

ADITYA BIRLA



BIRLA CARBON

A JOURNEY OF **EXCELLENCE** ACROSS OUR VALUE CHAIN

BIRLA CARBON
SUSTAINABILITY REPORT 2015





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Welcome to the 2015 Birla Carbon Sustainability Report

This is our third Sustainability Report since we began reporting in 2013, and our first online report. We present the progress made during the Fiscal Year 2015 (FY2015) in realizing our Sustainable Operational Excellence (SOE) strategy. The icons above represent our six focus areas.

Sustainability at Birla Carbon



Sustainable operational excellence is no longer just an aspiration; it is becoming a reality. Our 2015 Report shows how far Birla Carbon has come."

Dr Santrupt Misra, Chief Executive Officer



It is our goal to be recognized as the clear leader in sustainable practices in the global carbon black industry."

Kevin Boyle, Chief Operating Officer

Our key figures



100%
of employees received Combined Code of Ethics training in FY2015.



3.8%
of profit reinvested in R&D in FY2015.



45%
of our FY2020 direct CO₂ emission intensity reduction target achieved.



100%
of our feedstock suppliers were reviewed for their sustainability activity.



47%
reduction in Total Recordable Incident Rate from FY2014–FY2015.



100%
of our facilities continued supporting community initiatives.



Our approach



Sustainable operational excellence is no longer just an aspiration; it is becoming a reality. Our 2015 Report shows how far Birla Carbon has come.”

Dr Santrupt Misra, Chief Executive Officer

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Sustainable Operational Excellence

Our sustainability approach is driven by our Sustainable Operational Excellence (SOE) strategy. SOE helps us improve operating standards, manufacture carbon black as efficiently as possible, minimize adverse impacts on natural resources and the environment and maximize our positive impact on society, while continuing to deliver excellence to our customers. It influences all aspects of our business decisions, from designing and operating our plants to engaging with our customers, our employees and the communities where we operate.

Message from Joe Gaynor



Sustainability has moved beyond environmental stewardship. It's about assuring all of our stakeholders that our business is sound and ethical, founded on sustainable practices; that what we have built over the last century will continue into the next.”

Joe Gaynor, Chief Legal, Sustainability and Risk Officer



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Aditya Birla Group sustainability vision



By 2017, 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."

Kumar Mangalam Birla, Chairman
Aditya Birla Group

Our SOE Philosophy

Engage

Engaging with our stakeholders

To take business decisions that ensure operations remain sustainable, we frequently engage with our employees, customers and the local communities. We listen to our stakeholders to remain aligned to the relevant issues.

Enable

Enabling our people

Real change is only possible when it occurs at all levels. We invest in creating the optimal governance structure and providing the necessary resources that enable our people to adopt and be a part of our sustainability vision.

Act

Walking the talk

We set ourselves business targets that require us to be agile in our operations. Through **responsible stewardship**, Birla Carbon adopts the best internationally recognized standards and tries to improve on them. Leadership in our industry demands continuous improvement and we are determined to be benchmarks of these measures.



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What is carbon black?

Carbon black is an ingredient that is essential to making many of the products we use every day stronger, deeper in color and longer lasting. In its pure form, carbon black is a fine, black powder, essentially composed of elemental carbon; it is produced by partial burning and pyrolysis of low-value oil residues at high temperatures under controlled process conditions.

Carbon black is mainly used to strengthen rubber in tires, but can also act as a pigment, UV stabilizer, conductive or insulating agent in a variety of specialty rubber, plastic, ink and paint applications. Apart from tires, other everyday uses of carbon black include hoses, conveyor belts, plastics, printing inks and automotive coatings.

How is it made?

At Birla Carbon, we produce carbon black in a high temperature reactor through a tightly controlled flame-synthesis process that uses oil, and sometimes natural gas, as feedstock. The oil is usually a residue derived from crude oils or coal and is purchased from refineries, petrochemical plants and coal tar distillers. [Birla Carbon Manufacturing Film](#)

By making adjustments to the reactor conditions – such as temperature, flow rates, reaction time and reactor design – we are able to produce a wide variety of carbon blacks with different morphology (specific surface area and structure level) to meet the diverse needs of all of our customers. Throughout the manufacturing process, we use distributive control systems to ensure our products meet the highest quality standards.

The carbon black manufacturing process produces large quantities of hot reactor tail gas with a heating value that can be utilized to make steam and electricity. We recover as much as possible of this tail gas energy for our own internal energy needs, but we also supply our energy surplus to businesses and homes around our sites. This greatly reduces our net greenhouse gas emissions and provides a valuable resource to our neighboring communities and partners.

Carbon black and its challenges

Like many manufacturing industries reliant on naturally occurring raw materials, carbon black faces challenges at various stages of its production, transport and utilization, as well as public perception. Birla Carbon works to proactively resolve these challenges, and we have addressed many of them in this report.



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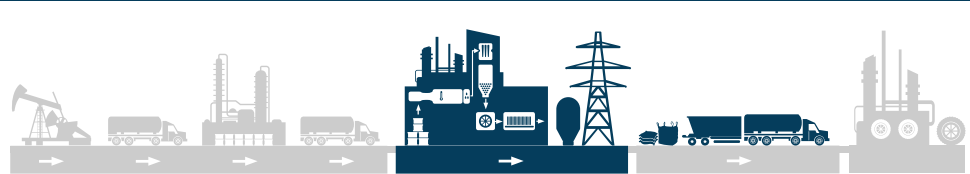
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The carbon black manufacturing process

Our six step manufacturing process

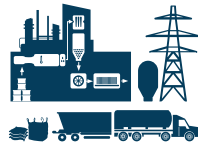


Carbon extraction, refinement and transportation

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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Dr Sanrupt Misra, Chief Executive Officer



Sustainable operational excellence is no longer just an aspiration; it is becoming a reality. Our 2015 Report shows how far Birla Carbon has come."

In the two years since we embarked upon the road to a unified sustainability initiative and started releasing our Sustainability Reports, Birla Carbon has increasingly taken on a leadership role. Sustainable operational excellence is no longer just an aspiration; it is becoming a reality. Our 2015 Report shows how far Birla Carbon has matured.

Sustainability is a journey. We adapted our sustainability strategy in 2013, inspired by the work of our parent company, the Aditya Birla Group, and we continue to stay the course. Our leadership team remains committed to sustainability and leading by example; it is crucial that our people are involved in the same journey. Continued sustainability progress is possible if all work together.

All industries face sustainability challenges, particularly in terms of how we take greater responsibility for the natural resources that we consume, such as water, and how we control our impact on the environment. At Birla Carbon, we have responded to these challenges by reviewing and adjusting our key performance indicators; for instance, we are now better placed to monitor our greenhouse gas emissions, the amount of water we withdraw from the areas most vulnerable to scarcity and the quantity of solid waste we generate.

As a global company working in a supply industry, it is vital that we understand the dynamics that influence our value chain. On the one hand, our business depends on demand, so we keep a close watch on the factors that affect us; on the other, we have implemented business continuity plans tailored to each site to ensure that our supply of the materials we need is not affected by external situations. Keeping track of the issues that affect us ensures that we are able to manage any uncertainties or disruptions that come our way.



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Historically, similar to many industries, the carbon black industry has been characterized as not clean. Changing this perception is a challenge that we are working with our peers to tackle. Our goal is to be the industry leader on sustainability, which is why we go beyond compliance, and invest in research and implement innovative solutions that create positive change – be it in our products and operations, or across our supply chain. We believe that sustainability leadership is an achievable and realistic business goal.

To make sure our employees remain committed to sustainability, we have taken steps to engage with and help them understand its significance. In recent years, we have consolidated Birla Carbon into an integrated business driven by a common vision, of which sustainability is a key aspect. Furthermore, we have continuously communicated with our workforce to build their sustainability knowledge, which we see reflected in initiatives undertaken in day-to-day operations. Our success in laying the lasting foundations for sustainable operations will depend on the contribution of our people, whose wellbeing and safety are our top priorities.

And it is clear to us that our people are growing in their understanding of what sustainability means and how it can be applied – not just to Birla Carbon, but to their own lives. Examples of where we all can contribute varies from being generally responsible, in terms of recycling and reducing waste, to the actively positive, such as charitable giving, volunteering personal time and everyday consumption from sustainable sources. Success stories of this kind have moved sustainability from being on the organisational agenda to a more personal value for our people.

Making sustainable progress depends on building strong relationships with the communities where we operate. These are the people we impact the most through our operations, and who, therefore, we must take the greatest care to protect and support. It has become increasingly clear that the relations we build with the communities will be a pillar in our sustainability strategy. We are committed to maintaining strong ties created with these communities.

As we continue on our sustainability journey, I invite you to read about the progress we have made and the direction we are taking to make our operational excellence truly sustainable. We are immensely proud of what Birla Carbon has achieved thus far and we are working hard to create an even better future for us all.

Dr Santrupt Misra, Chief Executive Officer



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Kevin Boyle, Chief Operating Officer



It is our goal to be recognized as the clear leader in sustainable practices in the global carbon black industry."

Transcript of Video Message from Chief Operating Officer, Kevin Boyle

For Birla Carbon's latest sustainability report, our Chief Operating Officer, Kevin Boyle, talks about the issues that matter most to our Company: our sustainability priorities, the health and safety of our people and how Birla Carbon prepares itself for the future.

Sustainability initiative

Sustainability continues to be an important part of Birla Carbon's strategy. It is our goal to be recognized as the clear leader in sustainable practices in the global carbon black industry.

We follow the commitment of our parent company, the Aditya Birla Group (ABG), to be the leading Indian conglomerate for sustainable business practices across its global operations by 2017 balancing economic growth with environmental and societal interests.

At Birla Carbon, we share the same values. Throughout our 170 years, we have strived to be progressive, efficient and sustainable. We will continue to grow and maintain our industry leadership. So, in 2013 we defined a strategic approach, shaping our priorities through the Sustainable Operational Excellence (SOE) strategy.

Our sustainability focus touches nearly all aspects of the business: from building strong governance to responsible product management to customer and supplier partnerships to health and safety of our employees extending to community engagement.

We have modified our key performance indicators to better reflect our strategy, particularly relating to how we measure greenhouse gas and carbon emissions, energy recovery, water withdrawal and waste generation intensity.

Birla Carbon is energy positive. We are working hard to further reduce our energy consumption in each of our facilities.

Some of the highest priority issues we will continue to address remain employee safety, product safety and consistency and business continuity with strong governance.



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We are proud some of our key customers have appreciated our focus on sustainability and have acknowledged us as being at the forefront of this initiative in the carbon black industry. It is important that our stakeholders know us as a company that upholds ethical standards, and we will continue to maintain this reputation.

What role do Birla Carbon's people play in its success?

Having state-of-the art facilities and a global presence is a major advantage, but continued success is impossible without a committed and effective workforce.

Thus, it remains imperative that we continue to provide a thriving environment and for our workforce to feel respected and protected. The commitment to employees' health, safety and wellness will continue to remain our priority.

However, we do admit, we don't always live up to our own expectations. At-risk behavior has led to tragic outcomes.

It is with great sadness that I must tell you that in fiscal year of 2015, we had two fatal accidents of our contractor staff that should have been avoided. Every lost life is too many. Our prime goal is to have zero accidents, and we actively continue to reduce the risk of accidents through investments in necessary equipment and training.

Our commitment to safety is reflected by the fact that recently we chose not to continue to work with a contracting company that did not want to participate in our safety training nor follow our safety process.

Creating a safe working environment is a continuous process. As an organization, we will never stop making our workplace safer and maintain active proponents of a culture of safety across all of our operations around the world.

How is Birla Carbon preparing for the future?

Our vision is to be the world's most respected, sustainable and dynamic global carbon black business. To achieve this, we continue to take actions that will enable us to thrive despite any volatile and uncertain scenarios.

We are implementing a Business Continuity Management System (BCMS) based on ISO 22301 to remain prepared for any potential incidents that may impact our operations.

We are also making sure we meet stringent demands of our customers and their markets through active product innovation. We continue to invest in research and development and remain responsible product stewards. We are also strengthening engagement with various stakeholders and remain cognizant of their priorities.

Conclusion

In conclusion, with sustainable operational excellence guiding our actions, I believe that Birla Carbon is well-positioned to face the future and continue setting examples in the industry. I do hope our third report is once again useful in illustrating the progress we have made and where we are headed.

Thank you for taking the effort to know more about our initiatives.

Please do not hesitate to contact us if you have any questions, comments or suggestions about our sustainability efforts.

Contact us at birlacarbon.sustainability@adityabirla.com



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Joe Gaynor, Chief Legal, Sustainability and Risk Officer



We constantly seek ways to make our operations more sustainable, because we believe efficient management methods will enable us to maintain long-term and firm industry leadership."

As a global company and a business leader, Birla Carbon has an obligation to operate responsibly: from helping ensure employee health and safety, to being good stewards of the carbon we use, while managing energy efficiently.

What we can do on a worldwide scale can make a huge difference. Sustainable operations are not only desired: they are expected – by our customers, our suppliers, our parent company, our employees and our communities.

Sustainability has moved beyond environmental stewardship. It's about assuring all of our stakeholders that our business is sound and ethical, founded on sustainable practices; that what we've built over the last century will continue into the next. And that our business leadership will have a positive impact on our stakeholders' future and our own.

Sustainable Operational Excellence (SOE) frames decisions and actions across our entire business. We constantly seek ways to make our operations more sustainable, because we believe efficient management methods will enable us to maintain long-term and firm industry leadership.

Birla Carbon continues to integrate SOE into its business at all levels: from our expansion strategy to providing safe and optimum working conditions, from initiating the ethical conduct conversation with our suppliers to our operational efficiencies.

Our SOE strategy is visible in key initiatives this year. One example is our recently announced greenfield manufacturing plant in China, designed with SOE in mind to be more energy efficient and generate less waste, which will see us deploy the best technologies, using local materials and workforce. An example of our diligence toward our workforce is our signing of the World Business Council for Sustainable Development (WBCSD) WASH Pledge, along with the Aditya Birla Group, to guarantee safe access to water for all of our employees by 2018.



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This year, for the first time, we are also voluntarily participating in both the Carbon and the Water Disclosure Projects. This reporting will bring even greater transparency to our continued efforts in these areas. Meanwhile, our employee engagement survey has once again provided us excellent insights on the aspirations of our people, fundamental to the success of any business.

Through these actions, we are minimizing operational risks and building the foundation for a sustainable future. We have also revisited our key performance indicators to better reflect our activities and improve how we track our progress. SOE is now becoming a fundamental part of how we approach our business at Birla Carbon. We can see the future possibilities and are excited about what lies ahead.

Joe Gaynor, Chief Legal, Sustainability and Risk Officer



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Our vision

Our vision is to be the most respected, sustainable and dynamic global carbon black business. Achieving this requires we maintain responsible and sustainable practices, while providing a secure, consistent supply of the highest-quality carbon black to our customers across the globe. By embedding sustainable thinking at every level, we meet the evolving needs of our stakeholders regardless of economic volatility, increasing environmental and societal concerns and challenges such as stricter regulatory requirements and changing consumer expectations.

Birla Carbon aims to use natural resources as wisely and efficiently as possible, minimizing any harm to the environment. We further prioritize keeping our employees safe, attracting the right talent and engaging regularly with contractors and local communities.

Our key figures



\$258M

profit before depreciation, interest and taxes (PBDIT) in FY2015



2,545

employees worldwide



17

Global presence – 17 manufacturing sites in 12 countries



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Our stakeholders, and the issues that concern them most, drive our sustainability strategy, as do those areas that have a material impact on how our business will develop. We have chosen to report on those issues that are the highest priority.

Materiality

Birla Carbon continually reviews issues that are of importance to our stakeholders.

Birla Carbon stakeholders

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

In FY2014, the Sustainability Steering Committee (SSC) utilized quantitative (including employee surveys and health, safety and environment reports) and qualitative (customer and community feedback) analysis to determine the materiality of each issue using a weighted scoring system. Certain issues were identified as material due to their significance to specific key stakeholders.

To validate our assessment and ensure our reporting achieved Global Reporting Initiative Principles of Completeness, we regularly evaluate the scope of our material issues, the boundaries identified for each and the timescale considered. Our issues are scrutinized by the SSC and the final results of the process approved by Joe Gaynor, Chief Legal, Sustainability and Risk Officer, on behalf of Birla Carbon's Senior Management Team (SMT). [Learn more about our Governance Structure.](#)

For this report, we used the feedback from customers, employees and the Aditya Birla Group to revisit certain areas, specifically product consistency and water.

Birla Carbon has attributed each of its material issues to a relevant material aspect, occurring internally or externally to the organization, as per the Global Reporting Initiative (GRI) G4 guidelines. We group our material issues into six overall focus areas: Governance and Ethics; Product Responsibility; Environment; Customers and Suppliers; People; and Communities.



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Governance and Ethics



Product Responsibility



Environment



Customers and Suppliers



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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.

Major

- Ethics
- Human Rights
- Product Safety
- GHG
- Water
- Energy
- Business Continuity
- Product Consistency
- Safety

Significant

- Management Team
- Reputation
- Supply Chain
- Waste
- Employee Engagement
- Community Engagement

Moderate

- Governance Framework
- Transparency
- Product Stewardship
- Resource Consumption
- Air Emissions
- Employee Wellness
- Employee Retention
- Philanthropy

Stakeholder engagement

We have identified a sub-group of stakeholders where our engagement can make a difference and we are currently building stronger partnerships with them.

Stakeholder sub-group

- Employees
- Customers
- Suppliers
- Aditya Birla Group
- Communities



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We hope to build long-term relations with our customers. This will only be possible through continuous investment in our people, our processes and the technology that we use. 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

N New target

✔️ Target met and retained

	Performance			Progress towards target	Target unless otherwise stated
	FY2013	FY2014	FY2015		
Our approach					
Maintain our leadership position in terms of carbon black production capacity	No. 1	No. 1	No. 2	⬇️	No. 1
Approximately double our annual capital spending against FY2012 baseline to reach \$100M	\$66.5M	\$64.1M	\$64.4M	➔	>\$100M
Governance and ethics					
100% of employees to receive Code of Ethics training	94%	100%	100%	✔️	100%
Environment					
Reduce our direct emission intensity (tCO ₂ /t _{carbon black}) by over 22% against 2005 baseline	95.2%	90.7%	90.1%	➔	<78%
Zero environmental releases	0	1	4	Not achieved	Zero releases each year
Increase our absolute energy conversion efficiency to 80% ¹	69.7%	69.7%	71.2%	N	80%
Reduce our water withdrawal intensity (m ³ /t _{carbon black}) by 50% against FY2012 baseline for our high- and medium-risk sites ²	97%	80%	81%	➔	50%
Reduce our waste generation intensity (t/t _{carbon black}) by 50% against FY2012–14 baseline ³	100%	100%	104%	N	50%
Our people					
Zero recordable injuries (report on TRIR progress)	0.61	0.81	0.43	➔	0
100% of Birla Carbon managers to have stated and measured goals set annually	n/a	100%	100%	✔️	100%
Communities					
100% of our facilities to participate in community engagement	100%	100%	100%	✔️	100% each year

1 This new KPI, which replaces our previous energy output KPI, will be a more granular indicator monitoring our ability to convert energy.

2 This KPI has been adjusted to focus on the manufacturing plants identified as high and medium risk based on our water vulnerability assessment.

3 This KPI has been adjusted to reflect the cyclical nature of our waste generation by considering three-year rolling values.



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Global recognition

Award for CSR Excellence from Manufacturing Today (2014)
Gummidipoondi, India.

Safety Commendation Certificate from National Safety Council
Gummidipoondi, India.

Safety Award for Long Period of Accident-Free Working Days from Tamil Nadu state's Industrial Health & Safety Director
Gummidipoondi, India.

Arogya World Healthy Workplace Award (Gold Category) from Arogya World India Trust
Patalganga, India.

Sam Olens Business Community Services Award for exemplary service and support of Cobb County's non-profit community from the Cobb Chamber of Commerce (2014)
Marietta, Georgia, USA.

Excellence in Campaign Award Winner from the United Way (2015 for the 2014 Best Campaign)
Marietta, Georgia, USA.

Top Rubber Award for Best Carbon Black Supplier from Borracha Atual magazine (2014)
Bahia, Brazil.

Premium Supplier Award (Global) from the Eaton Corporation (2015)
Marietta, Georgia, USA.

Energy Saving Champion from Horizon Utilities' saveONenergy program (2015)
Ontario, Canada.



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Our third report draws on performance highlights from April 2014 to March 2015 (Fiscal Year 2015) 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 international standards of the Global Reporting Initiative (GRI) G4 Sustainability Reporting Guidelines at Comprehensive level. A GRI content index can be found at [Download our GRI Index.](#)

Previous sustainability reports

Birla Carbon's [2014 Sustainability Report](#) was published in July 2014.

Birla Carbon's [2013 Sustainability Report](#) was published in July 2013.

Boundary

We have attributed each of our material issues to a relevant material aspect outlined in the Global Reporting Initiative (GRI) G4 guidelines. Below we have outlined the boundary for each of our aspects. Where the issue has been identified as relevant within the organization it applies across all entities of the Birla Carbon business.



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Our material issues	Material within the organization	Material outside the organization	Relevance outside the organization
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.
Management team	YES	NO	Not applicable.
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.
Reputation	YES	YES	The reputation of Birla Carbon has an impact on the reputation of both the Aditya Birla Group and our customers.
Transparency	YES	YES	The transparency of our business is important to our customers and regulators, who put their trust in our business and play a role in monitoring our performance.
Product safety	YES	YES	Product safety controls are critical to the health and safety of our customers and end consumers.
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.
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 discharge	YES	YES	Water use and discharge has the potential to impact on communities around our operations. This is particularly material in areas where water scarcity is a potential risk.
Waste management	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.



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Our material issues	Material within the organization	Material outside the organization	Relevance outside the organization
Supply chain development	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.
Product standards and consistency	YES	YES	Our customers require consistent quality from our products, as this has an impact on their own operations and end products.
Safety performance	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 retention	YES	NO	Not applicable.
Employee wellbeing	YES	NO	Not applicable.
Employee engagement	YES	NO	Not applicable.
Community engagement		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	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.

Feedback

Feedback on our third 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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GOVERNANCE AND ETHICS



PRODUCT RESPONSIBILITY



ENVIRONMENT



CUSTOMERS AND SUPPLIERS



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Strength depends on structure

A global company operating in multiple local environments requires a strong organizational structure and ethical conduct.



Responsible actions at all levels

We encourage our people to take responsibility for their actions at all levels through leading by example.



GOVERNANCE AND ETHICS

Governance

Ethics and compliance

Setting standards



We will continue to lead by example. It is important that our stakeholders know us as a company that upholds ethical standards and we will continue to maintain this reputation."

Kevin Boyle, Chief Operating Officer, Birla Carbon

Our key figures



5

pioneering locations seeking ISO 22301 certification in FY2016



0

antitrust/anti-corruption actions



100%

of employees have completed Code of Ethics training in FY2015



GOVERNANCE AND ETHICS

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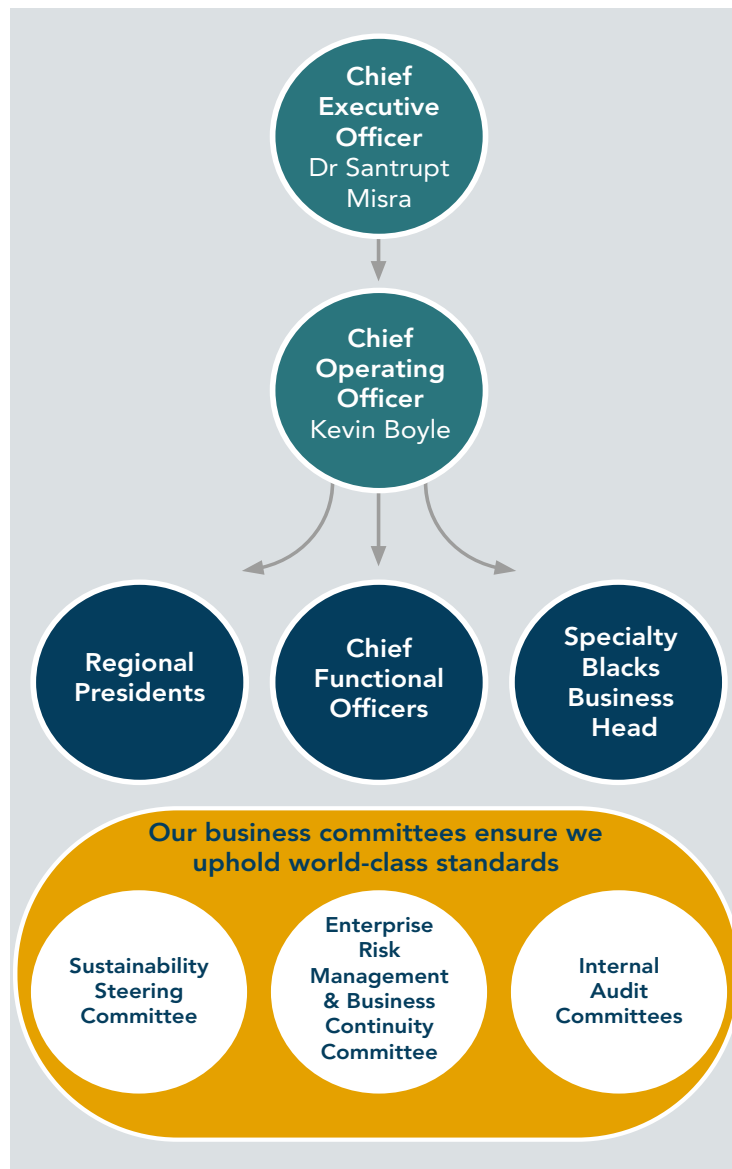
Governance

Birla Carbon's success depends on a strong, effective and responsive management structure. Our organizational governance supports regional autonomy for efficient decision making, as well as communication with global functional leaders, to share and implement best practices across the company. This structure also enables 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 diagram below illustrates how we organize our governance.

Governance structure





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Strategic sustainability

Our sustainability strategy is directed by the Sustainability Steering Committee (SSC), which includes internal representatives from each business area and external consultants. The SSC has a dual role: it reports on Birla Carbon’s sustainability journey, and helps to define and integrate sustainability in strategic business decisions.

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. By 2017, 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.

Keeping on track

To ensure that our governance structure remains effective and viable, we conduct regular, global and in-depth audits.

Internal audits

Our Internal Audit Department carries out investigations and risk-based audits across the business, covering financial, compliance and operational reviews. In addition, regions complete key control tests. The findings are submitted to the SMT on a quarterly basis for review and direction if any actions are required.

Enterprise risk management

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

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 other types of business disruption. Our business continuity approach has been developed over the years with a built-in local aspect, where each plant has focused on key prevention elements and the ability to maintain our supply should disruption occur.

In early FY2015, we began an initiative based on ISO 22301, which serves as the new international standard for Business Continuity Management System (BCMS). The BCMS will form the cornerstone for specific recovery strategies for processes and activities deemed to be most crucial to our business and ensuring the continuous supply of product to our customers. Five of our locations have already initiated the certification process.



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Fireproofing our Business Continuity Plan in Spain

Validating our Business Continuity Plans (BCP) is critical to our resilience development process. In preparation for the upcoming Business Continuity Management System BCMS audits, the Europe & Africa region has been challenging its BCP to ensure readiness.

A crisis scenario drill was held on March 27, 2015 at our Spanish facility in Santander. The desktop exercise, conducted in a safe office environment, simulated an electrical fire breaking out in the neighboring plant, exposing the inter-dependence between our sites. Other fallout details were included: for example, the fire was to be followed by cold weather, and a media helicopter covering the incident would later crash into a feedstock tank, resulting in a major oil spill and subsequent explosion risk.

As the crisis unfolded, participants were presented with a series of situations that required decisions and actions. The team adopted crisis management approaches by discussing and agreeing on issues, risks and proposed actions. The exercise produced several valuable lessons, including the importance of external communications (more specifically, with the media), the impact and management of community relations and the need for greater BCP understanding.



All locations have a comprehensive Disaster Recovery and Business Continuity Plan (BCP) to prepare for interruptions due to natural disasters or other types of business disruption



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Ethics and compliance

The integrity of our business depends on how we operate as a company, and the behavior of our people. Birla Carbon expects its employees to conduct business in alignment with our values: Integrity, Commitment, Passion, Seamlessness and Speed. Upholding these values at all levels of how we do business, from our interaction with customers to our protection of our own people, is fundamental to ensuring we remain a trusted business partner.

Conducting business with ethics

Birla Carbon’s approach to ethics includes aspects that support our business activities: human rights; antitrust and anti-corruption; grievance measures; and collective bargaining.

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 our own Group standards. We strive 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

Birla Carbon is committed to complying with the antitrust and anti-corruption laws of all the locations where we conduct business, and we intend to preserve the competitive, free-enterprise system while prohibiting payments or promises to pay anything of value to officials of any government in order to obtain or retain business. In FY2015, Birla Carbon was not involved in any antitrust or anti-corruption actions.

Grievance measures

We expect our employees, contractors and suppliers to voice any concerns or grievances they have about our operations, our employees or our products, and we offer reporting channels to encourage them to do so. We have a hotline that enables our employees to anonymously report, via 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 have the opportunity to ask questions concerning actual or potential situations, and calls made to the hotline will be handled in full compliance with local law. Depending upon the type of issues, these are then investigated by a team of auditors and/or human resources professionals. The hotline program is now available at all of our 17 plants. We received and resolved 15 hotline calls in FY2015.

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 FY2015, the number of unionized Birla Carbon sites remained the same, at 71%. In the event that conflict issues occur, we have communications and conflict resolution measures in place for our employees to make their concerns known.



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Celebrating a decade of values

In 2015, we celebrated the tenth anniversary of the Group values: Integrity, Commitment, Passion, Seamlessness and Speed. Celebration highlights from our Indian plants include events bringing employees together, such as competitions, Saturday discussion brunches (Renukoot) and the implementation of a "Living the Values" reward scheme (Patalganga).

How do we embed ethical conduct?

To embed high ethical standards across our operations, each employee is required to go through our formal online training program and 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. In FY2015, we achieved our target of training 100% of employees in the Code of Ethics.



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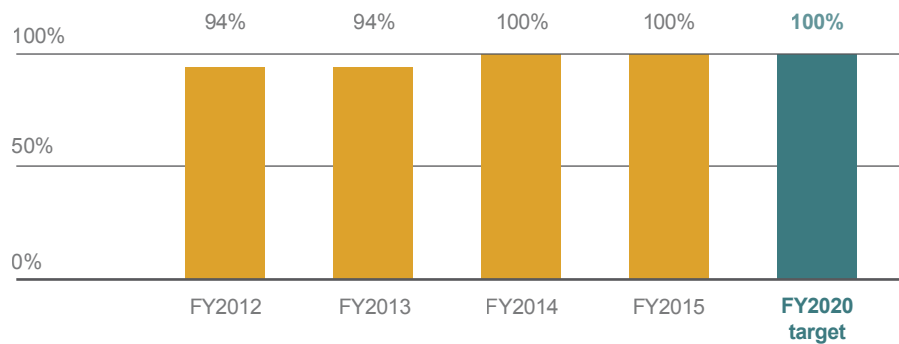
Governance

Ethics and compliance

Progress towards target



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



FY2012	FY2013	FY2014	FY2015	FY2020 target
94%	94%	100%	100%	100%

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. Birla Carbon has recently decided to invite all of its partners and suppliers on its value chain above a region-specific threshold to uphold the principles laid out in our Code of Ethics.



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“The highest standard anywhere will be the minimum standard everywhere.”

Since its integration in 2011, Birla Carbon has developed a [Code of Global Ethics and Compliance Standards \(Code of Ethics\)](#) to ensure that all of our workforce has a shared set of policies to guide their daily actions and reaffirm our commitment to the highest level of ethical and legal conduct.

In consultation with legal and compliance experts, and together with affiliated companies, our Legal Department devised our Code of Ethics, which was endorsed by the Senior Management Team (SMT) in FY2014. The next step was training, which was no small task: Birla Carbon’s diverse workforce comprises approximately 3,000 employees located in multiple countries across the Americas, Europe & Africa and Asia.

Our Legal, Audit and Human Resources Departments worked with external compliance experts to develop an e-learning module in our 11 local languages illustrating the Code of Ethics. Through anecdotes and hypothetical cases, employees learned how to apply the guidelines and principles of the Code of Ethics and tested their understanding of it. Upon completion, each employee received confirmation of their compliance with the Code of Ethics.

The online course was successfully completed in FY2015 by over 1,500 employees, while the remaining participants completed it in a classroom setting. The course content is being modified for the FY2016 training, and will highlight different areas of emphasis and enhanced reporting capabilities.



100%

of employees completed Code of Ethics training



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Creating high-quality products

Our success depends on our product. We want to build a reputation for manufacturing high-quality products.

Keeping carbon black safe

We work closely with the industry, our customers and academia to ensure our product is safe and effective.



PRODUCT RESPONSIBILITY

Product safety and stewardship

The big questions

Product quality

Guaranteeing safe product supply



Thanks to our robust product safety team and our exceptional testing facilities, we can address even the most critical customer requests on our product. This ability to respond rapidly and thoroughly is essential for a company like ours, to be a credible partner for our customers. Birla Carbon's product safety approach is a business differentiator."

Jas Sandhu, Head, Specialty Blacks Business

Our key figures



3.8%

of profit reinvested in Research and Development (R&D) in FY2015



1

Business day – the time in which customers received an initial response to their query in 100% of cases



>1,200

letters responding to customer product safety requests sent in FY2015



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Product quality

Product safety and stewardship

Our product is used in a broad range of industries and is found in countless technical applications. It is important that we help our customers to handle and use carbon black effectively and safely. This is achieved through product stewardship, and by ensuring that we act responsibly across all of our operations and value chain.

How do we create safe products?

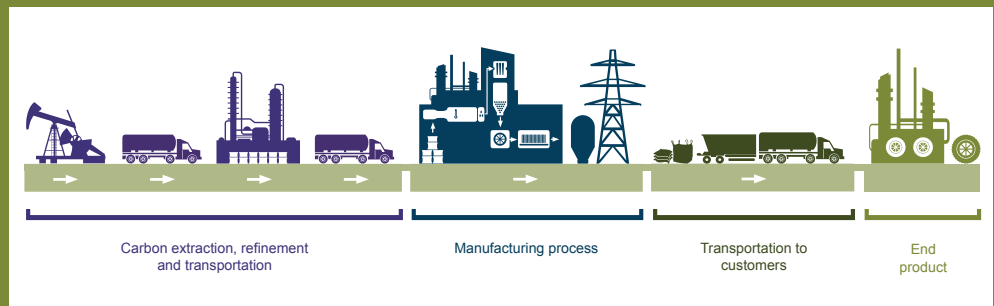
Our business depends on maintaining our customers' trust. This trust begins with the safety of our product. Birla Carbon works hard to ensure our carbon black meets and exceeds all relevant regulatory standards. We also endeavor to keep abreast of the latest market initiatives and industry developments so we can support our customers in meeting their own regulatory obligations.

Product responsibility

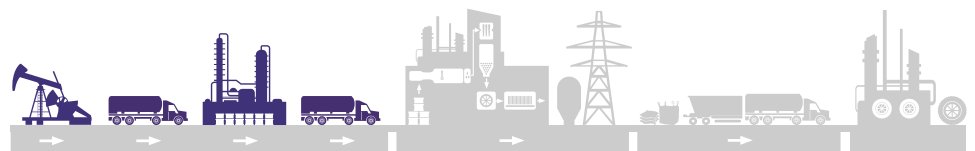
We provide our customers with high quality, thoroughly tested carbon black that meets or exceeds health, safety and environmental requirements and can be handled safely.

Product responsibility across the value chain

We divide our value chain into four areas:



Carbon extraction, refinement and transportation



Extraction and refinement:

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



Transportation:

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



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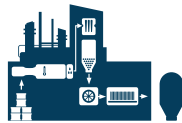
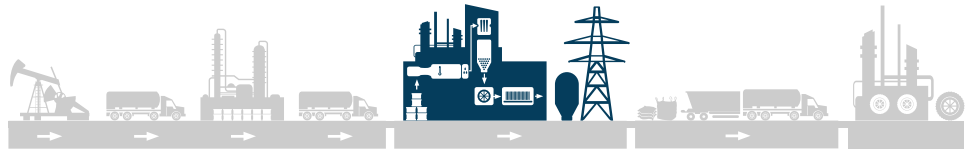
PRODUCT RESPONSIBILITY

Product safety and stewardship

The big questions

Product quality

Manufacturing process



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



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

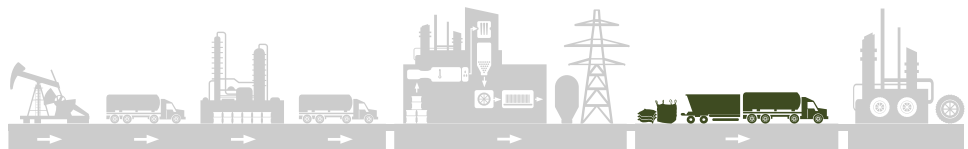


Rotary dryer:
Strict product testing is conducted at this stage to meet customer specifications and safety standards.



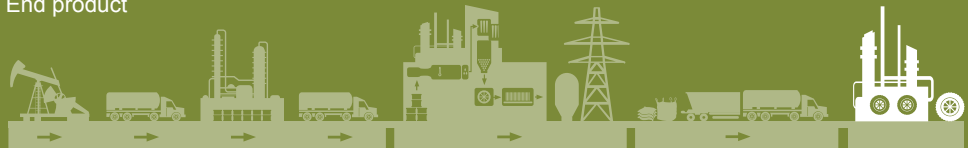
Bulk storage:
Once customer requirements have been met, the product is directed to specific silos and later shipped.

Transportation to customers



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

End product



Customer sites:
Our Safety Data Sheets (SDSs) are continuously updated and provided in over 25 languages. Specific product safety documentation is supplied to customers on request.



PRODUCT RESPONSIBILITY

Product safety and stewardship

The big questions

Product quality

Investing in safety

Birla Carbon's strategy is to continually invest to meet our customers' requirements for product safety information. We implemented a testing program to proactively identify any information gaps on a per-product basis. The goal is to inform internal and external customers on product characteristics, safe, effective and approved uses (such as food contact), and health and environmental risks.

By seeking input and support from all business areas, we facilitate product consistency and compliance from a product stewardship perspective. Through this program, our internal businesses have access to the most current technical information, advice and support. Furthermore, our customers can access accurate and timely information, presented through SDSs, labels and general responses.

An example of our active improvement work can be seen in our structural testing process, where we are completing the substitution of dibutyl phthalate (DBP), a plasticizing chemical used to measure the structure of our product, with a safer alternative at all locations.

Enhancing customer understanding

Customers and end consumers want to understand more about carbon black. In FY2015, Birla Carbon received over 1,200 queries related to product safety and compliance with specific environmental or food contact regulations. In 100% of cases we were able to send 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.



Keeping our customers informed

Through the International Carbon Black Association (ICBA), we work closely with our peers to ensure that our material Safety Data Sheets (SDSs) are as up-to-date, consistent and informative as possible. These SDSs provide peer-reviewed scientific information about our product, its potential impacts and how to handle it safely. Each SDS is designed to inform the user about any hazards related to working with carbon black.

Furthermore, Birla Carbon works to mitigate the risks of occupational exposure, such as dust exposure. We conduct comparisons between our plants and those of our competitors through third parties, to share and identify best practices.



PRODUCT RESPONSIBILITY

Product safety and stewardship

The big questions

Product quality

Improving our processes

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. Birla Carbon develops 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.

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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Product quality



Over 1,200

letters sent in response to customer product safety requests

Product stewardship

To foster a culture of product stewardship in our operations, we have established a standardized approach across the company, specifically for our employees at the manufacturing level. Employees are encouraged to “stop, think and ask,” by seeking advice and support, before and during process development and production changes.

Auditing our sites

The challenges we face include consistently aligning all Birla Carbon’s sites with our Product Stewardship Standard and vision and helping our employees understand its benefits. The standard requires enhanced testing intervals for all products and a robust description of which actions trigger product re-testing at a manufacturing site. In FY2015, we have modified the product stewardship audits so that they are conducted in conjunction with Health, Safety & Environment (HS&E) audits.

Once a Product Steward has been appointed at each manufacturing facility, the sites will undergo an annual self-assessment to measure progress relative to implementation of the Product Stewardship Standard. Product Stewards will be responsible for monitoring standards and implementing a global training program to equip our workforce with greater stewardship knowledge and expertise. The stewards will participate in regional Product Stewardship Committees, which will report to a Global Product Stewardship Steering Committee.

This network is designed to help us share best practice and communicate why product stewardship and safety is important to Birla Carbon. In FY2015, we have increased awareness of product stewardship through communication and interaction with key personnel at all of our operating sites.



PRODUCT RESPONSIBILITY

Product safety and stewardship

The big questions

Product quality

The big questions

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 material we produce is often incorrectly perceived as a polluting, dirty, air contaminating, carcinogenic black dust, 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 and, in some cases, chair the 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.

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 harmful to the environment?

Due to the nature of our manufacturing processes, we recognize that our activities can potentially have environmental impacts. 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.



PRODUCT RESPONSIBILITY

Product safety and stewardship

The big questions

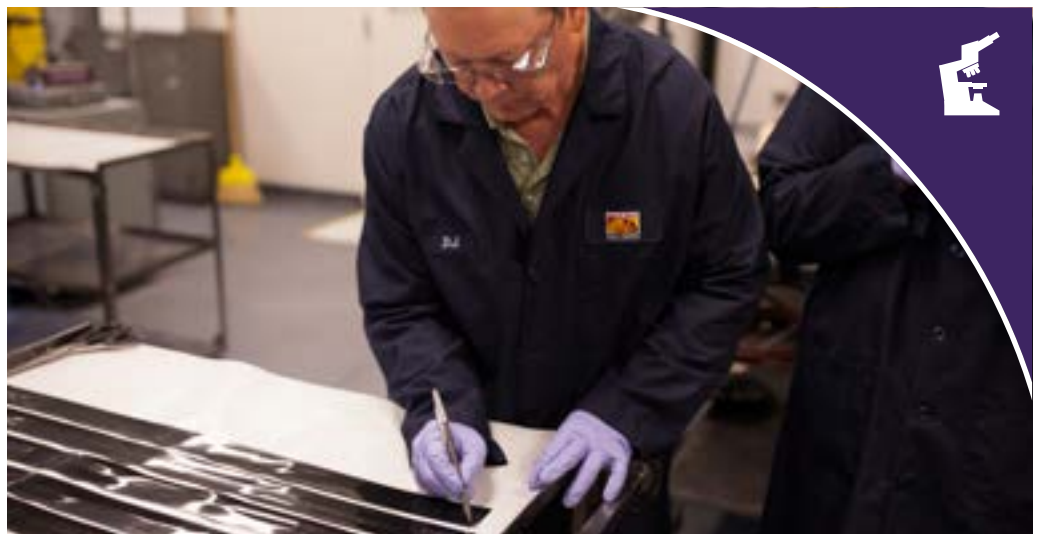
Product quality

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 groundbreaking products that are consistently of the very highest quality.

Quality assurance

Most of our plants are ISO 9001 accredited, certifying that we have established and documented methods for our processes. All of our production facilities have a Quality Assurance (QA) laboratory, which uses state-of-the-art equipment to test our products against stringent shipping specifications. These QA laboratories ensure that the material sent to our customers complies exactly with their specific requirements.



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.

Continued overleaf



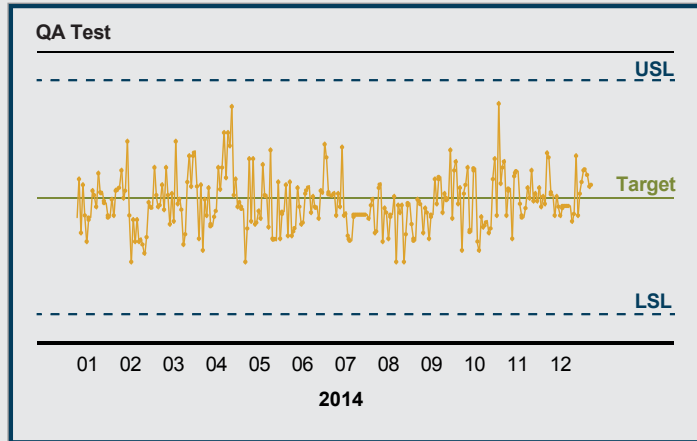
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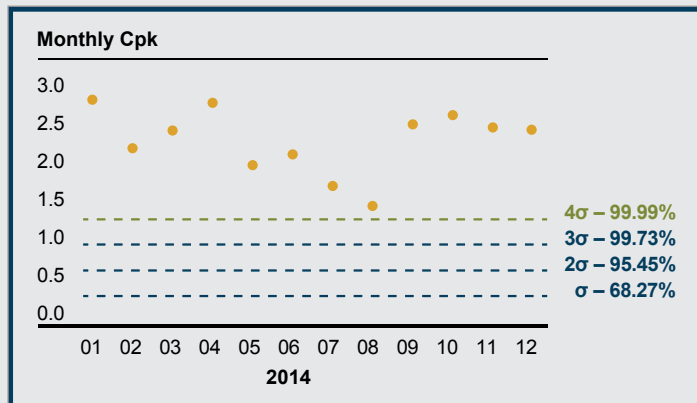
The big questions

Product quality

Focus on product consistency



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 of 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 of our testing equipment in our quality departments are regularly serviced, checked and calibrated to guarantee maximum product quality.



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Product quality

Creating business leadership

Business leadership requires the best facilities and processes. Our Research and Development (R&D) activities are based in our centers in Talaja (Maharashtra, India) and Marietta (Georgia, USA), as well as two other regional satellite laboratories in Korea and Brazil. These state-of-the-art technology centers employ more than 50 leading scientists. Our Product Technology group works with our technical service teams throughout the world, and engages daily with our customers to ensure their needs are met.

Working with ASTM

Each of our laboratories receives regular audits from our material analysis group and is assessed twice a year through participation in 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 more than 100 centers worldwide. Should any anomalies or deviations be found through this LPRS, 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.



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Product quality



3.8%

profit reinvested in R&D

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.





Responsible stewards of the world around us

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

Optimizing energy recovery in our operations

We prioritize recovering as much energy as possible from our waste gas, while reducing our own energy consumption in our facilities.



ENVIRONMENT

Carbon stewardship

Environmental compliance

Water

Waste

Keeping track of our carbon footprint



We set ourselves the highest standards to achieve world-class manufacturing excellence in all our facilities. Our product life cycle assessment has made clear to us where we have to focus to reduce our carbon footprint by sharing and implementing best practices throughout our operations."

Bobby Jordan, Global Director, Manufacturing Technical Service

Our key figures



\$22.1M

invested in process improvements related to energy efficiency and reducing GHG emissions in FY2015



45%

of our FY2020 direct CO₂ emission intensity reduction target already achieved



9

of our 17 manufacturing locations had zero industrial waste water discharge in FY2015



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Carbon stewardship

Environmental compliance

Water

Waste

Carbon stewardship

Our carbon stewardship strategy is based on two pillars: converting more carbon from oil into carbon black and optimizing our energy cycle. Fully understanding our product life cycle is key to determining the impact that our operations have on the areas in which we operate. The results of our recent Life Cycle Assessment (LCA) strengthen our strategy and direct our actions on reducing our carbon footprint and emissions. We are also well aware of how valuable energy is, which is why we recover as much as we can from our processes, and reuse it in our operations. Energy efficiency is integral to our Sustainable Operational Excellence (SOE) approach.

Our work to reduce our carbon footprint goes hand in hand with our customers' expectations and helps them to better understand the life cycle of their own product.

Assessing our total carbon footprint: product Life Cycle Assessment

Over the past two 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 is, to our knowledge, the first conducted by a carbon black manufacturer.

The scope of our LCA was 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. The objective of the assessment was to better understand our impact with regard to CO₂ emissions, and identify opportunities to reduce our overall carbon footprint. We looked at the last four years of feedstock delivery, production and product distribution data to establish a baseline and to better understand where we can reduce carbon emissions most effectively.

The LCA results indicated that through our carbon stewardship focus, our overall carbon footprint has continuously decreased by 9.3% over the past three years, relative to the FY2012 baseline.

Understanding our carbon footprint

Our Life Cycle Assessments (LCAs) have taught us that each stage of our manufacturing process has an impact on the overall carbon footprint. It is our responsibility to ensure that we closely monitor our carbon footprint and gain a better understanding of how to reduce it.



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Carbon stewardship

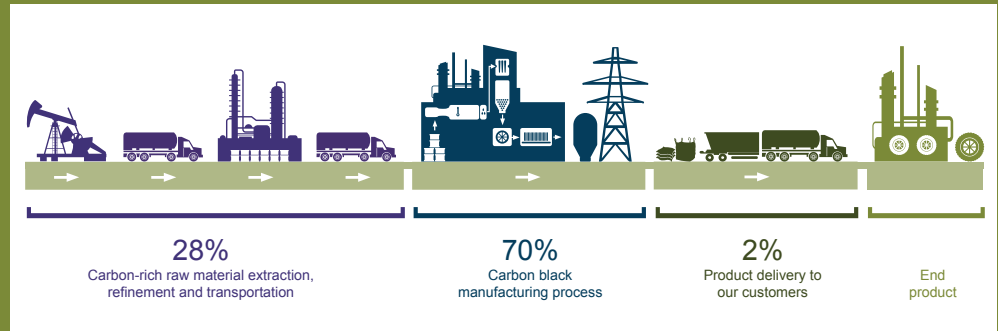
Environmental compliance

Water

Waste

Carbon stewardship across our value chain

Our carbon footprint:



Carbon-rich raw material extraction, refinement and transportation

28%



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

9%



Extraction:

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

11%



Transport to refinery:

The crude oil is sent to refineries for processing.

7%



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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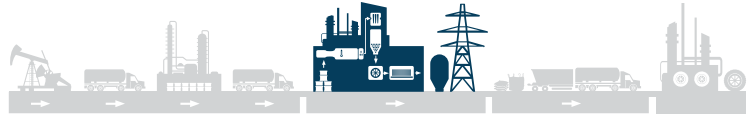
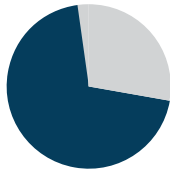
Environmental compliance

Water

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Carbon black manufacturing process

70%



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.

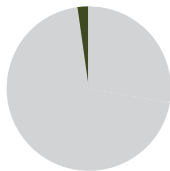


Energy management:

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

2%



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.



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These LCA results strengthen our efforts to reduce the carbon emissions we produce at the manufacturing stage, which we monitor closely through relevant KPIs. We are committed to ensuring that our operations are globally energy positive, meaning that we generate surplus energy while manufacturing carbon black. We are also actively working with various suppliers to optimize transport routes and reduce further our overall carbon footprint. Though the transport of our carbon black products to our customers represents just 3% of our carbon footprint, we are working to minimize the impact of this process.

We are currently expanding the LCA to include other environmental indicators such as ozone depletion potential, human health impacts from air pollutants, carcinogens and non-carcinogens, and fossil fuel depletion. 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.

Reducing our direct CO₂ emission intensity

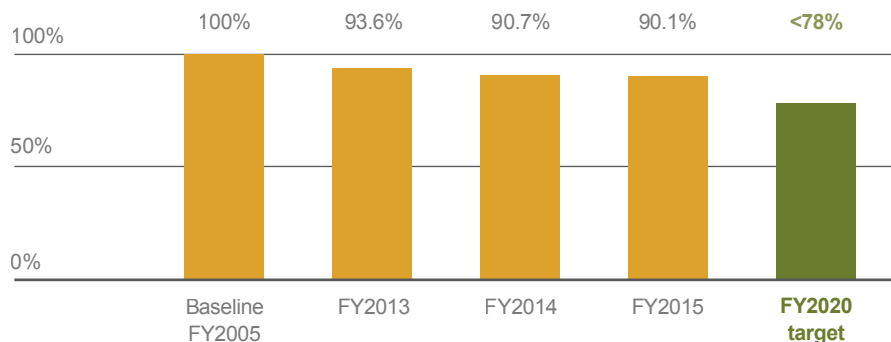
We believe that SOE is the right approach to achieve our goal to reduce direct CO₂ emission intensity. The implementation of best practice and continuous technology investments have allowed us to considerably reduce our direct CO₂ emission intensity again in FY2015. With five years to go, we have already achieved over 45% of our ambitious FY2020 target.

These remarkable results are accomplished through a series of global, regional and local initiatives. For instance, we have started to use natural gas rather than light oil, where appropriate, as natural gas contains less carbon per unit of energy, with the additional benefit of less sulfur. New feedstock oil sources have also been identified, allowing us to further reduce our direct GHG and SO_x emissions.

Progress towards target



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



Baseline FY2005	FY2013	FY2014	FY2015	FY2020 target
100%	93.6%	90.7%	90.1%	<78%



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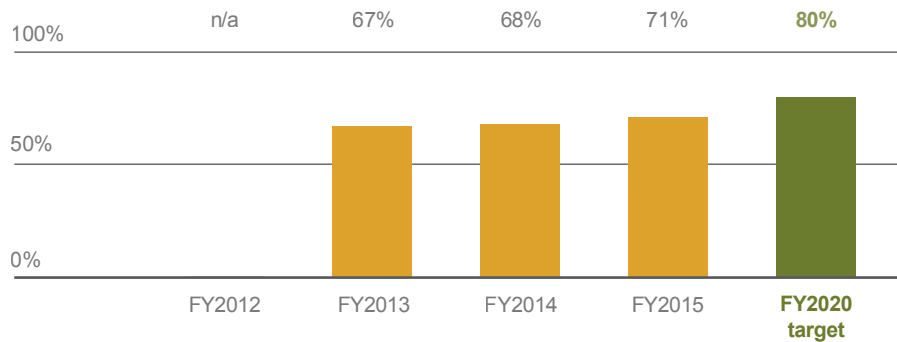
Water

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Progress towards targets



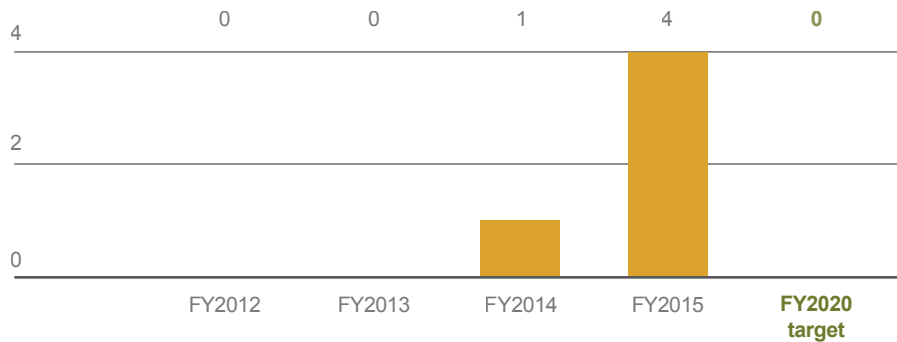
Target: Increase our absolute energy conversion efficiency to 80%¹



FY2012	FY2013	FY2014	FY2015	FY2020 target
n/a	67%	68%	71%	80%



Target: Record zero environmental releases year on year



FY2012	FY2013	FY2014	FY2015	FY2020 target
0	0	1	4	0

¹ This new KPI, which replaces our previous energy output KPI, will be a more granular indicator monitoring our ability to convert energy.



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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. Several of our stakeholders encouraged us to disclose our performance through the CDP online platform and we are pleased to report that Birla Carbon has done so for the first time. We plan to continue transparently reporting our emissions data through CDP in the future.

Energy: recovery and positivity

Efficient energy use and recovery is critical to our business. This is why we decided to revisit our "net energy output intensity"² KPI and replace it instead with a more granular indicator monitoring our ability to convert energy. The new "energy conversion efficiency" KPI compares on a CO₂-equivalent basis the overall energy output relative to the equivalent energy input in all forms, within our boundaries.

The FY2020 target is to increase our absolute energy conversion efficiency to 80%. In FY2015, Birla Carbon remained energy positive and generated surplus energy while manufacturing carbon black.

We have successfully reinforced our energy teams by introducing Regional Energy Managers (REMs) at our sites in Asia, Europe and Africa. The REMs assess the energy efficiency of each of our plants and provide local expertise and support as they implement improvement processes. Knowledge gained is then shared across the business, encouraging all of our plants to adopt similar initiatives where possible.

In FY2015, three new plants received their accreditation in the ISO 50001 standard, bringing the total to six in Europe, Africa and India. ISO 50001 stimulates organizations to establish systems and procedures necessary to improve their energy efficiency, use and consumption. Our goal is for all sites to achieve ISO 50001 in the future.

² The net output intensity is the difference between the quantity of energy that we export and the quantity we import.



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Sourcing our raw materials

Intelligent and efficient use of raw materials and feedstock, such as natural gas and oil, is crucial to our long-term viability, as well as helping to reduce 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.



Taking the Korean example

We source our feedstock oils from a variety of locations around the world. We have diversified our oil procurement in recent years considering regional suppliers as much as possible. This approach reduces our carbon footprint with no compromise on quality.

One region that has recently reviewed its oil procurement process and feedstock diversification is Europe and Africa. A team led by the regional Technology Manager, David Nuñez, was formed to tackle this situation. Inspired by the success of our Korean sister plant in FY2013, the European team traveled to Yeosu, Korea, to gain a better understanding of how diversification was achieved there through SOE and best practice sharing. The Korean experience showed us that it is possible to find solutions that are closer to our operations and more sustainably viable.



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Investing in world-class facilities

To improve efficiency, we are upgrading and enhancing our old plants, while developing a new generation of facilities. In FY2015, we invested \$22.1 million in state-of-the-art technology to help us maximize the efficiency of our manufacturing processes and enhance our environmental performance.



Greenfield plant in China

Birla Carbon's SOE ambition is reflected in its plans to build a new greenfield production facility (or "greenfield") in China. The new facility will be a joint venture between Birla Carbon and China's Jining Carbon Group. The plant will be built just north of Jining City, Shandong province, China, and will be constructed in two phases, with an expected final capacity of 240,000 tonnes per year.

The plant has been designed with Sustainable Operational Excellence (SOE) in mind: the best available technologies will be deployed, ensuring that its direct CO₂ emissions per tonne of carbon black produced will be even lower than the current benchmark, while the selected boiler and dryer will minimize NO_x emissions and operate at maximum efficiency by extracting thermal energy from the steam turbine. Furthermore, the plant will produce a large amount of energy through steam and electricity for local industries and communities. This greenfield facility will have a lower overall impact on the surrounding environment. Production is expected to commence in 2019.



45%

Direct CO₂ emission intensity reduction target achieved



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Complying with international laws, standards, codes of conduct and our own business principles is fundamental to Birla Carbon as it helps us to operate responsibly, mitigate risk and build trust with stakeholders. Compliance with laws is also a basic expectation of our customers and stakeholders. We recognize we must act responsibly in our interactions with the world around us. As responsible stewards of the resources that we manage, we adopt international standards to guide our actions and take greater ownership of our role in our industry.

Management systems

All of our operating manufacturing plants are certified to the ISO 14001 Environmental Management Standard. Six of our plants are already accredited to the ISO 50001 standard related to energy management and three have obtained the Aditya Birla Group's Corporate World Class Manufacturing (WCM) certification, a Group-wide initiative that promotes and supports the highest standards in manufacturing and production. Meeting all relevant environmental standards will help us strengthen our industry-leading position, and our goal is for all sites to achieve WCM and ISO 50001 in the near future.



World Class Manufacturing

Following in the footsteps of its parent company, the Aditya Birla Group, a framework of best practice excellence named World Class Manufacturing (WCM) is currently being introduced to all Birla Carbon sites. The WCM 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 of Birla Carbon's sites to gain a greater understanding of the significance of business excellence.



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The Birla Carbon Environmental Audit Program not only reviews the requirements of the ISO 14001 certification, but also includes biennial safety and compliance audits conducted by Health, Safety & Environment (HS&E) corporate staff and outside auditors. These audits 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 by the Corporate HS&E Managers on a monthly basis.

Air emissions

We monitor our air emissions to ensure compliance with local regulations where we operate. We have policies and procedures in place so that, in the case of noncompliance incidents, we can notify the local authorities and take action as soon as possible. To meet and exceed evolving regulatory standards, Birla Carbon continues to work on technology improvements such as state-of-the-art filter materials, which ensure maximum recovery of carbon black particles. In addition, we proactively evaluate innovative global technologies relating to air emissions for applicability to all our operations.

During FY2015, and in response to up-coming regulatory requirements, we have evaluated potential technologies that will more effectively manage flue gas desulfurization. An offset from this process is an increase in gypsum generation. We are currently working to support plants to better manage this by-product and find beneficial uses for it.



Keeping track of our efforts

Our Sustainable Operational Excellence strategy can be seen in how we monitor our facilities in terms of Health, Safety & Environment (HS&E). Audits in this area are conducted on each site every two years. In FY2015, our site in Hungary underwent a four-day environmental audit by a third party. The review of our compliance with current permits and authorizations, regulations and recordkeeping requirements produced zero observations, marking a first for Birla Carbon in our drive for excellence.

Another site that leads the way in environmental practices is Hamilton, Canada. As well as being a founding member of the Hamilton Air Monitoring Network, the site was also recognized in April 2015 as an Energy Saving Champion committed to conservation and sustainability for a healthy environment and cleaner Ontario. The award was achieved through the successful implementation of multiple energy projects, including lighting upgrades and improving energy consumption initiatives.



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Empowering our people and sharing best practices

This year, we continued to focus our efforts on sharing best practices across our facilities. The best practices system is a methodology by which the best safety, quality, operating and maintenance techniques can be transferred across all 17 operating plants, to ensure that all of the plants can perform to their optimum potential.

Progress is measured through quarterly scorecards, detailing how each plant has implemented best practices. In FY2015, 16 changes or additions were made to the existing 410 best practices.

We hold quarterly reviews with a special focus on energy and emission control. In FY2015, we have also circulated specific training modules on boiler and turbine operation and held three knowledge improvement seminars.



\$22.1M

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



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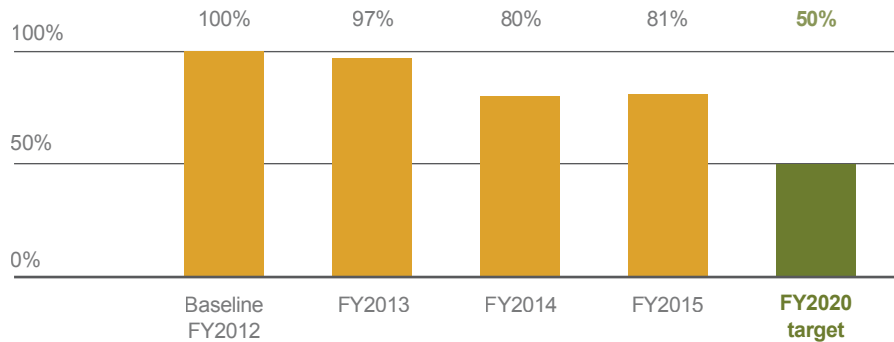
Water

As water is an essential resource that is used by everybody around the world, industries like ours must set an example in its responsible use and management. Effective water stewardship has to be a priority, particularly in water-scarce areas where we operate. With this aim, we recently assessed all of our plants to identify the most vulnerable, in order to effectively concentrate our efforts. Our water strategy centers on minimizing the amount of water we draw from natural and municipal sources, through reusing process water and harvesting rainwater. Understanding our water cycle will help us reduce our overall footprint and preserve this precious natural resource.

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 sites³



Baseline FY2012	FY2013	FY2014	FY2015	FY2020 target
100%	97%	80%	81%	50%

³ This KPI has been adjusted to focus on the manufacturing plants identified as high and medium risk based on our water vulnerability assessment.



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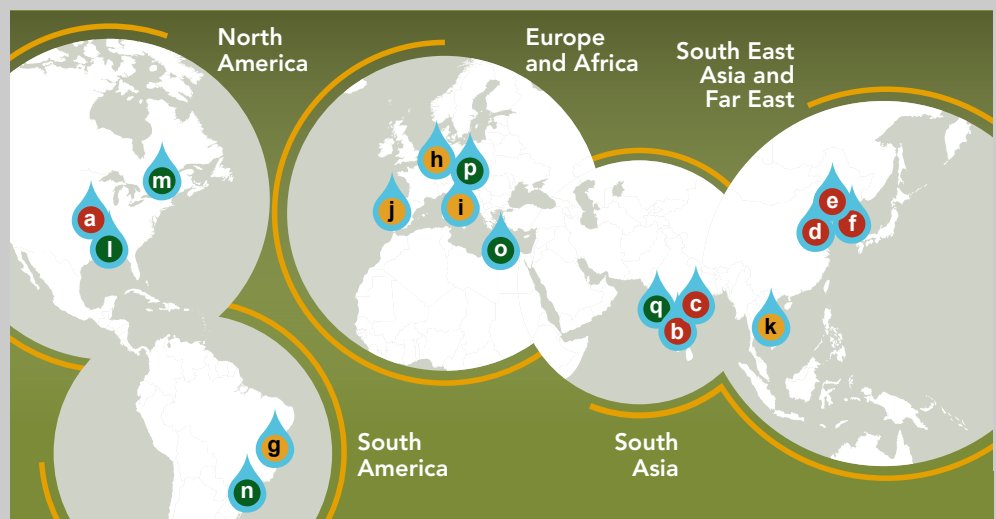
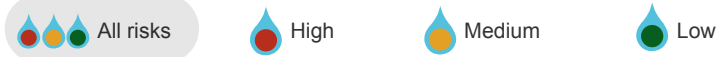
Waste

Assessing our water footprint

To better focus our water actions, we have partnered with the [World Business Council for Sustainable Development \(WBCSD\)](#) and the [World Resources Institute \(WRI\)](#) to assess the water stress level at each of our manufacturing sites. We classified our plants into three risk categories (high, medium and low) using the data generated by the WRI's [Aqeduct](#) tool. As a result, we have decided to revisit our global water KPI and instead replace it with an equivalent focusing on the high- and medium-risk locations.

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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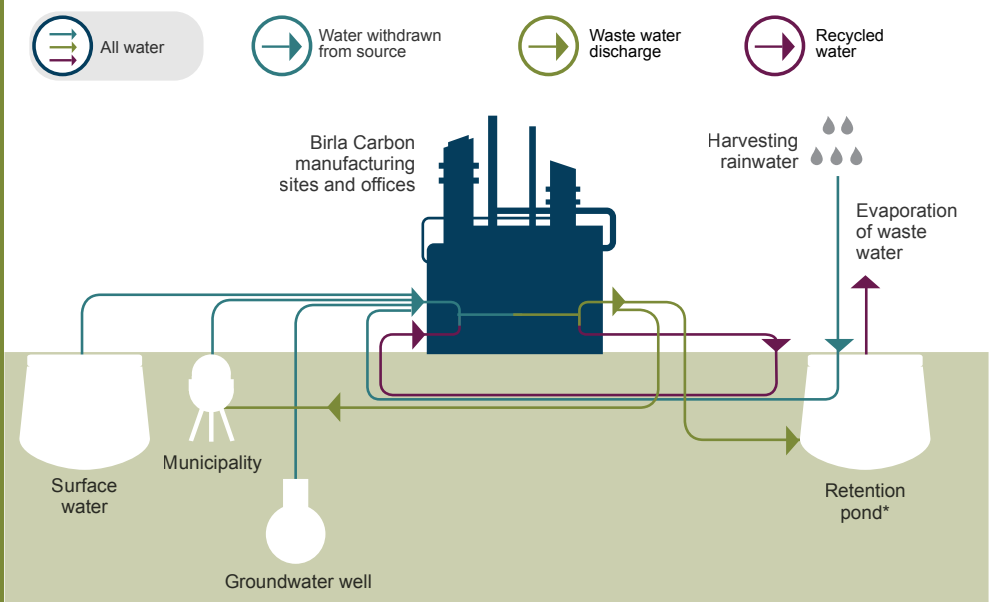
Waste

Water cycle at Birla Carbon sites

We recycle and reuse water wherever we can. For example, once water has been used in the manufacturing process, it is directed into retention ponds so it can be re-directed into the process. Our water conservation best practices are shared across all of our locations as part of our SOE strategy.

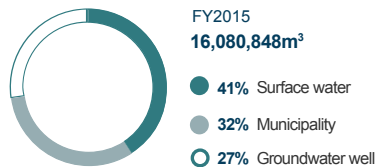
Our water cycle

The water cycle at Birla Carbon sites

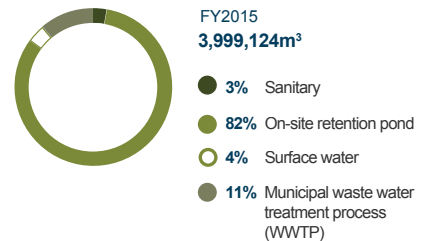


*Approximately 2,808,987m³ (15%) reused from retention ponds in FY2015. Recycled process water and rainwater is collected in retention ponds and pumped back into the process.

Water withdrawal by source



Water discharge by destination





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Fighting drought in Brazil

Certain regions of Brazil faced their worst drought for 80 years during FY2015. As this crisis was a reality for São Paulo state, our Cubatão plant team launched an internal campaign to raise awareness for employees and contractors. Furthermore, the plant implemented measures to offset the impact of the drought.

These measures included installing overhead pipes to replace underground piping, the installation of new hydrometers and the intensification of inspections to identify and fix any leaks. The measures led to greater control of water use. "Water rationing is a reality in São Paulo City, which means it is vital that we protect this natural resource. In this context, this campaign is so important," said Alessandra Gomez, Sustainability Director, South America.



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Saving water in Gummidipoondi, India

Our Gummidipoondi facility faces a difficult situation: it is located in an area afflicted by water scarcity, yet requires a large quantity of water per day to operate. Water is brought in from surrounding wells, but its inconsistent quality requires a purification process, which leads to significant water loss. Furthermore, the carbon black operations at Gummidipoondi produce large amounts of effluence and use water for cooling processes and reactor cleaning.

The local process development team considered these problems and identified solutions, which included: stopping the flushing of water during the cooling process; the deployment of a vacuum pump to remove water from collection tanks for its reuse within the facility; diverting the water used to clean the reactor into a purification facility; and the recycling of effluents into cooling processes through treatment. These solutions were effective means of drastically reducing the amount of water lost through our processes and responsibly preserving this natural resource in an area in which water is scarce.



9 of our 17

manufacturing locations had zero industrial waste water discharge



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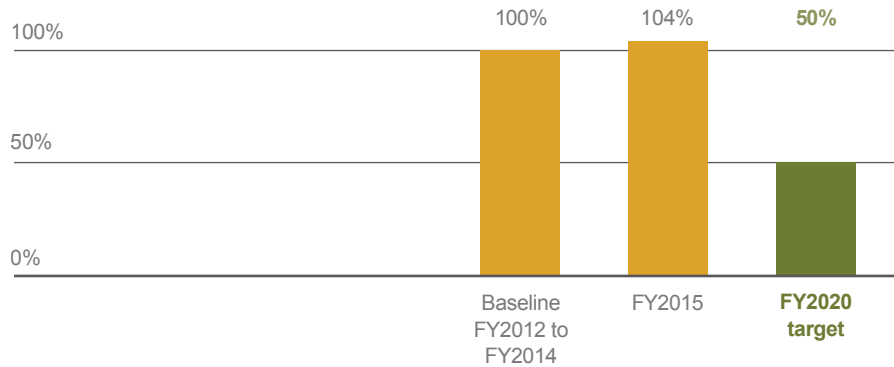
Waste

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 must implement strategies to reduce, reuse and recycle the waste generated by our processes.

Progress towards target



Target: Reduce by 50% our waste generation intensity (t/t_{carbon black}) against FY2012–FY2014 average baseline⁴



Baseline FY2012 to FY2014	FY2015	FY2020 target
100%	104%	50%

⁴ This KPI has been adjusted to reflect the cyclical nature of our waste generation by considering three-year rolling values.



50%

waste generation intensity reduction over the next three years



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Waste management

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. We also work with organizations such as Repasak® 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. We also sent self-assessment questionnaires to the sites in FY2015 to help them review how their operations generate and manage waste. Carbon black that does not meet our high quality standards is reused as much as possible in the manufacturing process, rather than being discarded. We encourage all of our sites to adopt this approach.

We are innovating our waste management initiatives by sharing best practices across our sites. An example of a best practice shared is in Brazil, where the superbulk bags, containing up to 1,000 kg, are reused six times before they are sent off-site to be recycled by a third party.

Some of the solid waste that we generate is disposed of annually, but other wastes collect over time, such as those generated by regular turnaround operations, including residual oil in our storage tanks or retention pond clean-ups. To reflect this cyclical waste generation, we determined a more representative metric and adjusted our KPI to better track and monitor our solid waste generation intensity over a three-year cycle.

Ultimately, we are responsible for the safe disposal of these materials, the wellbeing of our employees and the communities where we operate.



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Building lasting relationships

Our leadership depends on maintaining strong relations with suppliers and customers.



Establishing an ethical supply chain

We work closely with our customers and suppliers to ensure that ethical standards are maintained across our supply chain.



CUSTOMERS AND SUPPLIERS

Customer engagement

Supplier management

Sustainable longevity



Our presence in the carbon black industry goes back 100 years. We want to ensure that we're still around 100 years from today. One very important key to our longevity is sustainability because this is the only guarantee of a sustainable future, not only for business, but for the planet."

Rahul Kohli, Chief Marketing Officer

Our key figures



57%

Achieved a score of 57% on EcoVadis survey



100%

of feedstock suppliers reviewed for sustainability activity



60

trees planted with customers at our facility in Patalganga, India



CUSTOMERS AND SUPPLIERS

Customer engagement

Supplier management

Customer engagement

Our business depends on building partnerships with our stakeholders, especially our customers. Our trust-based relationships are driven through our five values: Integrity; Commitment; Passion; Seamlessness; and Speed. By carefully nurturing these ties, based on a consistent high quality product, excellent service and global supply security, we can build strong and lasting links with our customers.

How we engage with our customers

Our objective is to develop long-term relationships through customer engagement that align our sustainability agendas. To achieve this objective, we have established a cross-functional engagement model, through which we deploy our key account management (KAM) program.

This engagement model is designed to increase touch points within the customer's organization, enabling us to remain aligned to their priorities and focus on building truly valuable partnerships. Our success is assessed by the extent to which our product portfolio interests our customers. Based on these engagements, we have also been able to develop timely new products to meet customer needs.



Putting down roots with our customers

During their visit to our Indian plant at Patalganga, customers have been creating lasting ties of a different kind: by planting trees. Each tree bears the name of its planter, and is cared for, watered and maintained by local personnel. To date, the roots of over 60 trees have been firmly embedded, as a symbol of the long-lasting ties built between Birla Carbon and our customers. On an annual basis, two photos are sent to the tree planter by Unit Head Vinay Bhalero and Chief Marketing Officer Rahul Kohli: one of the tree when placed in the ground, and another showing how thick, deep and lasting these bonds have grown.



CUSTOMERS AND SUPPLIERS

Customer engagement

Supplier management

Customer Satisfaction Survey

To facilitate an open dialogue with our customers, we launched an annual Customer Satisfaction Survey in FY2014. The second annual survey held in FY2015 provided us with valuable feedback: our customer satisfaction levels continue to be high.

In addition, we have implemented the Net Promoter Score (NPS¹), which asks our customers to rank Birla Carbon's performance against our peers. NPS is currently being rolled out across all of the regions; results and subsequent action plans will be developed accordingly.



Birla Carbon: 'a visible sustainability leader'

EcoVadis, a third-party consultancy specialized in Supplier Sustainability Rating, assessed Birla Carbon's profile on key sustainability indicators in March 2015. The assessment includes a comparison with over 150 other suppliers from related industrial sectors. Overall, we scored 57%, an improvement on our previous score of 52%, achieving a strong 'Silver CSR Rating'. More importantly than the score itself, it places us in a top-10% leadership position within our supplier group.



Of significance, we achieved best-in-class scores for three of the four performance categories: Environmental, Labor and Fair Business practices. Our points of improvement were accentuated by our score on Sustainable Procurement practices. While the score in this area was less positive, we believe that this relates more to the limited visibility of our practices, rather than the practices themselves. It is our intention to reverse this perception during FY2016 by reinforcing our leadership position with a 'Gold CSR Rating' in the near future.

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



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Customer engagement

Supplier management



Key Account Management (KAM) program developed to foster stronger customer relations

Sharing sustainability strategies

Transparency is key to building joint strategic sustainability approaches. Our customers regularly visit our manufacturing locations and offices to conduct audits, during which they review our processes. Our customers highly value global supply security, which our business continuity strategy and risk management approach is designed to ensure.

In FY2015, we engaged with several of our customers and their sustainability teams to discuss and review our materiality assessment. We also discussed our carbon black [Life Cycle Assessment](#) approach, supporting their own product LCAs.

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

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.



OUR APPROACH

GOVERNANCE AND ETHICS



PRODUCT RESPONSIBILITY



ENVIRONMENT



CUSTOMERS AND SUPPLIERS



OUR PEOPLE



COMMUNITIES



CUSTOMERS AND SUPPLIERS

Customer engagement

Supplier management

Supplier management

Our trusted supplier network includes vendors from around the world. Maintaining close and effective relationships with local, regional and global suppliers is key to Birla Carbon's success. Our suppliers' behavior reflects on us; we have to work with them to ensure they uphold 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 supplier base includes: vendors; service providers; contractors; distributors; and agents.

In FY2015, we decided to extend our values and ethics to our key suppliers, rather than develop an entirely separate code of conduct for suppliers. The decision means that all suppliers above a certain monetary threshold will be invited to uphold the principles contained in our [Code of Global Business Ethics and Compliance Standards \(Code of Ethics\)](#). New vendors will also be asked to uphold the code before initiating business with Birla Carbon.

We understand that this is an ambitious task, and that it will take our suppliers time to align to the principles of our Code of Ethics. In the future, in addition to our current qualification process, which includes a supplier quality rating (SQR), it is our intention to select our upstream partners based on their environmental, ethical and social performance.

Feedstock supplier sustainability assessment

We aspire to achieve sustainable procurement for our operations. To achieve our ambition, we recently reviewed all of our global feedstock suppliers and their business practices, using publicly available information from their websites and other sources. Our feedstock suppliers are often subsidiaries of larger companies, which we also evaluated. Suppliers were rated based on the quantity and comprehensiveness of the available information.



100%

of feedstock suppliers reviewed for sustainability activity

Response planning and preparedness

To maintain uninterrupted carbon black delivery to our customers, it is important that both our sites and our suppliers have inventories available at all times. Difficult pricing scenarios require us to adapt our approach to inventory management – and the same is true for our suppliers. Our Business Continuity Plans and Crisis Management Response Guidelines provide solutions for these different scenarios. For instance, our contract supplier agreements allow us to source raw materials with minimal risk. A list of approved and certified alternative suppliers is maintained for emergencies, with quality assurance performed on-site by a third party.



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COMMUNITIES



Attracting the best talent

Attracting and retaining the best talent is a fundamental driver of our continued success.



Listening to our people

We help employees build careers through opportunities and continuous engagement.



OUR PEOPLE

Health and safety

Attracting and retaining talent

Employee engagement

Prioritizing keeping our people safe



The health and safety of our workforce is the bedrock of our culture of safety excellence. We educate both our employees and contracted workers about the risks that are present throughout our operations. Ultimately, we strive to sustain a safe working environment for all."

Randy Waskul, Global Director of Health, Safety & Environment

Our key figures



47%

reduction in Total Recordable Incident Rate from FY2014–FY2015

0

12

sites that had no injuries in FY2014–FY2015



78%

average company managers hired from the local community



OUR PEOPLE

Health and safety

Attracting and retaining talent

Employee engagement

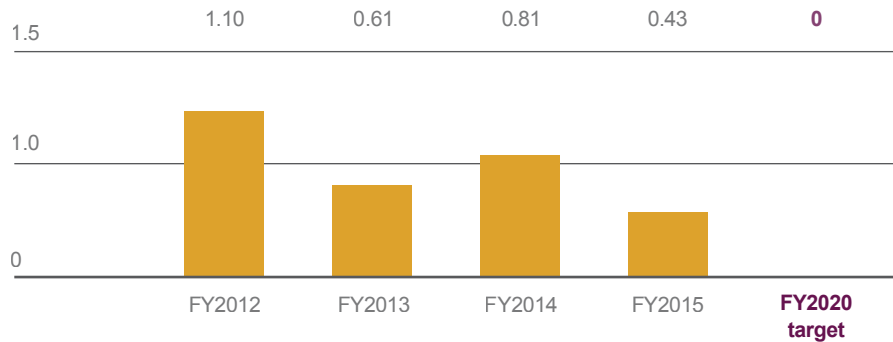
Health and safety

The health and safety of our people is paramount. Our aim is to create a culture of safety excellence throughout Birla Carbon. This culture begins with leadership: establishing a clear vision, communicating specific expectations for safe behaviors, aligning the organization with the vision and expectations, and ensuring that people are held accountable for their actions. Our approach is to engage people in identifying and managing health and safety risks at all of our sites, for our employees and the contracted workforce. We apply all of our standards and procedures, while communicating safety messages, in an appropriate, relevant way across our plants.

Progress towards target



Target: Achieve zero recordable injuries year on year (employee Total Recordable Incident Rate) ¹



FY2012	FY2013	FY2014	FY2015	FY2020 target
1.10	0.61	0.81	0.43	0

¹ Our employee and contractor Total Recordable Incident Rates reported last year were corrected after a closer review of the data from all of our sites.



OUR PEOPLE

Health and safety

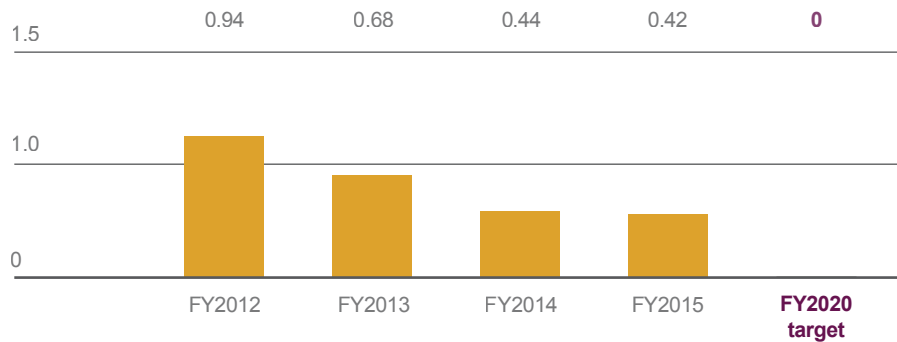
Attracting and retaining talent

Employee engagement

Progress towards targets



Target: Achieve zero recordable injuries year on year (contractor Total Recordable Incident Rate) ²



Baseline FY2012	FY2013	FY2014	FY2015	FY2020 target
0.94	0.68	0.44	0.42	0

² Our employee and contractor Total Recordable Incident Rates reported last year were corrected after a closer review of the data from all of our sites.

How do our health and safety programs work?

Our goal is active risk management through clear standards, education, training, auditing and follow-up to reinforce accountability. Health, safety and environmental responsibilities are taught to all of our people on induction, and reinforced by regular training.

Over the last two years, in addition to regulatory requirements and recognized industry best practices, we have developed a range of global standards based on our own review of historical incidents and near-misses at our sites. Each plant is responsible for implementing and monitoring the progress against these standards, and producing a monthly report by our Senior Management Team. All sites are also audited at two-year intervals to assure compliance with regulatory requirements and company standards, as well as to identify and share best practices.



OUR PEOPLE

Health and safety

Attracting and retaining talent

Employee engagement

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.



GOVERNANCE AND ETHICS



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OUR PEOPLE

Health and safety

Attracting and retaining talent

Employee engagement

Safety 24/7

In FY2015, we implemented a safety leadership training process, known as Safety 24/7, focusing on the roles and responsibilities of leaders in sustaining a culture of safety excellence.

A core element of this training is the expectation that every person at every level is responsible and ultimately accountable for their personal safety as well as the safety of those around them. This training emphasizes employee engagement at all levels through daily safety contacts and conversations around management of specific risks and behaviors. The training was successfully provided at all but two of our manufacturing locations during FY2015, 12 months ahead of our planned schedule.

We recognize that our current set of safety KPIs are insufficient to accurately track the progress of our culture of safety excellence. This is why, in addition to the conventional injury rates, we are looking at several other leading indicators to enable us to monitor the effectiveness of our safety and health programs and measure improvement.



HS&E week in Brazil

Our Cubatão and Camaçari plants in Brazil held a Health, Safety & Environment (HS&E) Week with the participation of employees and contractors. Based on the Safety 24/7 concept, the event focused on safety behavior and employee awareness for incident and accident prevention. A theater performance depicting "Man and the Environment" closed the week, highlighting man's effects on the natural world.



OUR PEOPLE

Health and safety

Attracting and retaining talent

Employee engagement

Occupational health risks



It is important that our employees understand the risks associated with working in our manufacturing plants and comply with our own safety standards. There are five key risks that each 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.

Protecting our contractors

While our Total Recordable Incident Rate (TRIR) indicators improved globally in FY2015, we are saddened to report unfortunate contractor fatalities at two of our locations. In July 2014, a contractor supervisor at our Patalganga facility, India, fell through an opening in a work platform after crossing into a barricaded area. In March 2015, a contractor employee fell after disconnecting his safety lanyards to climb out of the area where he was working at our Gummidipoondi site, India. These tragic incidents demand that we accelerate our transition to a culture of safety excellence.

Changing our health and safety culture on our sites depends on working closely with our contractors; Birla Carbon is currently implementing a global standard to improve contractor management. This standard was developed through a contractor steering committee comprising representatives from operations around the globe, reflecting current best practices in all regions.



OUR PEOPLE

Health and safety

Attracting and retaining talent

Employee engagement

The core elements of this standard are:

- a rigorous qualification process to ensure that only contractors that meet our health, safety and environmental requirements are approved to work on our sites. Hiring better qualified contractors will result in better safety performance;
- better management and accountability for contractors while working on-site; and
- post-work contractor evaluation on health, safety and environmental performance for consideration for future collaboration.

Auditing our performance

In FY2015, a total of 16 audits were conducted at our sites; seven for health and safety and nine for environmental performance. Findings from all of the audits are now entered and tracked through Enablon, our integrated Sustainability Management System, which was recently implemented globally. This system enables us to share and compare data between facilities to better gauge specific situations and issues. Enablon also allows us to devise and track action plans, ensuring their completion and reinforcing the accountability of sites and individuals.



Creating a safety culture in Alexandria, Egypt

Health, Safety & Environment (HS&E) training was delivered to all of our employees in FY2015, focusing on how to increase the involvement and accountability of managers, supervisors and employees to foster a safer working environment. After the training, the management group in our facility in Alexandria decided to impart what they had learned to their contracted workforce.

As a result, the facility has experienced a reduction in both the frequency and severity of near misses and injuries, increased employee engagement, improved job planning and integrated risk assessments into daily activities. The training has increased responsibility in the facility, with both the employed and contracted workforces putting more effort into looking after each other, and taking a crucial step towards a culture of safety excellence.



47%

reduction in TRIR year-on-year



GOVERNANCE AND ETHICS



PRODUCT RESPONSIBILITY



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OUR PEOPLE



COMMUNITIES



OUR PEOPLE

Health and safety

Attracting and retaining talent

Employee engagement

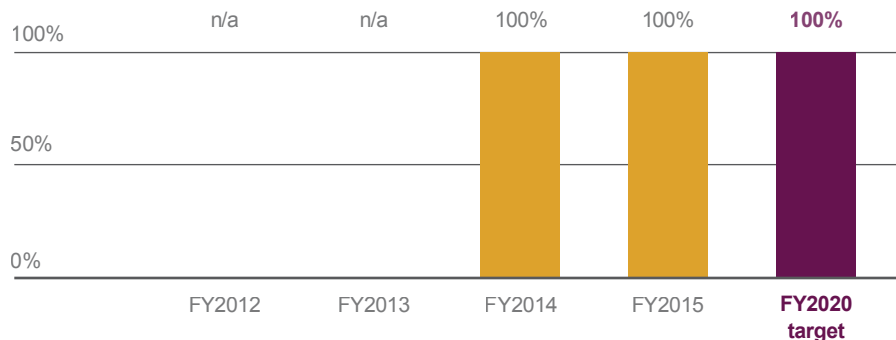
Attracting and retaining talent

Developing and promoting internal talent from within Birla Carbon is instrumental to our people strategy. We assess internal candidates for their potential to take on enhanced responsibilities and leadership roles where possible. Through our support of *A World of Opportunities*, the Aditya Birla Group's Employee Value Proposition, we offer our people exciting opportunities for their career development, recognition and overall wellbeing.

Progress towards target



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



Baseline FY2014	FY2015	FY2020 target
100%	100%	100%



OUR PEOPLE

Health and safety

Attracting and retaining talent

Employee engagement

How do we attract talent?

Our goal is to become a recognized global employer of choice to help drive our business growth and geographical reach. To achieve this, besides robust hiring strategies, we focus on internal talent development, targeted internal movement and continuous engagement.

Engaging and attracting the next generation of engineers and scientists remains crucial for our business growth and advancement. To attract this talent, we are building partnerships with local colleges and universities in the regions where we operate. Our internship opportunities provide a realistic work experience while enabling us to assess an intern's potential for a long-term hire. In FY2015 we provided technical internships to 61 students.

We also provide internship opportunities to participants who qualify for the Aditya Birla Group Leadership programs, generally for Business Management graduates from leading schools and universities in India and Asia. In FY2015, 12 participants completed three-month internships within Finance, Plant Operations, Technology, Marketing and Human Resources.

We encourage our people to continue learning throughout their career by providing multiple opportunities and platforms. Our managers and full-time personnel are supported in the implementation of both regional and local strategies to improve their management skills and competencies. The aim is to enable our employees to meet their career aspirations, assume multiple roles within the company and perform successfully.

Management Development Program

The Management Development Program, launched in FY2014, continues to offer employees within the management cadre an online tool to help them track their development. With the assistance and support of their supervisors, employees are able to influence their career progress by selecting from various learning platforms, in the form of over 200 e-learning courses, on-the-job learning, external classes, conferences and short-term assignments. To date, 100% of employees in the management cadre training have a customized and documented Management Development Plan.

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.



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Taking PRIDE in a successful project

A change that affects an entire organization will always require hard work and dedication to ensure that it is implemented successfully. The company-wide rollout of SAP over the last two years has been no exception. Under Project Fusion, the rollout generated a visible interest, not least when a group of over 50 people congregated in Marietta, USA, to initiate the first phase (Blueprint Phase 1) in March, 2013. The team then dispersed across the regions, overcoming the challenges of expatriation and moving to new locations, cultures, languages and time zones.

Working together through seamless communication, the Project Fusion team dedicated time away from their family to ensure the success of the rollout. The effort demonstrated by the team, as reflected by the timely completion of the SAP implementation, saw many members receive PRIDE awards for their outstanding contributions.

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. In FY2015, nine individual Birla Carbon employees won recognition and one of our teams received a competition award.

Career movements with Birla Carbon

Over the last year, 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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Interview with Mark Bass, Global Head of Sales, Specialty Blacks Business

Mark was promoted from Sales Director, Rubber Blacks, North America, to Global Sales Head, Specialty Black Business. The role involved a physical move: from Marietta, USA, to Bangkok, Thailand.

What thoughts did you have when considering the move?

The prospect of becoming the Global Head of Sales for our Specialty Blacks Business presented several opportunities for me. On the one hand, there was the obvious professional development associated with increased global responsibility; on the other, the move gave me the opportunity to build a team in a growing area of the business, and to live abroad with my family.

How easy was the transition? What support did you get from Birla Carbon?

While moves of this nature are unavoidably hectic, Birla Carbon offered support in Thailand and at home (USA) to make the transition as smooth as possible. This included a wide variety of activities: from assistance with the visa and immigration process to making sure that my family was settled and informed in Thailand, as well as helping take care of the home that I was leaving in USA. I was and continue to be especially pleased with how the company has responded to the needs of my family, as their support has been key to the success of our move.

Would you advise employees to consider making similar moves, where possible?

The answer certainly depends on the individual and their – and especially their family’s – inclination for living and working abroad. It’s an adventure and can prove both serendipitous and unexpectedly challenging, sometimes in the same day. The experience has thus far proved rewarding for my family, and we would most certainly recommend an international assignment for anyone who is open to the idea of living and working in another country and a very different culture. It will not always be easy but the difficulties are far outweighed by the experience and what you learn about yourself.



78%

of managers hired from the local community



OUR PEOPLE

Health and safety

Attracting and retaining talent

Employee engagement

Employee engagement

Engaged employees deliver value to our stakeholders and to our business; for this reason, it is vital that our employees align with our vision and culture. In view of our geographical footprint, we employ people from diverse cultures and backgrounds, and our employee engagement strategy reflects this.

Employee wellness

Birla Carbon aspires to create a positive working environment for its employees. Caring for their wellbeing is an integral part of our relationship with our workforce, and we provide opportunities to support them to lead healthy lifestyles.



Working better together in Korea

Our Korean unit held two workshops to promote interaction between the company and employees in FY2015. The "One-Mind Workshops," which lasted for two days, aimed to create a more united, healthier and stronger workforce.

The first workshop, held in October 2014, focused on how to create a better workplace in three key areas: preventing sexual harassment; managing healthcare; and working together to develop a stronger organization. The follow-up event, held in November 2014, required employees to build teamwork by physically working together in outdoor activities, including mountain climbing.



OUR PEOPLE

Health and safety

Attracting and retaining talent

Employee engagement



wbcSD water



WASH Pledge: safe water access for employees by 2018

Experts believe that more than 1.8 billion people lack access to safe drinking water worldwide, while more than 4 billion lack access to adequate sanitation. 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](#) in FY2015, committing to achieve this target globally by FY2018. We have begun a company-wide self-assessment to identify our WASH gaps, in order to develop specific action plans for rapid execution.

Supporting diversity in the workplace

With operations in 14 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 conducive to career advancement.

In FY2015, 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 of 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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Employee engagement



Self-defense in Europe

In December 2014, self-defense courses conducted by local police departments were offered to female employees at our locations in Santander, Spain and Hanover, Germany. Topics included proper techniques for falls, protective actions and striking an attacker. Twelve women participated in the four-hour course, and the overall response was very positive.

“It was a good opportunity to learn how to act in dangerous situations,” said Noelia Domínguez (Spain). According to María González (Spain): “Everybody needs to do this training. It not only builds your confidence, but makes you feel safer, too.”

Employee feedback

By encouraging continuous dialogue with our employees, we gain a better understanding of their expectations. Birla Carbon conducts an employee engagement survey, 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.

The FY2015 Vibes survey, which had a 97% response rate, generally revealed that employees like Birla Carbon’s ability to adapt to changing marketplace needs, and that employees feel that their work is connected with overall business objectives. Over 80% felt engaged, were satisfied with their workplace and recommend it as a good place to work. Although the survey produced positive results in general, an area of concern was Birla Carbon’s ability to find creative approaches to attracting and retaining millennials.

Since the survey’s completion, several company-wide action plans have been developed and implemented. Highlights include: increased career management initiatives for early stage professionals and young managers and technical specialists; the global implementation of an online educational system; and a redesigned global onboarding process for new employees.



2018

We are committed to providing safe access to drinking water for all employees by 2018



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Being responsible neighbors

We are committed to supporting communities and fostering positive and long-lasting changes to the quality of life in the communities where we operate.

Giving back to communities

Birla Carbon partners with local community groups to implement programs focusing on health, education, social investment and charitable giving.



COMMUNITIES

Community engagement

Changing lives



We enrich society by enlightening people's lives through education, filling the gap of primary health benefits and extending a helping hand to allow young people to become self-sufficient. We also improve the living standards in villages by partnering with government and the residents in implementing various self-sustaining and profitable projects."

Guarav Jain, Unit Head, Human Resources, Renukoot (India)

Our key figures



100%

facilities that participate in community engagement



198

mobile medical camps conducted in India in FY2015



\$250,000

committed to supporting math and science students in Marietta, Georgia

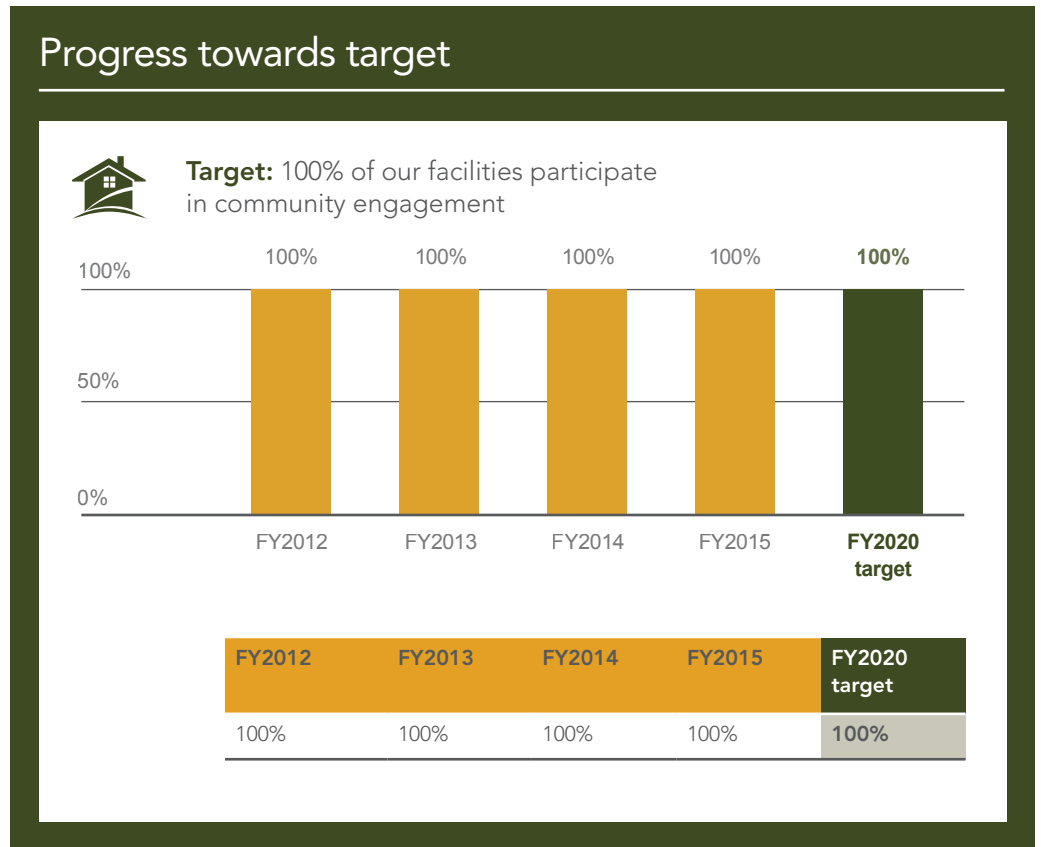


COMMUNITIES

Community engagement

Community engagement

Our approach to community relationships is localized, based on an understanding of the varying social and cultural priorities of each region. We focus on areas where we can deliver long-term socio-economic benefits, such as health, education, social support and charitable giving. We are also committed to supporting sustainable economies through skills and capacity building, assisting in establishing reliable infrastructure.



How do we understand community needs?

We know that the needs of each community vary, which is why we identify the issues of critical importance through direct interaction. This approach allows us to align our community investments.



GOVERNANCE AND ETHICS



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OUR PEOPLE



COMMUNITIES



COMMUNITIES

Community engagement

Our approach to communities

Partnerships are the foundation of our community strategy



Our strategy

Global commitment

To engage and support communities around our sites



Regional approach

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



How do we do this?



We **IDENTIFY** short- and long-term community risks



We **ASSESS** local impact and priorities of the region



We **ENGAGE** with communities to identify views and needs



We **DEVISE** relevant regional community engagement strategy and focus areas



We **IMPLEMENT** activities and investment



100%

of facilities that participate in community engagement



OUR APPROACH



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COMMUNITIES



COMMUNITIES

Community engagement

Making a long-term difference

Our involvement and support have largely been manifest in initiatives in health, education, social investment and charitable donations. From past experience, we know that the local communities can also count on us to pool resources in the case of natural disasters or extreme weather conditions.

Community Initiatives

North America

Education



The first competitors for the Kennesaw State University's \$2,000 prize, funded by Birla Carbon. Over the next five years, 10 students per year will compete for the prize through research in topics related to chemistry, biology and mathematics. The prize is to support the winning student presenting their research at a national scientific conference.

The partnership with Birla Carbon, and the provision of guidance for the researchers, is part of our investment in the workforce of the future. Birla Carbon has committed \$250,000 to support research opportunities for students at KSU's college of Maths & Science in Georgia, USA.

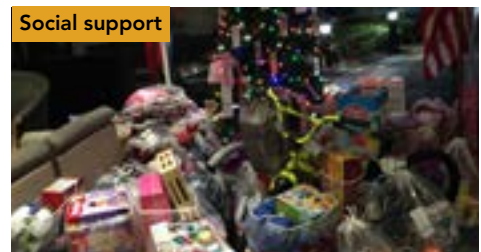
Other activities throughout the year in North America

Social support



A group of employees volunteer in an outreach event organized by United Way in Atlanta, Georgia, offering homeless people access to transitional housing.

Social support



We have supported the Angel Tree initiative for more than nine years, with employees providing gifts for around 50 underprivileged children each Christmas.



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Community engagement

South America

Education



Our facilities in Brazil, located in Cubatão and Camaçari, support the local community through educational activities, including Open Day visits to the facilities, performances and experiments.

Other activities throughout the year in South America

Charitable giving



The Cubatão workforce donates school materials to an orphanage in the community.

Education



Birla Carbon South America supported seven local students who participated in the 20th International Competition for Science, Mathematics, Mental Ability and Electronics (QUANTA), held in Lucknow, India, in November 2014.



COMMUNITIES

Community engagement

Europe and Africa

Social support



Our workforce in Alexandria, Egypt, worked together with local and regional authorities to implement a system to better dispose of waste in the community.

Working together with the Environment Ministry, non-government organizations and local authorities, our people helped implement a garbage collection and disposal system in four villages surrounding the facility. The project, which will employ 40 villagers for 18 months as sanitary workers, allowed local residents to participate in the cleaning of their local environment.

Other activities throughout the year in Europe and Africa

Education



Our operations in Spain engage in educational activities, welcoming children from the local community to learn more about Birla Carbon.

Charitable giving



Our German workforce helps out in a refugee home in Hannover-Döhren, including giving presents to the children resident there at Christmas.

Education



In Egypt, our people engage with local families, including teaching days and sports events.

Charitable giving



Our employees in Spain gather and distribute toys, food and educational material to underprivileged families and children.



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COMMUNITIES

Community engagement

South Asia

Health



Our programs in India focus on fostering economic self-reliance and development, health and family welfare, and education and capacity building.

Focusing on just the health aspect, from 2014-2015, 198 mobile medical camps were organized in the region, which treated 8,057 residents, while 5,800 children were vaccinated for polio. 1,128 women and their children received ante and post-natal care, as well as general immunization, while 270 pregnant women were supported through institutional delivery.

Other activities throughout the year in South Asia

Education



We continue to provide primary school education for children close to our facilities.

Health



Our mobile medical camps treat adults and children, offering general immunization and polio vaccination.

Social support



We offer training for farmers, and are active in the community, donating clothes to those in need.

Social support



Our programs in India also include vocational training for young people, particularly women.



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COMMUNITIES

Community engagement

South East Asia and Far East

Social support



Our offices in Thailand organize initiatives for local communities, including the repainting of a children's playground and the repair and repainting of fencing in the Hua Pai community.

Other initiatives include mobile health check-ups for Hua Pai, Jampalor and Posa communities.

Other activities throughout the year in South East Asia and Far East

Social support



At our facility in Weifang, China, employees donate clothes to those in need, including a local retirement home and a nurse suffering from cancer.

Charitable giving



In Korea, employees contribute time and funds to help the underprivileged in the community, providing food and support.