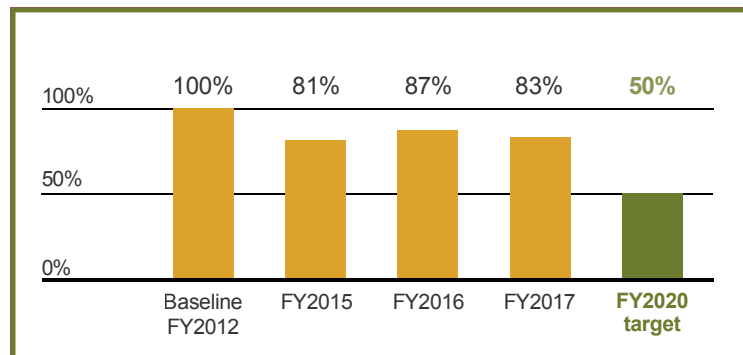
Clean water and sanitation

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

Progress towards target



Target: Reduce by 50% our water withdrawal intensity ($m^3/t_{\text{carbon black}}$) versus FY2012 baseline for our high- and medium-risk sites.



Baseline FY2012	FY2015	FY2016	FY2017	FY2020 target
100%	81%	87%	83%	50%



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17 PARTNERSHIPS FOR THE GOALS



Partnerships for the goals

We help achieve the goals by working closely with our stakeholders, including our suppliers, regulators and governments.



15 out of 16

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

Assessing our water vulnerability

We have been seeking to improve our water approach since FY2015, when we partnered with the [World Business Council for Sustainable Development \(WBCSD\)](#) and the [World Resource Institute \(WRI\)](#) to assess the water stress level at each of our manufacturing sites through the WRI's [Aquaduct™](#) tool. For our plants based in India, we complemented the assessment using the specific [India Water Tool](#).

Aquaduct and the India Water Tool have provided us with an informative, high-level and generic assessment for all our sites. However, Birla Carbon recognizes that a more localized approach is now necessary for our most vulnerable sites to appraise the [risk levels](#) before devising specific water mitigation plans.

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

1. **Commitment** – our [recognition](#) that risks must be assessed.
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.



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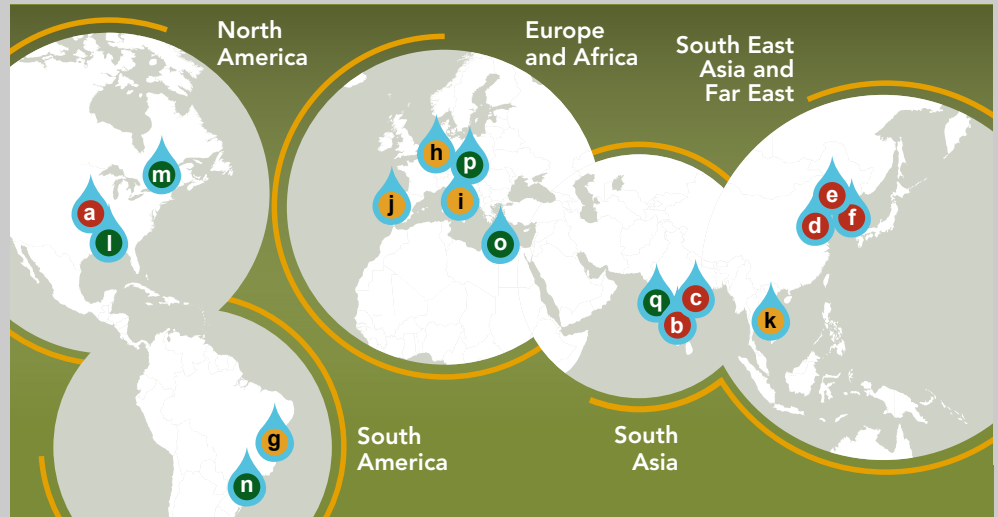
Water

Waste

Air emissions

Our water risks

As identified by the Aqeduct Tool in partnership with WBCSD and WRI



High

- North America
 - a** Hickok, USA
- South Asia
 - b** Gummidipoondi, India
 - c** Renukoot, India
- South East Asia and Far East
 - d** Weifang, China
 - e** Liaoning, China
 - f** Yeosu, South Korea

Medium

- South America
 - g** Bahia, Brazil
- Europe and Africa
 - h** Hannover, Germany
 - i** Trecate, Italy
 - j** Santander, Spain
- South East Asia and Far East
 - k** Angthong, Thailand

Low

- North America
 - l** North Bend, USA
 - m** Hamilton, Canada
- South America
 - n** Cubatão, Brazil
- Europe and Africa
 - o** Alexandria, Egypt
 - p** Tiszaújváros, Hungary
- South Asia
 - q** Patalganga, India



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In FY2017, we began implementing this approach in our three sites deemed the most water vulnerable:

- **Gummidipoondi, India** – identified as high-risk site due to cyclic drought and recognized as a potential model site for water conservation practices;
- **Hickok, US** – identified as high risk for a potential lack of water and waste water management challenges; and
- **Patalganga, India** – identified as potentially high risk due to a significant predicted population growth in the long term, coupled with water resource constraints.

Furthermore, we decided to use our greenfield site in Jining, China, to develop a theoretical baseline for water balance. Once fully operational, this plant will help us validate our water balance methodology.

We also conducted local source vulnerability assessments at Gummidipoondi, Hickok and Patalganga, using a customized questionnaire that addressed current and future physical, financial, reputational and regulatory risks as perceived by site professionals. These assessments serve as the basis for developing mitigation plans for the three sites, with the eventual aim of covering all our facilities in the coming years.



Targeting our water use in Hickok

We have sharpened our water strategy in FY2017 to look at specific sites in greater detail. One such site is Hickok, our facility in Kansas, USA. Hickok had been rated as a high-risk facility by Aqueduct, based on several criteria, including water stress, flood occurrence, upstream storage and quality concerns.

Using the customized questionnaire, the facility clarified each risk (physical, financial, reputational and regulatory): for example, although Aqueduct had indicated a risk of flooding, the site informed us that floods had not impacted it in 30 years. On the other hand, of much greater concern to the facility was water disposal and adequate supply, due to a lack of nearby streams.

Using the findings from Hickok's water risk assessment, we will be able to develop a risk management plan that can more accurately minimize, mitigate and manage the impacts on water sources for their long-term viability.

RESOURCE CONSUMPTION | **WATER**



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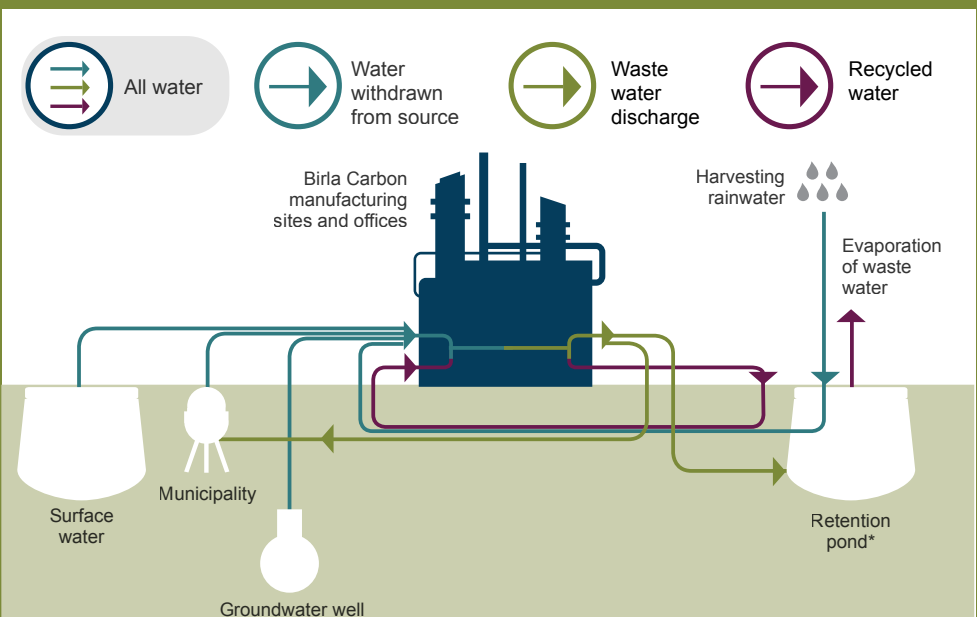
Air emissions

Water cycle at Birla Carbon sites

We minimize use, reuse and recycle water as much as possible. For example, once water has been used in the manufacturing process at one place, it is directed into retention ponds so it can be re-directed back into another process where high-quality water is not a necessity. 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 3,652,000 m³ (19%) reused from retention ponds in FY2017. Recycled process water and rainwater is collected in retention ponds and pumped back into the process.

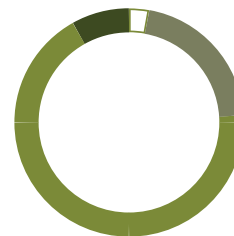
Water withdrawal by source



FY2017
15,918,878 m³

- 46% Surface water
- 31% Municipality
- 23% Groundwater well

Water discharge by destination



FY2017
4,193,403 m³

- 3% Sanitary
- 21% On-site retention pond
- 68% Surface water
- 8% Municipal waste water treatment process (WWTP)



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Water treatment success in Egypt

Reducing water consumption is one of our priorities; another is how we reuse and handle our waste water. We seek to reuse and recycle as much water as possible. One example is our facility in Alexandria, Egypt. Over several years, this plant has implemented a number of water-related best practices to achieve zero liquid discharge in FY17.

Approximately 65% of the waste water generated on-site in Alexandria was being reused without treatment. Any water not used was siphoned off by the reverse osmosis (RO) system and mixed with industrial waste water from other processes before being discharged.

In FY2017, the facility invested in a treatment system for the remaining 35% of waste water. This system treats around 500 m³ per day, which comes from the RO system, and reduces the waste water disposed off-site. Thanks to this initiative and other conservation measures implemented at Alexandria, the facility achieved zero water discharge in FY2017.

WATER



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Waste

In any industry, effective waste management and minimization are priorities; carbon black is no exception. Waste is generated at all stages of our industrial process, from manufacturing to packaging, though the quantity involved is relatively small. As international regulations and stakeholder expectations become increasingly demanding, we continue implementing strategies to reduce, reuse and recycle the waste generated by our processes.

Managing our waste

We aim to generate less waste, or reuse and recycle materials for the same purpose or for a secondary use. Our sites comply with all applicable health, safety and environmental requirements to ensure that any materials are sent for disposal in the most environmentally sound manner.

In FY2017, we have developed a new waste standard. The standard establishes requirements for the proper accounting, handling, transfer, storage, transport and disposal of solid and hazardous wastes generated during operation and construction of our facilities. It also sets minimum requirements, roles and responsibilities for the management of solid and hazardous waste at our facilities, to protect our personnel and the environment. Training and implementation of the standard, which identifies opportunities to prevent, minimize, reuse or recycle waste, will take place in FY2018.

We also work with organizations such as Repasack® to better recycle our product packaging in Europe and provide our employees with waste reduction training in the workplace. Each of our sites has developed a specific plan for identifying and managing the different types of waste generated by our activities, including metal, pallets, plastic materials, paper and cardboard.

Our waste management approach has evolved over the last four years. During this period, we have improved the identification and accounting of our various waste types including cyclic wastes. As a result, we have decided to change how we communicate waste management in FY2017 by establishing two new KPIs:

- Waste repurposed, including recycled, reused and recovered (percentage); and
- Hazardous waste generation intensity (kg/tonne of carbon black).

These two new KPIs, which we will be working on during FY2018, will help us drive further best practices in waste management throughout our manufacturing sites.



Good health and well-being

We seek to prevent illnesses indirectly by reducing waste pollution.



Partnerships for the goals

We help achieve the goals by working closely with our stakeholders, including our suppliers, regulators and governments.



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20%

of our waste is repurposed – an area where we will work harder in future.



Developing best practices in Brazil

We seek to identify and share best practices across Birla Carbon; waste is no exception. Our plants in Brazil have developed several of these practices. Each plant has established and maintains Waste Management Plans (WMPs), which ensure their compliance with regulatory requirements and our own internal standards. Our WMPs aim to minimize waste generation at source, implement segregation at the point of origin and reduce environmental risks, assuring the correct handling and final disposal.

As examples of how we manage waste generation through our WMPs, we:

- Train our employees and contracted workers to ensure their safety when handling waste, and that waste is managed appropriately to reduce environmental risks;
- Conduct regular inspections of our waste storage areas;
- Maintain a comprehensive inventory for all waste types stored, disposed of and repurposed;
- Ensure compliance with permits for waste disposal and generate annual reports for external regulatory agencies; and
- Recycle the bags used in our production process.

We also encourage our people to recycle the waste that they generate at home. For example, used oil from the facility and cooking oil from the canteen are recycled by NGOs for biofuel production and soap making – which we ask our employees to do with their own used cooking oil, bringing it in to recycle it through the plant.

WASTE



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Air emissions

We recognize that our manufacturing processes generate air emissions – and that air quality is an issue of increasing importance. It is our responsibility to ensure that these emissions are as low as they can be. Our approach to reducing our emissions is guided by our Sustainable Operational Excellence, which leads us to continually search for the best possible processes and technologies.

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

We continue to work on technology 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 throughout our process that can reduce air emissions and assess how they can be implemented across our operations.



Good health and well-being

We seek to prevent illnesses indirectly by reducing air pollution.



Partnerships for the goals

We help achieve the goals by working closely with our stakeholders, including our suppliers, regulators and governments.



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Air emissions



\$21M

invested in process improvements related to energy efficiency and reducing GHG emissions.



Award-winning best practices in Spain

ABG STRIDE (Successful Transformation & Reorganization of Inspiring Development in Energy Efficiency) is a platform where companies in the Aditya Birla Group can share their successful energy conservation projects with other group companies biennially. Projects undergo a process of submittals, presentations, external evaluations and site verification. In the first ABG STRIDE competition, our facility in Santander, Spain, won first place for their boiler efficiency improvement project.

Boiler NOx emissions were being controlled with a selective non-catalytic reduction (SNCR) system. However, by using the SNCR system, the facility was limiting their boiler efficiency. The team at Santander modified the boiler combustor to achieve NOx limits without the use of the SNCR and to improve efficiency. The project resulted in an efficiency improvement over 5%, reduced emissions of nitrogen oxides by 65% and a considerable financial benefit.

AIR EMISSIONS



OUR APPROACH



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CUSTOMERS AND SUPPLIERS

Customer engagement

Supplier management

We aim to develop long-term relationships with our key stakeholders – our customers and suppliers. We work with our suppliers to ensure we all meet our high ethical standards, while aligning our sustainability strategies with our customers.



JOSÉ DREUX
VICE PRESIDENT, SALES,
EUROPE AND AFRICA

“The diversity of the locations where we operate is reflected in our local and regional approach to customer service: our global presence means that we can serve our customers, wherever they are. It also allows us to ensure that we provide a continuous and consistent supply of world-class carbon black to meet our customer demands.”

Our customers know they can rely on us for a consistently high quality product, excellent service and global supply security. We are also working to make our supply chain more resilient.



High customer satisfaction

Our Net Promoter Score® was 60%, demonstrating our customers' high satisfaction.



Gold standard recognition

We progressed to a Gold rating from EcoVadis, specifically noting our progress in fair business practices and sustainable procurement.



Screening our suppliers

Over 150 distributors and sales agents screened for potential risks, with only one identified as potentially conflicted.



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CUSTOMERS AND SUPPLIERS

Customer engagement

Supplier management

17 PARTNERSHIPS FOR THE GOALS



Partnerships for the goals

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

Customer engagement

We seek to nurture strong partnerships with all stakeholders – especially our customers. These relationships are guided by our five values: Integrity; Commitment; Passion; Seamlessness; and Speed. We build these relationships through offering a consistently high quality product, excellent service and global supply security. Our customers know they can rely on us, because we align our sustainability strategy with theirs.

How we engage with our customers

We aim to develop long-term relationships with our customers by aligning our sustainability agendas. We do this through our cross-functional engagement model, spearheaded by our key account management (KAM) program. KAM is designed to increase points of contact across the customer’s organization, establishing lasting partnerships of value. We track our success in this program by the extent to which our products are attractive to our customers; these engagements have also enabled us to develop timely new products to meet customer needs.

Sharing sustainability strategies

Transparency is key to building joint strategic sustainability approaches. We invite our customers to regularly visit our plants and offices to carry out their own audits and process reviews. Our customers highly value a secure supply, which we meet with our [Business Continuity strategy](#) and Enterprise Risk Management approach. In FY2017, we held two [customer dialogue](#) events.

In FY2017, we engaged with several of our customers and their sustainability teams to discuss our carbon black [Life Cycle Assessment](#) (LCA) approach. They validated our methodology and appreciated our data supporting their own product LCAs. When designing new products, we meet with partners to better understand their expectations and consider the sustainability attributes of our carbon black within their products.



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Customer engagement

Supplier management



60%

Our Net Promoter Score® was 60%, demonstrating our customers' high satisfaction.



Talking to our customers

Traditionally, communication between Birla Carbon and our customers has been restricted to challenges surrounding daily operations, technical services and quality assurance. We want to take this to a more strategic level, by engaging with our customers on their views of our industry, its future and our shared role in the years ahead. As a member of the Aditya Birla Group, we are uniquely positioned to leverage the Group's strengths, particularly geographical reach and business diversity, to address the needs of our customers.

With this in mind, we organized two Customer Leadership Dialogue events in FY2017 at our facility in Patalganga, India. The leaders that participated from Birla Carbon included our CEO, CFO and the regional president, as well as representatives from several of our key corporate functions.

In the first event, we invited customers from the tire industry, with Specialty Black customers attending the other. The fora involved presentations on the Aditya Birla Group and Birla Carbon, reviewing our research and development of new products and technology, among other areas, and an hour-long discussion with our Group chairman, Dr Kumar Mangalam Birla.

The discussions with our customers were open and honest, enabling attendees to speak frankly about past challenges they had encountered as well as their satisfaction with Birla Carbon as a preferred supplier. Unique insights were shared into areas of specific interest for both ourselves and our customers, who left the events with a greater understanding about where we are and where we're headed. The format is now being shared across Birla Carbon as an example of meaningful customer engagement.

CUSTOMER ENGAGEMENT **GLOBAL PRESENCE**



CUSTOMERS AND SUPPLIERS

Customer engagement

Supplier management

Measuring our customer loyalty

Customer satisfaction is assessed at Birla Carbon by the well-established Net Promoter Score® (NPS®¹), which asks our customers to rank Birla Carbon's performance against our peers. NPS® is calculated based on how customers respond to a single question: "On a scale of 1 to 10, how likely are you to recommend Birla Carbon to a business partner or a friend?".

Through the NPS® process, our Sales team contacts a minimum of five customers per month and the respondents are divided into three groups:

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

A company's NPS® is calculated by subtracting the percentage score of detractors from the percentage score of promoters. In FY2017, our NPS® was 60% on a scale of -100% to +100%. This score, which was uniform across our regions, shows how highly our customers rate us. It is also considered excellent for business-to-business companies such as ourselves.

Our focus is on driving improvements based on this customer feedback. For customers providing us with high scores, we find opportunities to improve or maintain our score. If customers give us a low rating, we respond through the appropriate department (Regional or Global Sales, Marketing or Regional Presidents).

In FY2017, we received 24 detractor comments, on the following issues:

- Price
- Packaging
- Supply
- Lack of direct supply
- Lack of visits.

Turning feedback into action

Our customers want to see that we swiftly respond to their feedback through robust processes and procedures. If a product-related issue is brought to our attention, scientists from our technology centers assess the problem before issuing a detailed report. All customer dissatisfaction, whether regarding products, sales or the supply chain, is reviewed thoroughly before responding to the customer.

1 The NPS® model, developed by and registered to Fred Reicheld, Bain & Company and Satmetrix, measures customer loyalty by asking for direct feedback.



CUSTOMERS AND SUPPLIERS

Customer engagement

Supplier management



Responsible consumption and production

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



Partnerships for the goals

We encourage our suppliers to respect human rights through the Terms and Conditions on our contracts.

Supplier management

Birla Carbon's broad geographical base means we have suppliers from around the world. It is important that we maintain close ties with local, regional and global suppliers. Their behavior reflects on us and we must work together to ensure we all meet our high ethical standards.

Code of Ethics

Our supply chain must be reliable and ethical. We have established internal standards and principles to provide guidance for our employees – and our suppliers. Our diverse group of business partners include: vendors; service providers; consultants; contractors; distributors; and agents.

Four years ago, we consolidated and rolled out our Global [Code of Business Ethics and Compliance Standards](#) (Code of Ethics), a comprehensive document that each employee must read and sign against the Code of Ethics annually. We have shared this Code of Ethics with our major suppliers and made them aware of our expectation that they adhere to it. In addition, we have updated our Terms & Conditions to include a clause establishing the ethical principles with which we expect our business partners to comply.

In FY2017, we have worked with legal advisors in various regions to customize our Terms & Conditions (T&Cs) of Purchase to address the different local legal requirements. The posted version on our [downloads page](#) is considered the standard. We will begin a similar process with our T&Cs of Sale in FY2018.

Assessing sustainability: our suppliers and us

Sustainable procurement is our target. We review our global feedstock suppliers, using publicly available information. Our suppliers are often subsidiaries of larger companies, who we also evaluate. We encourage our suppliers to audit our own operations and one such audit took place in FY2017 at our plant in Cubatão, Brazil where the supplier audited the facility on our waste and water management, emissions, noise, emergency planning and management systems. Our facility scored highly, achieving 95%, demonstrating the plant's commitment to environmental stewardship.



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CUSTOMERS AND SUPPLIERS

Customer engagement

Supplier management



Over 150

distributors and sales agents screened through due diligence system.



Strengthening our supplier due diligence

Birla Carbon's procurement process is decentralized: procurement is managed locally or regionally. This process promotes the local sourcing of materials and services, but also presents a challenge in terms of risk management.

In FY2017, we partnered with a leading ethics and compliance advisory firm to implement an online third party due diligence screening program. This application evaluates business partners against a series of criteria, including sanctions, adverse media coverage and political exposure. This process will help us globally screen, qualify and approve our suppliers, vendors and service providers, as well as our distributors and agents.

We began in FY2017 by screening over 150 distributors and sales agents with only one identified as potentially conflicted. This company was investigated further and was found to be compliant. We plan to extend the screening to our critical suppliers during FY2018.

SUSTAINABLE PROCUREMENT | GLOBAL PRESENCE

Response planning and preparedness

We strive to ensure that our sites and suppliers have inventories available at all times. Difficult global circumstances can impact inventory approaches – for 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.



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OUR PEOPLE



OUR PEOPLE

Health and safety

Attracting and retaining talent

Employee engagement

We help our employees build careers through opportunities and continuous engagement. We are committed to instilling a mindset of safety for our employees that benefits them at work and off-the-job.



GARIMA KOTHARI
ASSISTANT GENERAL MANAGER,
BIRLA CARBON

"As a global company, with people from a wide range of backgrounds, we believe that it is important to understand how our people think we are developing. We held our first One Voice survey in FY2017, engaging with all of our employees at the grassroots level and enabling us to listen."

We listen to what matters to our people, recognizing that attracting and retaining the best talent, and keeping them safe, is a fundamental driver of our continued success.



Changing our health and safety culture

We have rolled out Commitment Based Safety at 6 facilities.



Listening to our people

All of our employees participated in internal opinion surveys.



Access to clean water

13 of our facilities have achieved our WASH target, with the remaining four on the path to this goal.



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OUR PEOPLE

Health and safety

Attracting and retaining talent

Employee engagement

3 GOOD HEALTH AND WELL-BEING



Good health and well-being

Our Commitment Based Safety approach encourages employees to make commitments to their own health and wellbeing, including safe driving into and out from plant.

8 DECENT WORK AND ECONOMIC GROWTH



Decent work and economic growth

The health and safety of our people is a priority that underpins our work.

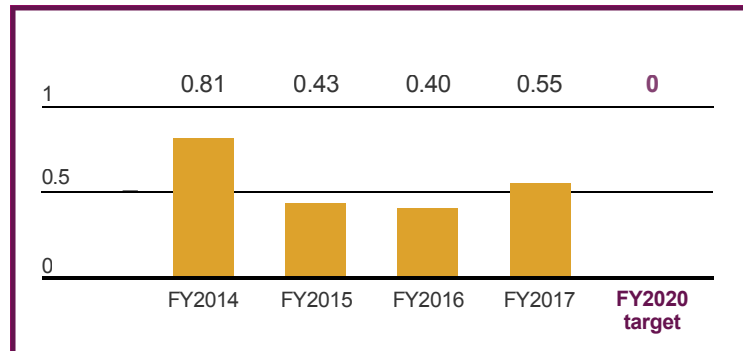
Health and safety

The health and safety of our people is paramount. We are in the process of establishing a culture of safety excellence within Birla Carbon – steered by strong leadership, driven by the commitment of our own people to putting the safety of themselves and others first. Building a culture takes time; we do not pretend to be at the end of our safety journey. We continue to see signs this year of real progress of our people understanding what it means to take responsibility for their safety. We expect this development to continue over the coming years.

Progress towards target



Target: achieve zero recordable injuries year-on-year (employee Total Recordable Incident Rate)



FY2014	FY2015	FY2016	FY2017	FY2020 target
0.81	0.43	0.40	0.55	0



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Health and safety

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Employee engagement

17 PARTNERSHIPS FOR THE GOALS



Partnerships for the goals

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



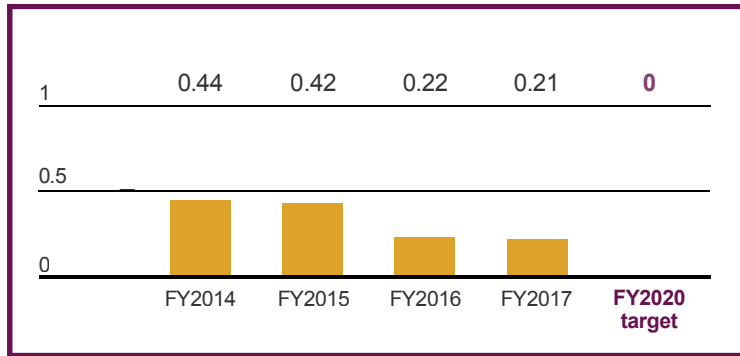
60,000

risks managed annually in one plant with 100 employees – through Commitment Based Safety.

Progress towards target



Target: achieve zero recordable injuries year-on-year (contractor Total Recordable Incident Rate).



FY2014	FY2015	FY2016	FY2017	FY2020 target
0.44	0.42	0.22	0.21	0

We are responsible for ensuring that everyone at our facilities is safe, from the moment they arrive to when they leave. In FY2017, we saw more injuries reported than in previous years, but the injuries themselves were less serious. Our injury rate still established us as leaders in our industry. This shows that, although more can be achieved and no injury is acceptable, our people have understood our safety expectations and take greater care in their daily work.

Until FY2016, we only assessed our safety performance reactively through lagging indicators, which track incident rates and violations after they have occurred. Over the last year, we have begun introducing leading indicators, designed to proactively prevent incidents and injuries. These indicators focus on:

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

After rolling out these indicators in FY2016, preliminary results suggest increased engagement from employees and leaders in HSE initiatives and positive change in safety culture. We expect these leading indicators to continue to drive improvements over the coming years, and we intend to refine them as our culture matures.



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Our health and safety programs

We prepare our people as much as possible for the potential risks that work in our facilities entails. This preparation includes adherence to clear standards, education, training, auditing and follow-up to reinforce accountability. All Birla Carbon personnel are educated on their health, safety and environmental responsibilities on induction; these expectations are strengthened by regular training throughout their career.

We maintain robust corporate standards that exceed regulatory requirements in the countries where we operate; these are systematically implemented, considering local requirements. We also conduct corporate audits every two years to ensure that the sites comply with external requirements as well as our own standards; these audits also serve to identify and share best practices.



We inspect high-altitude areas via drones at our facility in Hickok, USA, avoiding the need to send employees to work at height.



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Safety management



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



1 Developing a standard

In addition to regulatory requirements and recognized industry best practices, we conduct our own retrospective review of incidents and near-misses at our sites, to develop appropriate standards and expectations.



2 Training and implementation

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



3 Executing an action plan

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



4 Conducting audits

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



5 Refining action plans

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



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Changing our health and safety culture

Commitment Based Safety (CBS) is a process that requires individuals to make a personal commitment to positively change their own behavior, resulting in an overall shift in safety culture. Through CBS, we expect every person at every level to take responsibility and be accountable for both their safety and that of those around them. Specific risks and the behavior required to manage them are identified at a site level; employees provide 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.

During FY2017, we continued our implementation of CBS in our North American facilities, and initiated the process at three other facilities in Brazil and India.

To gain a better understanding of our current safety culture, we conducted a perception survey in FY2017 at 11 facilities in nine different languages to encourage employee participation. The survey will give us a better understanding of local safety cultures, specifically their strengths and where specific improvements can be made. In FY2018 we plan to complete baseline surveys at the remaining sites. We are also planning to regularly conduct the survey to understand how employees feel about our HSE culture and identify continuous improvement opportunities.

Key health and safety risks



Commitment Based Safety (CBS) encourages 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 five occupational health risks, which every person working at our sites must be aware of.



Working at height

Use all prescribed personal protective equipment (PPE) for the task, including fall protection where work is performed at heights of above 2 meters.



Hot work

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



Lock-out/tag-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.

Our employees are regularly trained on the standards and precautions required to work safely. Above all, they are taught and expected to stop work at any time in which they feel that risks are not being properly controlled.



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Strengthening HSE networking

In FY2017, we implemented regional quarterly health, safety and environment (HSE) online meetings to foster discussions between the sites on HSE issues and best practices. Any issues and interpretations related to global standards or programs in the areas of H&S, environmental, product stewardship, sustainability, and risk management are also discussed. The Global HSE group proposes at least one agenda topic per meeting and asks for ideas from participants from each region.

We had three sessions in FY17 and covered topics including safety performance trends, perception survey, Commitment Based Safety, implementation of new standards, best practices, machine guarding, and self-assessment checklists.

“These meetings allow us to go further in terms of sharing information. We hear from the experience of our colleagues what works and learn how to implement best practices in our own operations. The meetings also help us develop a sense of teamwork with our colleagues around the world.”

Jinho Kim, SHE & Engineering Manager, CCK, Korea

SAFETY



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Protecting our contractors

Improving our health and safety performance demands that we work closely with contractors. Over the last two years, we have implemented a global standard on contractor management across all regions. During the same period, we have seen contractor safety performance improve significantly and the incident rate halved. In FY2018, we plan to strengthen our qualification and selection processes for contractors working in our facilities.

Auditing our performance

We regularly audit our compliance with regulations and standards, and manage our findings through Enablon, our integrated Sustainability Management System. Enablon facilitates data tracking across facilities and the development of a better understanding of specific issues. The system also provides a platform for devising and tracking action plans, ensuring their completion and reinforcing accountability for sites and individuals. In FY2017, we conducted a total of 15 audits at our sites: seven for health and safety and eight for environmental performance.

Since FY2015, we have developed or revised 13 standards and three guidance documents to strengthen our HS&E programs. These standards are the central focus of our audits, which observe 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. New standards rolled-out in FY2017 included Confined Space Entry, Fall Protection and Prevention, and Electrical Safety. Standards on Waste Management and Major Incident Prevention are currently being developed.



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Attracting and retaining talent

Our sustainable development is driven by our employees. We seek to engage and attract bright minds in the countries where we operate; we also want to enable our employees to develop their skills and potential to take themselves and our business further. We offer our people exciting opportunities for their career development, learning, recognition and wellbeing, in alignment with [A World of Opportunities](#), the Aditya Birla Group's Employee Value Proposition.

8 DECENT WORK AND ECONOMIC GROWTH



Decent work and economic growth

We offer employment and career development opportunities across all regions.

17 PARTNERSHIPS FOR THE GOALS



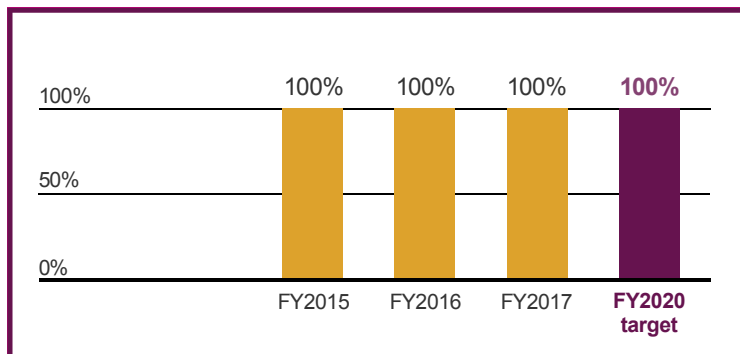
Partnerships for the goals

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

Progress towards target



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



FY2015	FY2016	FY2017	FY2020 target
100%	100%	100%	100%



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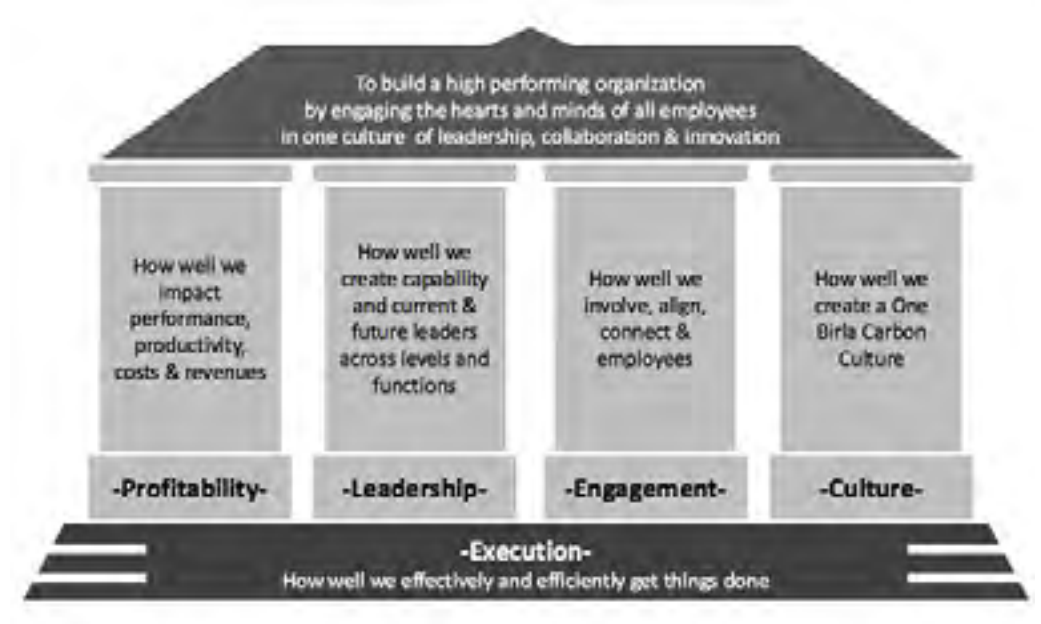
Employee engagement

Our HR Vision & Strategy

In FY2017, we launched a new 2020 Human Resources (HR) Strategy, which aims to build a high performing organization by engaging the hearts and minds of all employees in one culture of leadership, collaboration and innovation.

The strategy will achieve this aim through four pillars:

- **Profitability** – by building a high performing organization through a performance management system, with shared goal setting, roundtable discussions and aligned standards and ratings.
- **Leadership** – by creating an environment that builds capability, leadership and knowledge, including bringing in stronger talent, encouraging horizontal movements and focusing on diversity.
- **Engagement** – by enabling employees to think of Birla Carbon as a stronger brand and a desirable place to work through continuous engagement.
- **Culture** – by ensuring that all of our people at all levels are aware and demonstrate our vision and values.



In turn, these pillars will be supported by a modernized HR governance model that is equipped to achieve our 2020 aim. We are in the early stages of our strategy, but we have high expectations for its success.



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Over 60

interns gained work experience at Birla Carbon in FY17.

How do we attract and retain talent?

We seek to be an employer of choice in all of the regions where we operate. We place emphasis on talent development, targeted internal movement and continuous engagement.

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 FY2017, we provided over 60 internships to students.

Participants on the Aditya Birla Group Leadership Program are also offered global project opportunities in varied business functions such as operations, marketing, finance, and human resources. In FY2017, 13 participants from leading schools and universities in India and Asia completed projects with Birla Carbon through this program.

Identifying leaders

In pursuit of our desire to build competent and highly engaged Global Leaders, we have implemented a strengthened Talent Management process across Birla Carbon. 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; and
- Each employee is responsible for sharpening their innate potential.

In the past year, we have reinvigorated the talent management processes across Birla Carbon through:

- **Assessment of potential** – which involves the evaluation of behavioral competencies for success in future roles;
- **Talent Councils** – which bring leadership teams together for collective and in-depth discussion on high potential individuals and their career development;
- **Development Centers** – which apply a rigorous process to assessing and creating a development plan for each individual based on their strengths and opportunities.

The cyclic assessment and review of individual potential and investment in their career development will continue as part of our talent management and leadership development process across Birla Carbon and the entire Aditya Birla Group.

Developing our people

At Birla Carbon, we believe that continuous learning sustains employability. We encourage our people to invest in learning throughout their career by providing multiple opportunities and platforms that fit their needs. The aim is to enable our employees to meet their career aspirations and perform successfully.



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Our Enterprise Learning Management (ELM) system is the platform to access and record all learning activities. The online library of close to a thousand courses is available to all employees at no cost. Courses are provided in multiple languages, covering a broad range of topics, both functional and behavioral:

- Coaching and counselling
- Performance management
- Conflict management
- Customer focus
- Developing employees
- Collaboration and teamwork
- Finance essentials
- Health, safety & environment
- Wellness
- Communication to influence and engage

Through ELM, we aim to enhance employee skill levels, encourage employees to apply the knowledge gained to improving our business, and conduct all training and development from a centralized source.

We are in the process of developing a series of courses specific to Birla Carbon to institutionalize the knowledge accumulated by our Subject Matter Experts through the long history of our business. We rolled out our first e-learning course, Carbon Black 101, which simply presents our product and our manufacturing process.

In FY2017, we introduced our first E-Academy sessions, through which employees provide training for other employees. The concept is that our leaders can offer expertise to the entire business, through a webinar. Our first E-Academy session was presented by our Global Head of Sales for Specialty Blacks, Mark Bass, on our Specialty Black business strategy and contribution to the overall business.



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Interview with Samah Shawky, Vice-President, Birla Carbon Alexandria (ACB), Europe and Africa

I have worked for Birla Carbon (ACB) in Alexandria, Egypt, since 1998. I was a recent graduate; I saw an advert in the local newspaper for a position and I joined. After several years, I decided to do an MBA, which I completed in 2011. On completion, I was appointed Technical Service Manager for Europe and Africa. A year later, a vacancy arose to be Head of ACB Quality – my manager told me that I should go for the position, which I did, and held for three years. In December 2016, I was promoted to the position of Vice-President of the plant; I'm now responsible for the entire Manufacturing area at ACB.

In the 19 years that I've worked for Birla Carbon, I've never thought of leaving. It is a great company to work for, with real opportunities for hard workers. During my time here, I have learned a lot and built a solid reputation in the wider Aditya Birla Group – I got recognized by the group and won the Distinguished Achiever award in 2014, and the Value Torchbearer award in 2015.

As a woman, I feel that I have achieved a lot. Traditionally, Egyptian and industrial cultures are male-dominated – but I have never felt that to be the case in Birla Carbon where I got the opportunity to have a leading position. One example is the Women's Accelerated Development Program, which has given me real impetus as a career springboard. The company treats all talent equally; I am proud to work here.

I do not know what the future holds, but I feel very optimistic and willing to take more challenges here at Birla Carbon: the company occupies a special place in my heart.

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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.

The PRIDE Program

Exceptional individual or team performance is recognized through the PRIDE Program, providing employees with a monetary reward for outstanding contributions to the business. Besides being rewarded at the Business Level, our various locations supplement PRIDE with added regional recognition reflecting the traditions and cultural norms of their specific region.

Group recognition

Employees are also recognized through the Aditya Birla Group Awards for Outstanding Achievement. Exceptional performers are nominated for individual awards, including Young Professional, Distinguished Achiever, Exceptional Contributor, Outstanding Leader and Value Leader.

In addition, business-level awards recognize excellence in a company, area or unit where specific initiatives have enhanced shareholder value and business sustainability.

Career movements with Birla Carbon

At an increased rate, we have continued to make internal career paths easier to determine, through a streamlined career path framework for the Technology, Engineering and Operations areas. As part of talent development and growth, we encourage intra- and inter-regional movements of qualified employees as well as transfers from other businesses within the Aditya Birla Group. For example, we engage with the employees and their spouses prior to a potential relocation, ensuring that they are comfortable with the move and the role. We offer comprehensive support to relocating employees and their families, including assistance with school admissions and employment assistance for spouses.



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Employee engagement

A motivated workforce is instrumental to business success. Although we have a broad geographical spread and employees from various backgrounds, we seek to engage our people and support them and their lifestyles.

A refreshed approach to engagement

The following are some examples of how we currently engage with our employees.



Quality education

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

Vibes

By encouraging continuous dialogue with our employees, we gain a better understanding of their expectations. Birla Carbon conducts an employee engagement survey at management level, known as the Vibes survey, every two years. This direct feedback tool helps us develop and execute action plans in specific areas, which are tracked at a local, regional and global level.

We conducted our latest Vibes survey in FY2017, with a 98% response rate. The survey shows that we are now reaching the industry benchmark for employee engagement. We performed highly in the areas of customer centricity, in alignment and in openness to new ideas. Our people are proud to be a member of the Aditya Birla Group, which they consider a great brand to work for, and believe that their work is connected to our overall business goals. Most of our people also believe that Birla Carbon is socially and environmentally responsible.

In terms of areas for further improvement, we could still do more to attract the best talent, offer varied career opportunities and provide a vibrant, energetic and diverse workplace for young people.

The results have been distilled into action plans in each region; we will track our progress in these plans through scorecards over FY2018.



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.

Team Vibes

We also conduct a Team Vibes survey in alternative years to the main Vibes exercise. Team Vibes is a feedback mechanism through which those managers with five or more dependent employees can provide actionable insights into what prevents employees from performing at their best.

We held our first Team Vibes survey in FY2016, and conducted several communication sessions with the managers involved over the year to develop action plans. These plans include a focus on enabling managers to build effective team communication, providing timely and helpful feedback, and providing praise and recognition for effective team management.



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6 CLEAN WATER AND SANITATION



Clean water and sanitation

Water, Sanitation and Hygiene (WASH) is a priority for us, and we have been working to ensure that all of our sites provide safe access to WASH by FY2018.

10 REDUCED INEQUALITIES



Reduced inequalities

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



Listening to many with One Voice

Learning how our employees feel is crucial to gaining an important understanding of how we are developing. In FY2017, we conducted our first survey, covering 100% of employees. Birla Carbon is the first company within the Aditya Birla Group to internally customize and manage such a survey.

The survey, which is called One Voice, differs from the Vibes survey in that the latter is of employees at a management level, who only represent 30% of the company. To ensure that One Voice would be accessible at all levels, the questions were prepared in 12 different languages and implemented across 15 plants and four regional offices. Results have been collated, key areas identified and action plans are in the process of development.

One Voice achieved outstanding participation and 96% of employees who were invited, responded. The results showed that our people are willing to give extra effort to achieve our goals (94%) and most are proud to work for Birla Carbon (89%). A notable result was that most respondents (87%) believe that safety is a priority for their immediate supervisor – which counts as a real step forward for our safety culture. We also scored well in engagement and alignment. Although there were few areas of real concern, we performed less well in terms of development and work execution.

We are grateful to all employees who took part, and look forward to applying the lessons learned to our development of action plans in FY2018.

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Partnerships for the goals

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



We expect to fulfill our WASH pledge during FY2018.

Employee wellness

We want our employees to feel that ours is 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 help them to lead healthy lifestyles.

Providing safe drinking water

Water, Sanitation and Hygiene (WASH) is one of the priority areas identified by the World Business Council for Sustainable Development (WBCSD) and its Action2020 business sustainability agenda. Following the steps taken by our parent company, the Aditya Birla Group, and as an industry leader, Birla Carbon signed the [WBCSD Pledge for Access to Safe WASH at the Workplace \(WASH Pledge\)](#) in FY2015, committing to achieve this target globally by FY2018.

Since FY2015, we have made substantial WASH progress: all our sites have full access to clean water, though four sites have yet to fully align with all WASH requirements. Three of these sites, located in India, have made significant investments in FY2017 to improve WASH in their facilities (see case study) and are close to full compliance. The fourth remaining site, Jining, is expected to be in alignment once construction is complete and the site is operational.



WASH: our progress in India

Our facilities in India have made a real effort this year again towards achieving our WASH pledge. Over \$180,000 were invested in these plants for the wellbeing of our employees. For example, Renukoot constructed a system to connect all plant toilets to their existing sewage treatment plant. The treated water can then be reused in cooling towers at the plant. Patalganga focused on service providers by building a dedicated wash room for tanker drivers and cleaners, while Gummidipoondi constructed a new worker canteen and renovated the staff canteen.

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Supporting diversity in the workplace

With operations in 12 countries, Birla Carbon has a diverse workforce with varied cultural backgrounds and skills. We are strongly committed to diversity and equality; all employees should be able to progress based on their merits and abilities and we aim to ensure that our leadership is representative of the local workforce. It is important to us that we hire local talent regardless of ethnicity, sexuality or social background, and that we ensure that skills are transferred equally throughout our operations. We comply with all relevant employment legislation in the countries where we operate.

The Women's Network

The Women's Network was created in FY2014 in the Europe and Africa region to provide our female employees with a stimulating work environment that is more to career advancement.

The Women's Network has built on its initial foundations and has implemented projects in certain areas. An example is the free childcare program, which is now offered at all our sites in the region for specific business situations. This program is available 24 hours a day, seven days a week, so that shift workers can also take advantage of it. Childcare is provided in the event of emergency, such as illness or last-minute business trips, or during school vacations. Discrete, professional counselling is also available for those wishing to receive advice on personal issues such as debt and family relationships.



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Supporting equality in Spain

Equality plans are a legal obligation in Spain for companies with more than 250 workers. Although Birla Carbon Spain only employs 63, it has its own Equality Plan inspired by best practices and adapted to local reality – 25% of the factory workforce are women, which is remarkable when compared with Spanish industry in general.

We celebrated the 50th anniversary of the plant's presence in Spain in FY2017, with events that included an appeal to neighboring companies to build a network for gender equality. The network was launched at a meeting at the Chamber of Commerce in Santander, Cantabria, where our facility is based.

The initiative, whose launch was attended by political representatives as well as business and social partners, aims to channel information on equality in businesses present in the region. It will also establish a forum to study, devise and implement initiatives based on live case studies.

As a starting point, the network has analyzed plans that have proven successful in other companies, including the first company in Cantabria to implement an equality plan (a nuclear equipment provider) and other companies that have already been recognized as having good equality levels.

Our own Equality Plan has been in place since FY2016; in the short term, it gives employees specific training to support empowerment. We are currently working towards official recognition of our status as a Family Responsible Company and the Equality award from the local government.

"Gender equality must be integrated, not only at the management level but also in each and every professional category. It is a great opportunity for business. All companies, institutions and social groups have a long way to go in this issue, and must go hand-in-hand."

Rosa Eva Díaz Tezanos, Vice-President, Cantabria Government

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Community engagement

Access to healthcare

Quality education

Sustainable livelihoods

Community infrastructure

We work with local groups and associations to provide targeted programs, primarily focusing on good health, quality education, sustainable livelihoods and community infrastructure, in alignment with the SDGs.



MRS. RAJASHREE BIRLA
CHAIR, ADITYA BIRLA CENTRE FOR COMMUNITY INITIATIVES AND RURAL DEVELOPMENT

“All of our projects are based on the needs of the communities that live close to our plants. Our projects are very inclusive. We treat our social projects, just as our business projects. We have a vision – which, in a nutshell, epitomises inclusive growth, and dignifying the lives, of the underprivileged.”

Our efforts are aligned with and form part of the work of the wider Aditya Birla Group Foundation, which focuses on the all-round development of the communities around our plants.



Global reach

The Aditya Birla Group Foundation reaches out to 7.5 million people, annually – over 60% live below the poverty line.



Targeted engagement

Each site develops their own approach, ensuring that their activities target issues of specific relevances.



Full participation

All our facilities have community engagement strategies in place, building close ties with those impacted by our operations.



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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, we believe in directing resources to provide practical support and help people improve their own lives. Although we engage in charitable activities, we aim to help the communities near our operations achieve real and lasting social development.

How do we assess community needs?

Guided by the work of the Aditya Birla Group Foundation, we pursue all-round development of the communities close to our plants, depending on the specific social issues that are relevant to them. We apply a participatory approach, engaging with the community to better understand the issues that concern them and prioritizing our interventions accordingly.

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

- [Healthcare](#)
- [Quality education](#)
- [Sustainable livelihoods](#)
- [Community infrastructure](#)



MR. R.S. BALASUBRAMANYAM
ADVISOR, CSR PROJECTS,
ABNL & SKI/BIRLA CARBON, INDIA

“We empower local communities to take ownership of the projects implemented, ensuring wholehearted participation by providing need-based support, guidance and encouragement.”



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Access to healthcare

Quality education

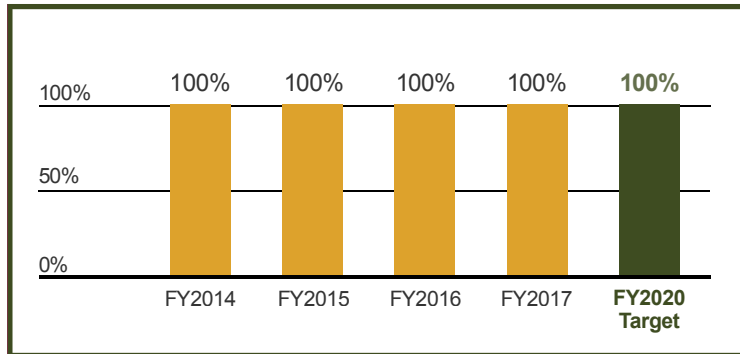
Sustainable livelihoods

Community infrastructure

Progress towards target



Target: 100% of our facilities participate in community engagement



FY2014	FY2015	FY2016	FY2017	FY2020 target
100%	100%	100%	100%	100%



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Identifying the right projects

Our community approach requires us to build partnerships with the people most impacted by our operations.





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Access to healthcare

In certain areas where we work, local and regional health infrastructure is under a high degree of pressure due to large populations and a lack of resources. That's why we facilitate access to doctors, medicine and medical infrastructure to the people who live near our facilities. Birla Carbon is well-positioned in these regions to have a long-term positive impact.

Investing in good health

Healthcare is an area where our targeted community engagement work can have an immediate and visible impact. Our investment adds real value by supporting strained healthcare providers in parts of the world.

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



Good health and well-being

We provide health support through our community activities, such as providing access to vaccines where needed and access to doctors.



Partnerships for the goals

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



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Healthcare

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

South Asia



Gummidipoondi – we support primary health centers and one state hospital with annual equipment donations. We also organize periodical multi-specialty health camps, including vaccinations.

Renukoot – we offer large scale medical camps for nearby villages, providing 267 community residents with care in FY2017 for specific conditions such as orthopedic and neurological disorders, eye difficulties, women’s care and child immunization. Following a successful trial, we also treated 28 patients with an innovative hernia repair treatment.

South East Asia



Korea – we provide flu vaccines for employees and families, and organize a blood donation drive for the Korean Red Cross.

Europe and Africa



Egypt – we organize medical caravans to provide access to health services and treatment for approximately 3,500 community members. We also established four first aid points and coordinated first aid training with the Egyptian Red Crescent for 30 volunteers, including eight women. Since 2013, the plant has established four health centers providing general and women’s health services, as well as medicine to approximately 400 community members per month. We collaborate with various organizations to provide hygiene awareness programs and eye care for over 1,300 local students.

South America



Brazil – we organize events to promote cancer awareness, including a healthy food lunch for prostate cancer awareness, breast cancer lectures, and skin cancer awareness activities. We also hold vaccination campaigns for hepatitis and tetanus.



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Young people are our future – but sometimes the school systems in some areas do not fully provide the support that they need. We believe that a key part of community engagement is supporting young people in exploring their potential. It is important that younger generations gain the skills and knowledge to successfully contribute to their communities.

Providing education support

Effective, targeted education can provide opportunities and open doors for young people. We engage with teenagers about what our industry can offer and, in some regions, provide financial support and internships for engaged youth. We also offer practical training in specific areas for adults and offer assistance in building schools.

We provide educational support through:

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



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Education

The differing approaches to education activities across our regions are an example of the autonomy and specificity of our local community engagement.



South Asia

Gummidipoondi – we supported the upgrading of a public school, offering scholarships to students; the school's results have improved dramatically and received regional awards. We also set up a project to increase vocational employment for students not catered for by local education systems, focusing on practical fitting, welding and electrician skills, as well as hair and beautician training.

Renukoot – we offer uniforms and study materials to all 230 students at a local school, where we also provide science tutoring.



Europe and Africa

Italy – we founded the not-for-profit Birla Association for Education and Promotion of Human Development, which seeks to support sustainability initiatives through education. The Association supports local schools through building a theatre and a library and financing research projects, art classes and chairs, and invites high school students to visit.

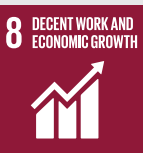
Egypt – we implemented classes to help government school students secure better grades, benefitting 400 students at three schools. We worked with the Ministry of Adult Education to provide intense literary training for local schoolteachers, and arrange immersive summer school. We also offer environmental awareness training for local communities.

Spain – we recently held an English language summer camp for employees' children and local vulnerable children



Quality education

As a member of the Aditya Birla Group and its commitment to education, Birla Carbon provides education support through its community activities across all regions where we operate.



Decent work and economic growth

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



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17 PARTNERSHIPS FOR THE GOALS



Partnerships for the goals

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

North America



Marietta – we have partnered with Kennesaw State University in Marietta, Georgia, for the past three years, contributing to a scholars’ program and offering internships, grants and employment. In recognition of our support, the university has named an auditorium after Birla Carbon.

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

South America



Brazil – our facilities hold ‘Open Doors’ events to invite students to get a closer look at our production processes. Employees are also encouraged to volunteer their time to speak to local high schools about safety, carbon black and our industry.

Cubatão – we sponsor cultural projects in the community near our facility, in partnership with the government. Our focus is on providing opportunities of learning and social development through free cultural actions, such as music, photography, dance and arts workshops for our community.



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Sustainable livelihoods

Rural communities are often prone to suffer from a lack of access to resources or assistance. A key aim of our community engagement activities is to help the residents nearest to our operations take ownership of their own advancement. It is important that the young are educated, but it is equally important that adults – both men and women, but particularly the disadvantaged – are given the tools they need to progress.

Enabling our closest stakeholders

Support is crucial, and our help comes in many forms – but our goal is that the members of local communities take the opportunities we offer to improve their own lives. We want to enable residents to become self-reliant, empowered and capable of applying our support in practice.

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



No poverty

Through our community activities, we support pro-poor and gender-sensitive approaches, including social support and education.



Zero hunger

Our community engagement programs in India include support for small-scale agriculture by investing in infrastructure, financial support and training for farmers.



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Gender equality

We support gender equality by empowering women in the communities where we operate through vocational training and support.



Reduced inequalities

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



Sustainable livelihoods

We provide training on key areas to specific groups, with the aim of building independent and empowered workers in communities.

South Asia



Gummidipoondi – we train local women through the Women Economic Empowerment Initiative (ANYA). The training focuses on practical skills, including tailoring, embroidering, gardening and liquid soap making.

In partnership with the United Nations Development Program (UNDP), we set up a program to train rural farmers and women in skills including:

- Honey beekeeping;
- Developing compost pits;
- Cattle feed cultivation;
- Setting up a community nursery; and
- Gardening and flower rearing activities.

Renukoot – we established a Women’s Vocational Center to train local women in tailoring and beautician skills.

We offered a three-month training program to residents of five local villages, focused on three trades: electrician, security guard and courier.

Patalganga – we invited women from a local public health center and neighboring villages to our celebration of Women’s Day, including a talk on women’s health and an awards ceremony for women who participated in our community activities.



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South East Asia

Thailand – we partnered with villagers from the nearby community of Huapai to implement a sustainable agriculture project:

- firstly, by establishing a model chicken farm using less land to produce organic food for the community; and
- secondly by selecting five houses in the community where the model farm could be implemented, with 20 chickens each.

The third phase will expand the project to more households and increase the quantity of chickens at each farm.



Europe and Africa

Egypt – we equipped four tailoring centers with the equipment and materials needed to provide training to 32 women, with the aim of developing at least 20 future trainers in other villages. We also financed approximately 40 micro projects in various trades (including poultry farming, tailoring and sewing, and fodder trade) to support families at Amreya Villages.

17 PARTNERSHIPS FOR THE GOALS



Partnerships for the goals

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



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Some communities near to where we operate are severely under-equipped in terms of infrastructure. This is apparent in buildings, roads and facilities. Our role in these areas is to provide the solutions that offer the most practical support for the community.

Structural support where needed

We identify opportunities for specific efforts in buildings and infrastructure in the neighboring communities. These opportunities are determined together with the local community, 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



Clean water and sanitation

Water, Sanitation and Hygiene (WASH) is a priority for us, and we have been working to ensure that all of our sites provide safe access to WASH by FY2018.



Partnerships for the goals

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Community infrastructure

We believe that the basics are non-negotiable: those closest to us need our practical support.

South Asia



Gummidipoondi – we partner with UNICEF to build child-friendly toilets, hand-wash stations and a napkin incinerator in a local school. We also installed water purifiers in nine government schools and a reverse osmosis plant in a nearby village to provide adequate drinking water for 2,500 children and 4,200 villagers. Learn more about our [WASH activities](#).

Renukoot – We provide drinking water through reverse osmosis at a government school for the entire school. Our Trust also supports the school’s maintenance and provides other items required by the building.

South East Asia



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.

China – we support families in need through clothing donations.

Europe and Africa



Egypt – we equipped four nursery facilities in nearby villages with desks, chairs and materials for education and playrooms. We also collaborated with NGOs and the Ministry of environment to implement a garbage collection and disposal service in four nearby villages. We built four Community Development Centers which included a nursery, literacy facility, primary health center, tailoring center, offices, and other amenities.