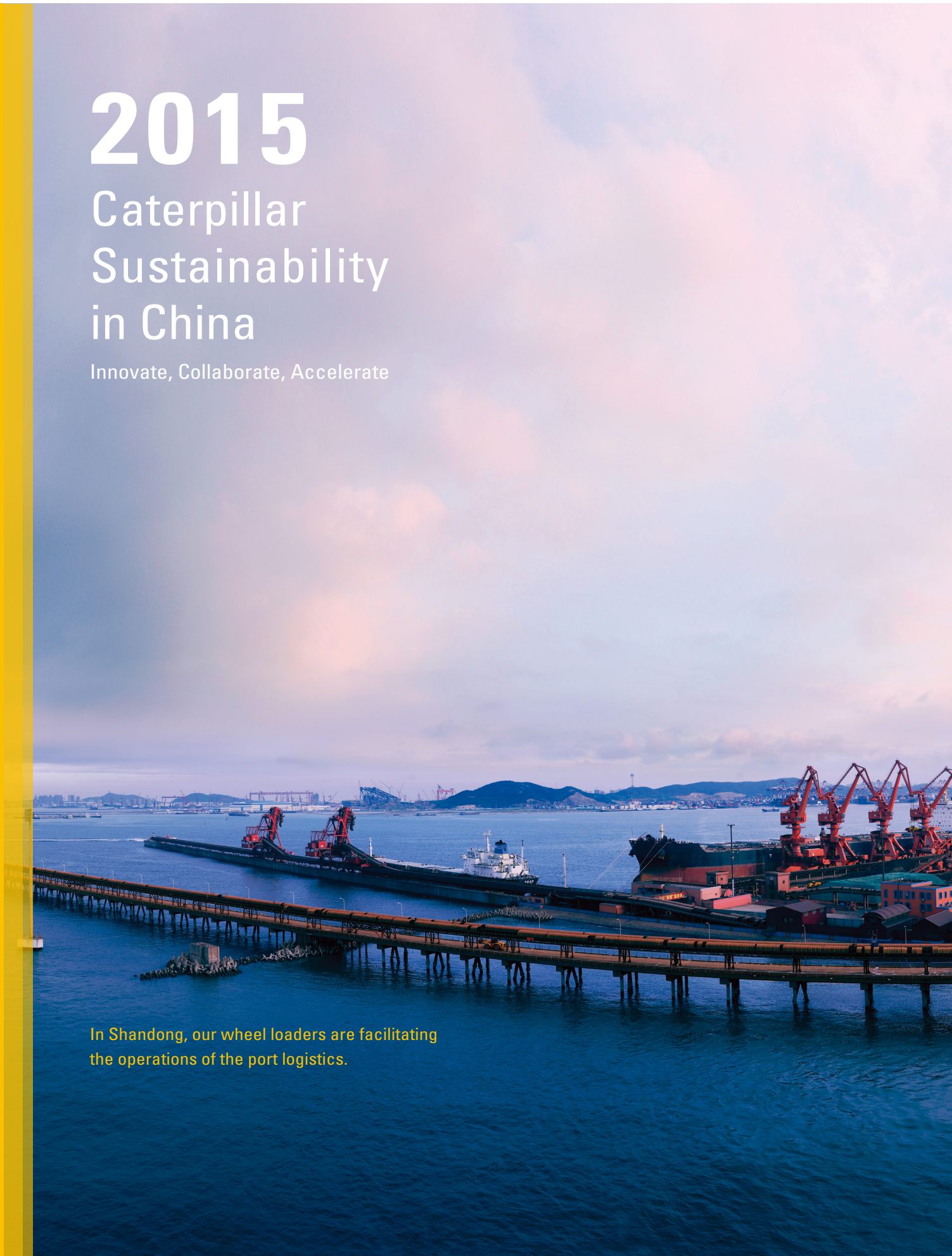
CATERPILLAR®

2015 Caterpillar Sustainability in China

Innovate, Collaborate, Accelerate



In Shandong, our wheel loaders are facilitating the operations of the port logistics.

Content

About This Report

Caterpillar has championed efforts to maximize life cycle benefits of our products, while also minimizing the economic and environmental costs of ownership and use, making sustainable progress possible.

When preparing this report, we referred to the three national standards developed by the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China (AQSIQ) and the Standardization Administration of the People's Republic of China (SAC), with the ISO26000 standard as the basis. The three national standards include: GB/T 36000-2015, *Guidance on Social Responsibility*; GB/T 36001-2015, *Guidance on Social Responsibility Reporting*; and GB/T 36002-2015, *Guidance on Classifying Social Responsibility Performance*. The report is structured based on the seven aspects suggested by the standards: organizational governance, environment, customer and value chain, community, fair practice, labor practices, and human rights.

All materials and data mentioned in this report are provided by Caterpillar China divisions and non-profit partners. The report was written to support Caterpillar China's theme of this year, "Innovate, Collaborate, Accelerate," comprehensively demonstrating Caterpillar's ideas, strategies and management approaches on sustainable development, Caterpillar's sustainable practices and performance, and the comments of stakeholders in China.

The China-specific content in this report is complementary to our enterprise Sustainability Report. For more comprehensive information about sustainability at Caterpillar worldwide, please refer to *Caterpillar's 2015 Sustainability Report* at

http://www.caterpillar.com/en/company/sustainability/sustainability-report.html

Chairman's Message

Since our first days as a company, Caterpillar has designed and built the world's most powerful, innovative and durable machines and engines. Our customers put them to work on projects that help the world grow and develop, supporting sustainable progress and improved living standards for people everywhere.

Sustainability doesn't ever go out of style or focus at Caterpillar and we are proud to live up to this commitment in China. We know sustainability is essential for economic growth; and growth is essential to our business and to the markets we serve. Whether we are in an up or a down cycle, we seize opportunities to develop even more efficient solutions for our customers and within our operations.

Although we can point to hundreds of examples in the global challenges we're helping to solve today, in this letter I will highlight only a few examples of how we innovate, collaborate and accelerate to help build a better, more sustainable world.

Sustainable progress requires energy, yet 1.1 billion people in the world lack access to the benefits of reliable electricity even today. As a major manufacturer of energy conversion and power-generation products, Caterpillar's innovation is helping to meet the world's growing energy needs.

Our products bring traditional, renewable and alternative energy options to urban, rural and remote communities. We have hundreds of distributed power generation systems operating all over the world. These systems improve energy access while emitting fewer greenhouse gases (GHG) than traditional power grid systems. We provide combined heat and power systems, and combined-cycle power systems that can double the efficiency of power generation when compared with conventional power grids.

Our energy solutions also include hydropower, methane from landfills, microgrid solutions and backup generators to supplement wind power. Cat® products have helped construct hydropower dams in every region of the world, including the Three Gorges Dam spanning the Yangtze River.

In the world's mining industry, Cat machines dig, haul and transport the copper, iron ore, gold and other commodities necessary to construct the things that keep communities connected – from bridges to railways to smartphones. Our products and services also help our mining customers be more efficient and safer on their jobsites.

Cat machines create new and repair existing infrastructure, which improves access to energy, clean water, schools and hospitals. Infrastructure also supports trade and makes it possible for workers to travel to their jobs and visit friends and families. Cat machines helped construct the South-North Water Transfer Project, West-East Gas Pipeline, high-speed rail and other significant projects in China.

We have also contributed to resource conservation since we began remanufacturing engines in 1973. For more than 40 years, we have been a big part of what is now called the Circular Economy. Through remanufacturing we return our products to same-as-when-new condition; this reduces the use of additional raw materials, ultimately enabling us to conserve precious natural resources.

Since 2005, we have operated a remanufacturing plant in Shanghai. We were honored that in 2015 *Shanghai Daily* selected Caterpillar Reman Shanghai as a leader of multinational innovation.

These are some examples of sustainable products and solutions we have brought to our customers. We also have many examples of Caterpillar's sustainability commitment to our people.

From 2014 to 2015, we continued our drive toward world-class performance in safety with a 17 percent reduction in Recordable Injury Frequency (RIF) and a 13 percent reduction in Lost-Time Case Frequency Rate (LTCFR). Our commitment to safety is unwavering, and that's why, over the last 15 years, we have improved RIF by about 90 percent. That is fantastic progress! But we know even one injury is one too many – that's why our goal is zero.

Caterpillar's Diversity & Inclusion (D&I) progress has earned several accolades, and our Employee Resource Groups help drive innovation and an environment where every employee feels heard and valued. We are committed to constant learning and improvement and are confident that D&I strengthens our team.

In addition, Caterpillar employees contribute their time and resources to promote the health and welfare of communities where we work and live. Since 1952, the Caterpillar Foundation has invested hundreds of millions of dollars to transform lives through education, environmental stewardship and emergency relief. Today, the Caterpillar Foundation invests in programs like access to clean water and better sanitation, always focused on its mission: alleviating the root causes of poverty.

Of course, even with this incredible history, Caterpillar's work is not done. We are always working to solve challenges facing the world's people. We believe it is possible to promote progress and balance economic growth with society's needs and with less impact on the environment. Finding that balance is fundamental to our sustainability commitment.

In 2015, we joined an effort to focus on restoring natural infrastructure – the forests, prairies, farmlands, wetlands and coastal landscapes that play a vital role in supporting sustainable global development. Natural infrastructure improves resilience to natural disasters like storms and floods, improves water quality and removes carbon from the atmosphere to return it to the soil, where it helps plants grow.

Also in 2015, Caterpillar entered a strategic alliance with solar industry leader First Solar to develop and distribute Cat branded photovoltaic modules for incorporation into microgrid systems that can be utilized anywhere from remote villages to mining operations. This innovative technology will help us provide power to remote places where it has been either unavailable or unreliable.

We are always innovating and improving to build products that are both valuable to our customers and more sustainable. We are applying advanced analytics and digital-driven technologies – like Cat® Connect and MineStar™ – to improve worksite efficiency. This means less fuel used, increased productivity and a safer work environment. We also offer our customers Job Site Solutions, a true collaborative effort focused on improving job site efficiency. Our solutions business model is designed to go "beyond the iron" to increase asset utilization, which is so important for our customers' sustainability goals.

The intersection of sustainability and innovation includes improving our internal operations. New process innovations – like using combined heat and power for alternative energy – are reducing the environmental impact of our manufacturing facilities. For example, as of 2015, Caterpillar has reduced GHG emissions intensity from our facilities by 32 percent compared with our 2006 base year. From 2014 to 2015, our absolute GHG emissions declined 7 percent.

We are constantly pushing to reduce water and resource usage and minimize waste in every facility. You can read more about the innovative work done through our "Smart Plant" program at our Xuzhou facility in this report, and our commitment to sustainable operations in China. These and all of our achievements are due to the ingenuity and dedication of the skilled men and women who are on the front lines, manufacturing our products.

I also believe one of the primary reasons Caterpillar has thrived in China for more than 40 years is because we are a company built on values, including sustainability, the value highlighted in this report.

I am incredibly proud of our broad and deep commitment to innovate, collaborate and accelerate and help our customers succeed. Neither our accomplishments nor our goals are small or inconsequential. Given that we are Caterpillar that should not surprise anyone.

Doug Oberhelman

Chairman and Chief Executive Officer

Caterpillar Inc.

China Chairman's Message

Since 1975, when the first shipment of large Cat® pipelayers entered this country and began a history of continuous growth and development, Caterpillar has always considered sustainability as a guidepost for our work in China. Sustainability is of utmost importance in our operations, and we have also integrated it into our culture and values.

As a leading company in infrastructure construction and energy, Caterpillar is always pursuing innovation and constantly improving its sustainability. In 2016, the company introduced the digital strategy of "the Age of Smart Iron" to promote the in-depth integration of informatization, interconnection and intelligentization in every part of our work, including design and exploration. Guided by this idea, we seek to build upon our enterprise expertise in data analysis and facilitate the transformation of the infrastructure industry, striving for the lowest cost of ownership for all our construction customers and contributing to improvements in our environment and society.

Today, Caterpillar provides support for large contractors seeking to win contracts for construction projects at home and abroad with our new solutions and technologies, and helps them boost productivity, safety and profitability to achieve true business success. Meanwhile, we continue to manage and address such issues as safety, local talent development, volunteerism and philanthropy, maximizing the economic, environmental and social benefits.

This report summarizes our sustainability achievements according to the theme of innovate, collaborate and accelerate. We have confidence in our ability to continue making sustainable progress while also meeting the needs of our changing economy. In addition to the local practices detailed in this report, we have made significant progress in promoting sustainable development in three respects:

Innovate – With globally-consistent production standards, Caterpillar has made Lean production and industry value chain integration possible in our operations in China through innovation. China's economy is now undergoing a transformation of its entire industrial structure and growth model, focusing on technologies and solutions with high added-value to meet the needs of customers. Caterpillar will continue to provide products with maximized life cycle benefits to help customers improve efficiency, decrease resource consumption and reduce waste in operations, as well as minimize environmental impact.

Collaborate – Caterpillar has a history of more than 40 years in China, thanks not only to the quality of our products, but also to our cooperation with partners. We work together with partners throughout the value chain from our suppliers to our dealers to improve the quality of management and production, strengthen talent training, implement 6 Sigma and the Caterpillar Production System (CPS) and create a more sustainable business model.

Accelerate – A values-based culture is fundamental at Caterpillar. Our Values in Action are Integrity, Excellence, Teamwork, Commitment and Sustainability. These provide a solid foundation for our growth in China. In addition to accelerating the cultivation of local leaders, Caterpillar aims to give all employees, regardless of job function, an active role to play in our values-based corporate culture, making it possible for Caterpillar China to realize global integration, strengthen our cohesion and achieve accelerated development. In addition, Caterpillar encourages our employees to involve themselves in volunteer activities in areas such as education and the environment. By bettering our local communities, the Caterpillar Foundation helps bring us closer to a future where everyone in China may benefit.

In recent years, the *One Belt, One Road* initiative has brought unprecedented opportunities for the equipment manufacturing industry in China, and has pushed forward the goal to transform and upgrade the industry.[1] The initiative sets infrastructure as the top priority, which presents a valuable opportunity for Chinese companies to go global and work with established transnational enterprises. It is

1 In September and October 2013, Xi Jinping, President of China, visited Central Asian and Southeast Asian markets, when he unveiled significant initiatives to jointly build the Silk Road Economic Belt and 21st-Century Maritime Silk Road.

also a valuable opportunity for Caterpillar, whose business model is highly in line with the initiative of *One Belt, One Road*. We have been involved in several infrastructure construction projects in regions covered by the initiative, and we would like to share with our customers the effective and proven experience we have gained in those regions, along with our insight into the regions' economy, market and community, to help our customers win contracts in the regions and achieve long-term sustainable development.

Sustainable infrastructure will be the key to the success of *One Belt, One Road* programs. For our customers that includes two aspects: the construction process and operations after construction. Caterpillar provides products, services and solutions that best meet customers' needs in construction. Our excellence lies in lower cost of ownership and operation, better quality, longer life cycle, better safety and higher value retention, which help customers achieve sustainable operation economically.

In the Age of Smart Iron, Caterpillar will continue to make a contribution to the economy, environment and community with more sustainable products, services and solutions, as well as with our philanthropic activities. As we work to meet our 2020 aspirational sustainability goals for operations and product stewardship, we will continue to focus on innovate, collaborate and accelerate, making positive contributions toward building a more beautiful China.

Qihua Chen

Vice President of Caterpillar Inc.

Chairman of Caterpillar (China) Investment Co., Ltd.

Take Root in China for Joint Development

As the world's leading manufacturer of construction and mining equipment, Caterpillar is also a major supplier of diesel and natural gas engines, industrial gas turbines and diesel-electric locomotives. We work to make sustainable progress possible and drive positive change on every continent. Customers turn to Caterpillar to help them develop infrastructure, energy and natural resource assets.

Since selling our first product to China in the 1970s, we have an extensive history of commitment and service in the market. Today, Caterpillar has 28 manufacturing facilities, four research and development centers and three logistics and parts distribution centers in China, with a total of 11,000 staff members. With the joint efforts of Caterpillar and its dealers and suppliers, we are committed to providing Chinese customers with excellent products and technological solutions, helping play a positive role in China's sustainable development.

Innovate, Collaborate, Accelerate All for Sustainability

Sustainability is a core value at Caterpillar. Our sustainability principles focus on preventing waste, improving quality and developing better systems, thereby maximizing life cycle benefits, while also minimizing the economic, social and environmental costs of ownership.

Our sustainability principles and strategies also provide guidance for dealers and suppliers throughout the value chain, helping them achieve more sustainable operations. We cooperate with suppliers and dealers to offer products, services and solutions that focus on efficient utilization of resources for customers. Further, our employees serve as proactive members of the communities where they work and live, participating in a range of activities on a national scale.

Total Engagement for Sustainable Progress

One focal point of Caterpillar's governance structure is to provide leadership, accountability and transparency to company business on behalf of our employees, our stockholders, and our customers. Our corporate governance framework is designed to serve the interests of stakeholder with the highest standards of responsibility, integrity and commitment. These standards are developed and implemented by our Board of Directors and global management team, who oversee the company's performance and governance policies.

Globally, we put sustainability at the center of our business, promoting it throughout our enterprise and making it a part of our daily operations.

Our Approach

Caterpillar China facilities adhere to our enterprise sustainability approach.

Vision

Our vision is a world in which all people's basic needs – such as shelter, clean water, sanitation, food and reliable power – are fulfilled in a sustainable way and a company that improves the quality of the environment and the communities where we live and work.

Mission

Our mission is to enable economic growth through infrastructure and energy development, and to provide solutions that support communities and protect the planet.

Strategy

Our strategy is to provide work environments, products, services and solutions that make safe, productive and efficient use of resources as we strive to achieve our vision. We apply innovation and technology to improve the sustainability performance of Caterpillar's products, services, solutions and operations. We believe sustainable progress is made possible by developing better systems that maximize life cycle benefits, while also minimizing the economic, social and environmental costs of ownership, as reflected in our sustainability principles. We will execute our strategy by working to meet our aspirational sustainability goals.

Sustainability Principles

Sustainability is part of who we are and what we do every single day. We recognize that progress involves a balance of environmental stewardship, social responsibility and economic growth.

Caterpillar's enterprise sustainability principles drive our commitment to make sustainable progress possible.

PREVENT WASTE
(Improve Safety, Efficiency and Productivity)

By increasing the safety, efficiency and productivity of processes and products, we reduce cost and minimize the use of materials, energy, water and land. We provide a safe work environment and the tools and training employees need to work safely. We provide customers with products, services and solutions that improve the sustainability of their operations.

IMPROVE QUALITY
(Team, Community, Environment and Operations)

We focus on improving quality for our company, customers, communities, environment and the quality of life for our employees. We use Lean and 6 Sigma to improve our operations and products. Our employees and their families experience a better quality of life when the quality of our company, communities and the environment is maintained. We attract and develop the best teams.

DEVELOP BETTER SYSTEMS
(Innovate)

We leverage innovation and technology to maximize efficiency and productivity. We remanufacture, rebuild and recycle to conserve resources for multiple life cycles. We develop products that contribute to communities through infrastructure development and energy access. We develop better systems throughout the value chain, "engineering the whole chain, not just the links," in order to maximize life cycle benefits.

Our Values in Action

INTEGRITY. EXCELLENCE. TEAMWORK. COMMITMENT. SUSTAINABILITY.

We are a company built on values. In 1974, Caterpillar first published the Worldwide Code of Conduct, defining what we stand for and what we believe in, documenting the uncompromisingly high ethical standards that our company has upheld since its founding in 1925. The prevailing culture at Caterpillar is our values, including Integrity, Excellence, Teamwork, Commitment and Sustainability.

For more information about *Our Values in Action - Caterpillar's Code of Conduct,* please visit http://www.caterpillar.com/en/company/code-of-conduct.html

Clear Goals [2]

Caterpillar has set aspirational, long-term enterprise sustainability goals for our operations and product stewardship. We believe these goals affirm our determination to lead our industry to a more sustainable future. China is contributing to these enterprise goals by implementing improvements in operations and developing innovations for our products, services and solutions.

Caterpillar relies on robust systems to assure the achievement of our operational safety and environment goals. Our Corporate Environmental, Health and Safety (EHS) team defines the fundamental EHS expectations in our *EHS Assurance Manual: A Practical Global Framework*. The EHS Assurance Manual establishes the requirements that each Caterpillar facility must address, setting forth the minimum EHS requirements for 29 basic work items.

2020 GOALS

2020 GOALS FOR OPERATIONS

SAFETY

Reduce our recordable workplace injury rate to 0.6 and lost-time case rate due to injury to 0.15.

ENERGY

Reduce energy intensity by 50 percent from 2006.

ENERGY

Use alternative/renewable sources to meet 20 percent of our energy needs.

GHG EMISSIONS

Reduce greenhouse gas emissions intensity by 50 percent from 2006.

WATER

Reduce water consumption intensity by 50 percent from 2006.

BY-PRODUCT MATERIALS

Reduce by-product materials intensity by 50 percent from 2006.

SUSTAINABLE CONSTRUCTION

Design all new facility construction to meet Leadership in Energy and Environmental Design (LEED) or comparable green building criteria.

2020 GOALS FOR PRODUCT STEWARDSHIP

SAFETY

Provide leadership in the safety of people in, on and around our products.

PRODUCTS, SERVICES AND SOLUTIONS

Leverage technology and innovation to improve sustainability of our products, services and solutions for our customers.

SYSTEMS OPTIMIZATION

Increase managed fleet hours by 100 percent from 2013.

REMAN AND REBUILD

Increase remanufactured and rebuild business sales by 20 percent from 2013.

2 Caterpillar does not set country-specific sustainability goals. To learn more about the fulfillment of the goals worldwide, please read the *Caterpillar's 2015 Sustainability Report* at http://reports.caterpillar.com/sr/goalsAndProgress/

Sustainability Improvements through Innovation

Today, digital and smart technologies play a critical role for us, our customers and the whole industry. At Caterpillar, digital technologies have been widely applied in research and development (R&D), product application and facility operations.

Caterpillar's remanufacturing business contributes to the circular economy, extending product life cycles and using materials more efficiently. In China, Caterpillar has combined the commercial advantages of remanufacturing with the added benefit of contributing towards China's sustainable development, providing our Chinese customers with energy-saving solutions.

Innovate to Do Better

Sustainability is considered at various stages of design, R&D, production and application, to reduce our environmental impacts by preventing waste, improving quality and developing better systems, with innovative technologies and advanced means.

Leading in Application of Digitalization

As our industry advances in the connected era, Caterpillar is applying advanced technologies to products and services to help customers solve and even predict problems, enabling or enhancing their operations. Caterpillar currently has 500,000 connected assets and an installed base of three million machines and engines at work around the world today.

Cat® Connect Solutions - a suite of digital solutions that combines various advanced technologies to help customers optimize their operations - is already widely used by Caterpillar customers in China. Among the solutions, Cat® Product Link™ is designed to support decision-making by capturing key data about equipment performance and running conditions and using them to predict preventative maintenance needs. Cat® Grade Control System and Compaction Control System enable the operator to move materials faster and more accurately, reducing errors and preventing repeat work. Additionally, the Truck Payload Management System (TPMS), suitable for various types of trucks and loading appliances, helps improve jobsite efficiency, cycle and cost per tonne.

Circular Economy

The global manufacturing industry is undergoing a transformation from a linear resource consumption model of "take, make, dispose" to a circular one. Under the traditional one-way resource consumption model, raw materials are extracted from the natural environment, made into finished products and ultimately disposed. However, under a circular model, products are specially designed to minimize industrial waste and environmental impacts.

Through remanufacturing, Caterpillar deploys a circular economy model to convert products that are close to the end of a lifecycle to the same state as when they were new. This circular model of "use-remanufacture-reuse" maximizes a product's lifecycle and optimizes the consumption of non-renewable resources. Compared to making new products, remanufacturing reduces the use of raw materials by 70 percent and the use of energy by 60 to 80 percent.[3]

Caterpillar has more than 40 years of experience in remanufacturing and is one of the multinational corporations that introduced the concept of remanufacturing to China. In 2005, Caterpillar set up Caterpillar Remanufacturing Services (Shanghai) Co., Ltd (Caterpillar Reman Shanghai). After ten years of development, Caterpillar Reman Shanghai has evolved into one of China's leading remanufacturing plants, providing customers around the world with value-added services at the time of repair, replacement and upgrade of equipment. In 2015, Caterpillar Reman Shanghai achieved CO_2 equivalent emissions reduction of 5,866 tonnes compared to manufacturing new products using traditional technologies. In October 2015, Caterpillar Reman Shanghai was selected by *Shanghai Daily* as one of 12 outstanding cases of multinational innovation in Shanghai, thanks to its promotion of the remanufacturing business model in the city.

In May 2016, Caterpillar Reman Shanghai won the Enterprise Environment Award in the China Baosteel Environmental Protection Awards sponsored by China Environmental Protection Foundation, recognizing its remarkable environmental achievements in 2015. The China Baosteel Environmental Protection Awards are the top awards in the field and Caterpillar Reman Shanghai ranked first in the Enterprise Environment category.

3 The National Development and Reform Commission, Ministry of Science and Technology, Ministry of Industry and Information Technology, Ministry of Public Security, Ministry of Finance, Ministry of Environmental Protection, Ministry of Commerce, General Administration of Customs, State Administration of Taxation, State Administration for Industry and Commerce, and General Administration of Quality Supervision, Inspection and Quarantine jointly issued the *Opinions on Advancing the Development of the Remanufacturing Industry* on May 13th, 2010.

On January 1, 2009, China's *Circular Economy Promotion Law* went into force. The law is formulated for the purpose of facilitating a circular economy, increasing resources' utilization rate and protecting and improving the environment. It was the first national legislation with a purpose of promoting sustainable development and promoting the development of the circular economy. Following on that, in 2015, the Chinese government issued *Made in China 2025,* which advocates "vigorous development of the remanufacturing industry", and includes the development of "high-end, green, and intelligent remanufacturing" in the country's industrial development strategy.[4] Remanufacturing is part of Caterpillar's efforts to deploy and participate in this national strategy.

In addition to the many recognitions earned by our remanufacturing work within China, read more about Caterpillar's global remanufacturing work and recognition in the *Caterpillar's 2015 Sustainability Report* http://reports.caterpillar.com/sr/focusAreas/productStewardship/circular-economy.php

Innovate to Provide Better Products and Services

In China, Caterpillar R&D Center (China) Co., Ltd (CRDC) supports a full research and development value chain to provide highest values to customers with innovative products and solutions.

Caterpillar engineers designed and developed a mobile solution in China with apps to help connect our dealers, customers and equipment more easily, conveniently and effectively. Using newly developed apps, customers can visit the VisionLink website – the Cat Product Link™ interface – through smart phones. Leveraging Cat® cloud service and integrating multiple Cat® equipment data sources, the smart phone apps can be used for equipment tracking, customer support and dealer business support, as well as dealer data integration. Take one China dealer for example. Only 5 percent of their customers originally used VisionLink. After the first month of promoting the apps, the percentage of users jumped to 20 percent of all their customers. Among these, 62.6 percent are active users. The new mobile solution not only allows customers to track their equipment performance, but also to contact dealer's customer service representatives from almost anywhere and any time. Customers can now be notified of real-time Planned Maintenance Due/Fault/S·O·S℠, and a dealer customer service representative can now receive Planned Maintenance/Repair service requests in as little as 10 seconds. With the apps and available performance tracking and data analysis, dealers can now provide proactive service and engage with end-users remotely and more easily than ever. Dealers are also able to provide more customized services by sending messages to targeted customers.

Caterpillar also focuses on more efficient R&D activities to cross physical boundaries via new technology and global collaboration.

The Caterpillar Material Technologies team has more than 60 laboratories located around the world that are responsible for component validation and failure analysis. Initiated by the China Material Technology team in CRDC, the Global Laboratory Reporting System (LRS) was developed and deployed to collect global data on the properties of components, process the information and determine the root causes of failure. Linking together laboratory reporting systems around the world has resulted in better product R&D efficiency. The new LRS has many additional applications, including online testing, warehouse management, labor and material tracking. These functions can improve the collaboration among laboratories and functional teams, reducing the component development time and cost. For example, project management can collect and collate all the related reports across the entire duration of a single project, from the beginning to the present, and across the regions. The equipment function and data mining can help each laboratory achieve self-financing and balance its workload, which also improves the lab's operation efficiency and reduces cost. Through global data collection, redundant validation activities can be eliminated, cross-region manufacturing capability comparison can be analyzed, and more accurate component quality information will be provided for future design.

To reduce fuel consumption of our products and reduce their emissions, Caterpillar (Qingzhou) Ltd. has upgraded our wheel loaders, motor graders, compactors and dozers, meeting China's latest emission requirements ahead of schedule and is placing them in the market in 2016.[5] Compared with their predecessors, the new products generate 30 to 45 percent less nitrogen oxide (NOx) and total hydrocarbon emissions, depending on engine power. And with a monitoring system, electromagnetic fan and additional technologies applied, the new products are more efficient, fuel-saving, and intelligent.

4 The State Council of the PRC issued the files of *Made in China 2025* to governments of provinces, autonomous regions, and municipalities directly under the Central Government, ministries and commissions under the State Council, and organizations directly under the State Council on May 19th, 2015.

5 Requirements stipulated in the *Limits and Measurement Methods for Exhaust Pollutants from Diesel Engines of Non-road Mobile Machinery (CHINA III, IV)* issued by the Ministry of Environmental Protection, which became enforceable on April 1st, 2016.

A Journey of a Thousand Miles Begins with a Single Step

Caterpillar's advanced management models such as 6 Sigma and Caterpillar Production System (CPS) have been widely applied by Caterpillar across the world. The 28 Caterpillar manufacturing facilities in China have also benefited from these models, leading to continuous improvement in employee safety, product quality, productivity, cost management and profitability.

Build "Smart Plants"

In 2015, Caterpillar (Xuzhou) Ltd. (Xuzhou Facility) initiated a series of improvement projects titled "Smart Plant." Covering several key steps in the manufacturing process, including assembling, painting and fabrication, the "Smart Plant" efforts aim to reduce resource waste, improve product quality and improve employees' health and safety through applying innovative measures of management.

Our Xuzhou Facility uses a remote plant efficiency monitoring and management system. It has also installed data collection devices on production-critical equipment to capture energy consumption data for subsequent in-depth analysis. Automatic recognition and control technologies are used to retrofit power-intensive equipment and enable it to start or stop as needed so energy can be conserved. In addition, shifts and work allocation are re-arranged based on individual electricity prices during peak, off-peak and normal hours.

A "Smart Plant" project has also been launched to meet challenges arising in the manufacturing process and to ensure consistent product quality. For example, the facility applied a programmable logic controller to enable parameters captured during pressing of the shaft sleeve to be fed back to the design department as reference, improving the quality and efficiency of design work.

The "Smart Plant" program also focuses on the improvement of ergonomics and the safety and health of employees. One example of the program is the assembly work station in the drive work shop in Xuzhou where the final drive, after hoisting the assembly, was pushed to the next bay manually. The same action was repeated more than 20 times every day. Additionally, at the cleaning work station, all cleaned parts were transported to different assembly stations in trolleys and the empty trolley was then pushed back to the work station. This labor-intensive process increased risk for fork trucks moving back and forth through the same passageway. To help reduce the risks of these manual tasks, the Xuzhou Facility designed a friction conveyor line and an automatic track-borne cart conveyor line, successfully improving ergonomics in these processes, improving the employees' working environment and reducing safety risks.

In total, in 2015, the Xuzhou Facility implemented and completed 27 "Smart Plant" projects. A total of 115,000 cubic meters of natural gas and 5,570,000 kWh electricity was saved, resulting in a reduction of 4,300 tonnes CO_2 equivalent emissions. The total economic gains from energy savings amounted to RMB 6 million (approx. USD 923,077). Quality risk was controlled by applying an early warning system of potential quality concerns for shaft sleeve pressing, paint drying and gas welding processes. Six projects focused on ergonomic improvement, including but not limited to, safer alternatives for final drive manual handling and the use of design balance weight fixtures to provide support and reduce the labor intensity when lifting protection covers.

The Xuzhou Facility is not alone. Caterpillar has applied similar practices to the production and operations of each facility in China to reduce environmental impacts, and has made substantial efforts to reduce energy consumption, decrease greenhouse gas emissions, conserve water and reduce waste.

Reduce Energy Consumption

Energy is a key factor in the sustainable progress and development throughout the world.

By improving the charging and operating procedures for annealing furnace operations in excavator production (i.e. the procedure of altering the physical properties of a material to increase its ductility and reduce its hardness, making it more workable), the Xuzhou Facility has decreased consumption of fuel gas. In the previous procedure, excavator bodies of different models were annealed in separate furnaces, causing problems of underutilization of annealing furnaces and wasted fuel gas. The plant re-designed the charging procedure for annealing, enabling the swing arms and bodies of excavators of different models to be annealed at the same time, eliminating the unnecessary requirement of separate charging. From August to December 2015, fuel gas use was reduced by 95,000 cubic meters, reducing CO_2 equivalent emissions by 173,850 tonnes, and saving RMB 340,000 (approx. USD 52,308).

AsiaTrak (Tianjin) Ltd. (AsiaTrak) is another Caterpillar manufacturing facility located in China. AsiaTrak implemented a comprehensive energy management project beginning in 2014. The facility installed energy meters and data collectors on its major energy-intensive equipment and then established an energy management data center responsible for collecting and analyzing energy consumption data to find potential opportunities to increase energy efficiency. AsiaTrak has also installed a range of automated equipment, including an automatic temperature control system and automatic steam valve control system, to manage the energy consumption of its equipment. Additionally, AsiaTrak has rebuilt its facilities to use more natural light, reduced the lighting time of 405 lights and replaced original incandescent bulbs with 1,200 LED bulbs. Such efforts have further contributed to reductions in electricity use.

This project allowed AsiaTrak to reduce emissions by over 6,900 tonnes of CO_2 equivalent emissions in 2015, saving more than RMB 4 million (approx. USD 615,385). In the "Energy Saving Star in Binhai New Area" selection campaign sponsored by the Industrial Information Committee of Binhai New Region of Tianjin, the three-star status of the Award was conferred on AsiaTrak, recognizing its remarkable energy saving and environmental protection achievement.

Caterpillar (China) Machinery Components Co., Ltd (Wuxi Facility) specializes in the design and manufacturing of hydraulic, operating station and powertrain parts. The main processes of welding, painting and assembly consume electricity, natural gas, steam and water, incurring annual energy costs of RMB 28 million (approx. USD 4.3 million). In 2015, the Wuxi Facility deployed a number of energy saving programs in all of its workshops. In operating station workshops, the facility deployed automatic start/stop technology that is sensitive to production volume for energy-intensive engines to save electric energy. In hydraulic workshops, a portion of the parts painting work has been transferred to power system workshops and selected painting lines were shut down to cut the consumption of steam, natural gas, and electric power. In powertrain workshops, surplus steam is used to replace part of the natural gas in the painting lines to reduce the consumption of natural gas. In 2015, the Wuxi Facility cut energy consumption by 38.6 percent or roughly 7,055 tonnes of CO_2 equivalent emissions, and reduced cost by more than RMB 10 million (approx. USD 1.68 million).

Emissions Reduction

Caterpillar has applied innovative technologies to reduce the emissions in its operations.

Volatile Organic Compounds (VOC) are organic chemicals that have a high vapor pressure at ordinary room temperature. Caterpillar (Suzhou) Co Ltd. (Suzhou Facility) has focused on reducing VOC emission and was recognized in 2015 by the Suzhou Industrial Park Environmental Protection Bureau for its improvements. The facility combined the honeycomb Activated Carbon Adsorption method with a Regenerative Catalytic Oxidizer to dispose of organic wastes generated by liquid painting lines. As a result, the Suzhou facility achieved a VOC removal efficiency of 85.76 percent, and eventually reduced the final VOC emissions from the facility by a large margin.

Perkins Shibaura Engines (Wuxi) Co., Ltd. (Perkins Shibaura) is a joint venture between Perkins, a wholly owned Caterpillar subsidiary, and IHI Shibaura Machinery Co., its long-time partner in small engine production. The facility specializes in producing Perkins® engines. During the heat resistance tests, engines emit particulate matter, NOx and sulfur dioxide. Perkins Shibaura adopted a flue gas cleaning system in November 2014, utilizing innovative filtering techniques including electrostatic agglomeration and high-efficiency filtration for flue gas cleaning. Today, the particulate matter, NOx and sulfur dioxide emissions have been cut by 8, 50 and 50 percent, respectively.

Water Saving and Quality Improvements

All continents have been affected by the shortage of water, which has become one of the major challenges facing our world in the 21st century. China has 2,800 billion cubic meters of freshwater, accounting for six percent of the global total. However, the per capita freshwater availability is only 2,300 cubic meters, or one quarter of the world's average, making it one of the poorest countries in terms of water resources per inhabitant.[6] Fully aware of the far-reaching impact of this problem, Caterpillar is focused on reducing water consumption in its operations in China.

6 In September 2015, the Ministry of Water Resources of the PRC released the *China Water Resources Bulletin 2014*.

In order to control the water quality of sewage, AsiaTrak established its sewage treatment system when the facility was first built. In 2014, AsiaTrak upgraded its sewage treatment system and modified its sewage settling tank, which has improved water purification and enabled reuse of purified water. Meanwhile, refined water management practices were implemented to increase the recycling and reuse of steam-condensed water. Initiated in 2015, AsiaTrak now exclusively uses reclaimed water for production and garden irrigation. As less fresh water was consumed, the facility achieved the goal of zero discharge of wastewater. In 2015, AsiaTrak reduced fresh water consumption by nearly 20,818 cubic meters over the year.

3R – Reduce, Reuse and Recycle

Increasing efficiency and improving product quality will not only lower costs but also reduce the consumption of energy, water, land and other resources.

Our first goal is to eliminate waste from being produced wherever possible. For example, the Suzhou Facility implemented its cutting fluid regeneration project in 2013. By regenerating the cutting fluid from its machining center on a regular basis, the Suzhou Facility has doubled the service life of cutting fluid. After three years of effort, the Suzhou Facility achieved the goal of zero discharge of cutting fluid in 2015, saving over RMB 200,000 (approx. USD 30,769) annually. Meanwhile, the operational safety of replacing cutting fluid and disposing of sewage has been greatly improved as there is no need for employees to treat the waste cutting fluid. The project was awarded Caterpillar's 2015 Global EHS Silver Award.

The cleaning process of remanufacturing consumes large amounts of chemicals. Used chemicals produced in the process contain large amounts of sludge, oil, alkalis, rust and removed paint. In 2015, Caterpillar Reman Shanghai improved the cleaning process through chemical recycling. One of the most effective practices initiated was that the waste chemicals from the final wash were reused in the pre-wash. As a result, 12 tonnes of waste chemicals are recycled annually. Reman Shanghai's engineering team also optimized the cleaning parameters, including temperatures, chemical concentration and the filter system. Additionally, the chemical life was extended to two months from one month. The total waste chemicals output in the cleaning process was reduced by 24 tonnes in 2015 and is expected to be further reduced in the future.

On June 5, 2015, World Environment Day, Caterpillar Reman Shanghai was granted the title "Environmental Trustworthy Enterprise in Pudong New District" by the Environment Protection and City Sanitation Management Bureau of Shanghai Pudong New Area. The honor recognized Caterpillar Reman Shanghai's demonstration and contribution in promoting environmental protection.

Caterpillar also looks for opportunities to reduce waste generation. Perkins Power Systems Technology (Wuxi) Co., Ltd. (Perkins Power) is a wholly owned subsidiary of Caterpillar. In 2015, Perkins Power replaced wooden packages with reusable steel containers, reducing waste wood by 4,200 kg and reducing costs by RMB 123,487 (approx. USD 18,998).

In 2015, Caterpillar Suzhou Facility upgraded its waste sorting processes. Trash bins within the facility were relocated, with different trash bins allocated for recyclable waste, non-recyclable waste and hazardous waste. These color-coded bins make waste sorting clearer for employees. After being sorted, recyclable waste is transported to a refuse storage chamber, which is then classified by suppliers. Non-recyclable waste is disposed of by the local Environmental and Waste Disposal Division. Hazardous waste is transported to special warehouses, where it is properly and safely disposed by a certified supplier.

Since the project was initiated, total waste has been reduced in the Suzhou Facility and 222 tonnes of recyclable waste, including paper, plastics and foam, is salvaged annually, saving the facility about RMB 190,000 (approx. USD 29,231). The project was awarded Caterpillar's 2015 Global EHS Silver Award.

Environmental Stewardship Drives Innovation

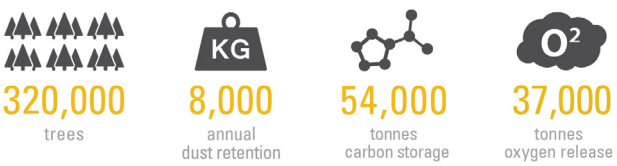
On June 30, 2015, China submitted its intended nationally determined contribution (INDC) to the UN Framework Convention on Climate Change (UNFCCC), promising to achieve peak carbon dioxide emissions by approximately 2030 and to try to meet the target as soon as possible.[7]

By defining and implementing low-carbon development plans centering on control of greenhouse gas emissions, city-level actions will provide China with powerful support to achieve its peak emissions. In 2015, within the framework of the Sustainable and Livable Cities project sponsored by the Caterpillar Foundation since 2012, the World Resources Institute (WRI) achieved several research results, including developing a series of city greenhouse gas emissions accounting tools and methods and publishing the *Low Carbon Planning Methodology Guidelines for Chinese Cities,* which presents proper supporting methods and tools for the planning of and research in Chinese cities. The research also introduces specialized industry-analyzing methods for recognized key fields for emissions reduction and provides those involved in cities' low-carbon planning with basic references and methodological guidelines. In addition, WRI is undertaking a series of studies to stimulate the development of renewable energy through optimized fiscal taxation and good practices in the development and application of new energy in China. The institute also put forth a series of proposals suitable for the actual conditions of Chinese cities on policies regarding sludge-to-energy, traffic demand management, and low carbon urban transport planning in order to contribute to the implementation of the country's low-carbon development strategy at city levels and to respond to global climate change.

Meanwhile, the Caterpillar Foundation has supported several natural infrastructure projects in China over the past decade, helping mitigate the impacts of climate change.

Since 2005, with continuous support from the Caterpillar Foundation, The Nature Conservancy has operated the Great Rivers Partnership on a global scale. In China, the partnership has centered on the Yangtze River. Its efforts include carrying out research in hydropower development, habitat loss, overfishing of the Yangtze River, as well as global climate change. During the last ten years, the project has identified the freshwater priority conservation areas in the Yangtze River Basin and built up an aquatic life monitoring network by collaborating with related government departments. The project also introduced and promoted the environmental flow concept in dam design and operation, which laid a solid foundation for scientifically carrying out fishery resources protection planning, policy research, environmental flow practice and aquatic life monitoring standardization along the Yangtze River. Based on the success of the Great Rivers Partnership, China and the US signed the Mississippi-Yangtze EcoPartnership in 2012 under the EcoPartnership Framework, which is part of the Framework for the Ten-Year Cooperation on Energy and Environment between the two countries.

2015 marks the fifth anniversary of the "Charity Forest" project initiated by the China Environmental Protection Foundation with support from the Caterpillar Foundation. The project has seen trees planted in key priority areas for reforestation in northern China and near Taihu Lake in order to preserve water resources and improve the ecological environment. By the end of 2015, a total of 320,000 trees had been planted, contributing to an annual dust retention of 8,000 kg, carbon storage of 54,000 tonnes and oxygen release of 37,000 tonnes according to relevant formulas.



7 Enhanced Actions on Climate Change: China's Intended Nationally Determined Contributions

Collaborating for Sustainability Progress throughout the Value Chain

At Caterpillar, we provide products, services and solutions to help our customers be more sustainable. Our sustainability principles comprise an enterprise-wide approach we apply to our own operations, and serve as a guide for our suppliers, dealers and customers.

Supporting Customers' Sustainable Development Objectives

Aligned to our customers' needs, Caterpillar provides more efficient and safer equipment, more intelligent solutions, and more personalized services.

Providing Customers with More Sustainable Equipment

Caterpillar aims to ensure our customers are as well-equipped as possible to succeed in today's market, while also enjoying more efficient operations.

The automated Cat® plow system is mainly used in the efficient extraction of low coal seams in underground coal mines. Caterpillar customer Liaoning Tiefa Energy Co., Ltd (Tiefa), China's first to adopt the Cat plow system, is a prime example of the successful application of the automated plow system in the country's underground coal mines.

The coal mines of Tiefa have a verified coal reserve of 2.259 billion tonnes at present, among which the reserve of thin seams comprises 620 million tonnes, accounting for 26 percent of the total. After many years of large scale extraction, there are only a small number of thin seams yet to be exploited in some mine areas. Since 1998, Tiefa has introduced five fully automatic coal planer systems from Caterpillar. Among them, four thin seam coal planer systems have together produced about 15 million tonnes of raw coal. Calculated at a rate of 20 million tonnes annually in continuous productivity, the application of the planers has extended the production period of the mine areas as a whole by 31 years.

Innovative technologies not only improve the efficiency of extraction, but also help combine the power of scattered energy sources, enhancing resource utilization. Caterpillar's Distributed Power Generation System is such a solution, of which hundreds have been deployed around the world. They not only help increase developing countries' access to energy, but also to minimize greenhouse gas emissions.

Caterpillar Energy Systems Technology (Beijing) Co., Ltd is a subsidiary of Caterpillar dedicated to producing gas generator sets. It provided the MWM™ brand distributed energy system for the manufacturing facilities and office rooms of Voith Paper (China) Co., Ltd. The designed total installed capacity of the project was 1.2MW, among which the first phase accounted for 600kW. The system features an annual comprehensive resource efficiency of 80 percent compared to around 45 percent of coal fired power and a designed annual operation duration of 5,600 hours. Annually it is expected save about RMB 1,183,000 (approx. USD 182,000) in energy costs and reduce CO_2 equivalent emissions of 1,214.9 tonnes.

Enhancing Safety with Innovative Solutions

Caterpillar's culture of operating safely extends to the safety of people in, on and around our products. We continuously innovate to improve product safety, seeking more opportunities to enhance operational safety for our customers.

To better protect customers working in jungles and overgrown areas, the earthmoving machine design team of CRDC implemented a design enhancement on the R Series equipment. Originally, canopy protection only included a roof above the operator's head and a safety screen at the rear, leaving the operator open to being scratched by tree branches and other obstacles. In the new solution, the design team developed an all-around canopy protection screen, improving operational safety while ensuring the operator's unobstructed view. The design has been tested in the lab and used by customers for more than 1,000 hours. It has been well received in Southeast Asian markets.

Boosting Efficiency with Technology

As technology enables increasingly intelligent connections, the challenges that our customers face are changing all the time. Caterpillar and our dealers are working to bring advanced construction technologies to our customers to improve efficiency and safety.

Huainan Dinglong Engineering Company Limited (Dinglong Engineering), based in Huainan, Anhui Provence, specializes in municipal earthwork. In 2015, this Caterpillar customer undertook sub-grade construction work for the Linbai Section of the Beijing-Urumchi Expressway. To guarantee project progress and construction requirements, Lei Shing Hong Machinery, a Cat dealer, recommended the GPS-based Cat® Grade Control System to Dinglong Engineering for the graders used in the project. According to the customer's feedback, the system substantially improved the efficiency and accuracy of land leveling. A workload that once took three hours to complete could now be done within two hours.

Previously, trenching with excavators required technicians to perform ground surveying at the same time, posing potential physical hazards. When conducting a highway project in Taihe County, Anhui Province, Dinglong Engineering installed the Grade Control System on their Cat® 323D2 L excavator. This upgrade allowed the operator to do the work accurately without the assistance of any surveyor, enhancing the safety onsite. The time required for excavating a 100-meter-long pipe ditch was reduced from more than two hours to just one hour. This incremental improvement in one task resulted in the project finishing nearly one month ahead of schedule, dramatically reducing fuel consumption and the corresponding CO_2 emissions.

Providing Prompt Response to Customers

In China, we not only work with dealers to provide customers with quality and comprehensive services, but also directly communicate with our customers via digital platforms to maximize our customer service.

In 2013, the Global Construction Infrastructure Division of Caterpillar launched the online communication platform for Chinese customers. Customers can consult with Caterpillar experts on the platform via mobile phone anytime, anywhere, to learn about equipment use, as well as exchange experience and knowledge about equipment. Now, the platform has eight Caterpillar experts who provide professional guidance for customers in product application, product market, used equipment, construction technologies, work tools, and OEM solutions. In 2015, the platform fielded 169 questions from customers and received 25,761 page views.

Cat Bang website http://www.catwaji.com/catbang/index.html

Collaborating with Dealers to Create Joint Success

Cat dealers represent an important link between the company and its customers. We work with them to provide comprehensive solutions for Chinese customers in sales, rental, used equipment, financing, insurance, operation training, repair and maintenance, laying a solid foundation for Caterpillar's success.

Globally, Caterpillar has 175 independent dealers providing services for our customers in 182 markets. In mainland China, Caterpillar has four dealers. The cooperation between them has lasted for decades. The dealer network has made undeniable contributions to our sustainability progress. They help Caterpillar acquire and contact customers and sell products, and play an important role in product R&D, manufacturing and aftermarket sales, maximizing the benefits of products during their life cycle and minimizing resource consumption and costs.

The stable and lasting relationship between Caterpillar and dealers dates back to 1926, when Caterpillar drafted *Across the Table* which outlined the foundational principles for the relationship between Caterpillar and its dealers – based on mutual respect.

In China, Caterpillar provides guidance for its collaboration with dealers in terms of enterprise strategies, values and 17 aspects of daily operations. Caterpillar undertakes periodic assessments based on *Across the Table*, helping dealers enhance the sustainability of their operations.

Caterpillar urges dealers to share the same values that we advocate; to comply with local anti-bribery, anti-monopoly and competition laws where we conduct business; and to reinforce these messages through communication and periodic employee training at all levels of their organizations. Meanwhile, Caterpillar urges dealers to follow their requirements for excellent service to better meet customers' needs and provides them with support in doing so.

Moreover, Caterpillar makes full use of innovative digital technologies and our advanced experience to help dealers serve customers in a better way. Aligned to our core values, Caterpillar not only implements safety measures in its own production and operation, but also helps dealers protect employees' safety and health in addition to maintaining sustainable operations.

Since 2013, the *One Belt, One Road* initiative has brought unprecedented opportunities for the equipment manufacturing industry in China, and has pushed forward the goal to transform and upgrade the industry. The implementation of the *One Belt, One Road* initiative requires the joint efforts and support of the upstream and downstream aspects of the industrial chain. Caterpillar works with dealers to share advanced technologies and experience in modern engineering, construction and management to help them better contribute to projects comprising *One Belt, One Road*. In this way, we aim to maximize the economic and social benefits and bring about the best possible result for customers.

For more information about our collaborations with dealers, please visit http://reports.caterpillar.com/sr/focusAreas/valueChain/dealer-network.php

Making Progress Together with Suppliers

In China, Caterpillar helps suppliers improve product quality and operational efficiency with our outstanding enterprise management and remarkable technological innovation. We aim to promote sustainability throughout the entire global supply network.

Since the 1990s, Caterpillar has considered our Chinese suppliers to be an important part of its global supplier network and a part of our "extended enterprise." Meanwhile, the company has undertaken a series of activities to consolidate its local resources and strengthen collaboration with Chinese suppliers. In 1995, Caterpillar began to purchase locally in China. With this strategy, Caterpillar has not only created a competitive supply base in China, but also improved its competitiveness among the global supply network.

Building upon the original Supplier Code of Conduct launched in 2013, Caterpillar recently refreshed the global Supplier Code of Conduct, reflecting a deep commitment to sustainability and formally declaring the values that we expect our suppliers will adhere to. We hope to build a better world by working together with our suppliers.

We expect that our suppliers will comply with local laws and regulations, develop their diversity and inclusiveness, conform to anti-corruption policies, and promote fair competition. For example, Caterpillar supplier Jiangsu Hengli Hydraulic Co., Ltd (Jiangsu Hengli) has strengthened company cohesion, which in turn strengthened the company's competitiveness in the international market. Currently Jiangsu Hengli has numerous plants and branches at home and abroad, employing people from different countries. Its products sell well in regions such as North America, Europe, South America, Australia, Japan and Southeast Asia.

Caterpillar also works with suppliers to improve the processes and systems used in product production and delivery. Suppliers are required to comply with laws and regulations concerning the environment and reduce their environmental impact by saving water, lowering greenhouse gas emissions, improving resource usage and minimizing waste so as to make their operations more sustainable. For example, Zhejiang Yinlun Machinery Co., Ltd (Yinlun Machinery) used to rely on manual labor for tests of product airtight performance under water. That led to low efficiency and reliability, as well as high energy consumption. Now, Yinlun Machinery uses automatic tests with dry-test equipment and has eliminated the oven-drying process, cutting energy costs by 50 percent. Meanwhile, Yinlun Machinery also improved the transmission oil cooler polishing process, shortening the time used for every piece from 13 to 8 minutes, and adjusting the mixture ratio of argon to CO_2 from 80 : 20 to 85 : 15. The purpose of the adjustment is to reduce welding spatter, thereby reducing the need for grinding or other processes.

We expect that suppliers will focus on safety and work to prevent any injury, occupational disease or safety-related accident, and that they will actively execute relevant policies and measures to ensure the health and safety of every employee. For example, the Suzhou Facility held safety workshops for safety representatives from three of its suppliers: First Tractor Co., Ltd; the Jining plant of Mefro Wheels Manufacturing (China) Co., Ltd; and Jiangyin Hydraulic Oil Tube Co., Ltd. The Suzhou Facility also organized a seminar on its safety procedures, during which experts in CPS and the 6 Sigma quality management system from Caterpillar shared their systematic methods in safety management and the participants compared notes on tools and methods on safety assessment.

Total Employee Involvement for Acceleration

Quality improvement is one of Caterpillar's sustainability principles. Caterpillar aims to improve the quality of processes, products, services, and solutions throughout the company, and to provide a higher quality workplace and life for employees.

Employees is our most valuable asset and the foundation for sustainable development. They provide the vision, creativity and hard work required for our businesses to be marketplace leaders. That is why we focus on providing a workplace that values safety, talent, drive and diversity, and one in which our employees can bring a variety of skills, ideas and experiences together in a supportive environment. We build trust and engagement through open and honest dialogue and encourage employees to pursue their career aspirations and personal development, so as to attract, cultivate and retain the best team possible.

Safety First

With "Zero-Injuries" as its final goal, Caterpillar considers the safety of our people to be a values-based responsibility. From office to shop floor, Caterpillar has established protective safety expectations. The concept of safety has been applied in every single detail, from identification and assessment of potential risks to management of those risks in all processes. Facilities review these safety provisions every year and update them in a timely manner, and conduct annual safety exercises.

Caterpillar Wuxi Facility needs to store several chemicals used in the production process, which means safe practices around management of chemicals is critical. The facility categorizes chemicals by stability and physical and chemical properties, determining the proper location, amount and environment for their storage. In order to eliminate the risk of static electric sparks igniting flammable vapors, employees are equipped with antistatic clothing when entering storage rooms. A static electricity eliminator and a depository for employees' personal electronic equipment are at the entrance. Additionally, every item of metal equipment in storage rooms has been connected to a grounding cord to prevent the build-up of static electricity. As a result of these measures, the Wuxi Facility has been free of safety or environmental accidents caused by improper management of chemicals in the past five years.

In addition to ensuring the safe use of our products, we also pay attention to employees' working safety and health during R&D work. The engine development team in CRDC currently has 12 engine test cells in use. During engine tests, engineers often need to monitor test conditions for engines running at high speeds, including high temperatures on the surface of the engine, as well as the high-pressure gases and chemicals they generate. Cameras were installed in the test rooms at CRDC to monitor the running status of the engines, and manual air bleeding valves were replaced with solenoid valves that can be remotely controlled. The team has also independently developed a new oil sample tool with filter paper that can be used outside of the test room. These changes eliminated the need for engineers to enter the test cells, which they had previously been required to do over 140 times per month and, as a result, it has eliminated the exposure of employees to dangerous risks.

Comprehensive Contingency Plan

Caterpillar truly values the lives and well-being of its employees. As a global industry leader, we work to implement the best possible enterprise security and risk management strategies to protect our personnel and enable business success. These strategies emphasize preparedness and take an "all-hazards approach" to critical event management at the facility, regional and enterprise levels to improve emergency management and compliance

throughout the enterprise. It is called an "all-hazards approach" because the Caterpillar Emergency Management Planning (EMP) process is structured in a standardized format so that the same approach can be applied to any emergency scenario, ensuring that all the critical steps in the decision making process are covered every time, regardless of the hazards associated with that particular scenario.

This all-hazards approach was put to the test in August 2015, when AsiaTrak (Tianjin) Ltd (ATL) was exposed to two frightening and destructive explosions at a nearby commercial site. Late on the evening of August 12, 2015, a fire occurred at a chemical storage yard in the Tianjin port industrial area, four kilometers away from the ATL plant. This was followed a short time later by two massive explosions that caused significant damage over a wide area. The ATL plant experienced some structural damage, including broken windows and doors, but thankfully no ATL employees were harmed during the event.

In keeping with Caterpillar Enterprise Procedures, ATL has an emergency management plan that was activated within six minutes of the incident. Plant operations were halted immediately and staff were evacuated in accordance with the EMP. Within a short period of time all ATL staff, including those off-duty, as well as their families were accounted for. Plant operations were disrupted for several days, and alternative working arrangements were made for some staff. With the involvement and support of local, regional and enterprise EHS and security staff, along with a well-developed and well-implemented EMP, ATL was able to navigate through a difficult set of circumstances and resume full operations within a week.

Occupational Health

Caterpillar adheres to a people-oriented principle, striving to create a healthy work environment for all employees. We anticipate and evaluate occupational health risks, and we work with cross functional teams to implement controls to reduce risk to employees. We have banned smoking in our offices in many cities like Beijing and Tianjin, while Green Seal[8] - certified products have been adopted for indoor cleaning. The total VOC content of our adhesives and paints comply with the Green Seal standard, helping provide employees with a healthier work environment.

At the Xuzhou Facility, we identified an ergonomic risk to operators working at the kitting center where they re-pack components by categories on a daily basis. We evaluated the risk during the kitting process, which requires each operator to bend down, squat, and stand throughout the day to assemble the parts for every piece of equipment. Since March 2015, the facility has equipped its operators with mobile seats and lifting platforms, and doubled the height of its parts carts to reduce the frequency and angles of bending. The facility has also readjusted locations of parts on shelves according to their weights and frequencies of access. Upon the completion of the project, each operator reduced the bending down and squatting times by 70 percent on average and standing time by 40 percent every day to assemble the parts for every item of equipment.

The fume and dust generated during production at the Wuxi Facility were identified as potential health risks to workers. At the facility, all welding operations are carried out in one single area where dust removal systems have been put in place. We evaluated the processes and controls to identify additional solutions to reduce potential health risks. The tasks of welding and grinding have been standardized to reduce the sources of fume and dust. Meanwhile, an additional fume collection system and ventilation system have been installed in the area to collect fine particles from the air. This upgrade has contributed to reductions in the airborne concentration of dust at the Wuxi Facility by 63 percent. The need for employees to use personal respiratory protective equipment has been reduced by 30 percent, saving RMB 65,000 (approx. USD 10,000). Furthermore, the reduction in airborne concentration of dust contributed to a five percent reduction in quality defects.

Meanwhile, CRDC also carried out an ergonomics program in the Metallurgical Lab to improve the comfort of the working environment. In the past, the experiment table in the Metallurgical Lab was designed for standing operators. In 2015, CRDC provided tables and chairs with matching heights in the lab, increased the height of the transfer tools, and independently developed a set of fixtures for sample preparation. After the program was put into effect, time for unnecessary walking, waiting and tool searching was cut, saving costs of more than RMB 680,000 (approx. USD 104,615). The program also equipped the lifting tools in the lab with a wireless control system, adjusting the operator's position based on his/her height to improve working efficiency and comfort.

8 Green Seal is a non-profit environmental standard development and certification organization. Green Seal's flagship program is the certification of products, services, restaurants, and hotels. The certification is based on Green Seal standards, which contain performance, health, and sustainability criteria.

Diverse Culture

We believe a diverse workforce is a stronger, more capable workforce. We select and place employees on the basis of their qualifications, without regard to race, religion, national origin, color, gender, age, native place, marital status, physical condition or any other factors forbidden by national and local laws and regulations. In China, as in other countries, our employees have the opportunity to provide comprehensive and constructive suggestions for the improvement and upgrade of corporate governance confidentially through regular employee experience surveys. This practice also reinforces the sense of belonging and group cohesion among employees.

Competitive Benefits and Content-Rich Training System

Healthy and proactive employees make a more powerful and united team. Caterpillar provides comprehensive benefit packages to encourage, support and guide our employees. We have always made use of our advantages to offer opportunities and generous returns to all employees.

At Caterpillar, cultivating capable and proactive employees is one of our most significant goals. To fulfill this goal, we have defined a range of development plans to help employees grow as professionals in their respective fields including human resources, information technology, engineering, technology, marketing and logistics. The plans typically involve several job rotation opportunities with a period of two to three years.

For more information about our employee policies, please visit http://reports.caterpillar.com/sr/focusAreas/ourPeople/

Building a Stronger World and Shared Prosperity Together

Caterpillar believes that the most successful companies will be those that integrate sustainability into their core businesses and actively promote progress in their communities. That is what we are doing at Caterpillar worldwide. Having done business in China for four decades, Caterpillar is committed to being a responsible and contributing corporate citizen.

From philanthropic contributions to volunteerism, philanthropy constitutes an integral part of our culture. We are pro-active members of our communities, and encourage our employees to take part in activities aiming to promote community progress. As individuals and as a company, we contribute our time and resources to promote the health, welfare and economic stability of the communities around the world.

Corporate Social Innovation

At Caterpillar, we focus on looking forward and ensuring that our business and philanthropy work together to make a stronger world where all people can thrive, and communities and economies grow.

Caterpillar advocates "Corporate Social Innovation (CSI)" or "catalytic philanthropy". We begin by understanding the basic human needs around us and then seek and establish partnerships with organizations with whom we can encourage participation by multiple parties and facilitate cooperation to address the root challenges together. Our global CSI approach consists of three strategic elements.

First, we believe that understanding the human implications of our business are at the forefront of our value creation chain, and are essential to how we approach business. At Caterpillar we integrate sustainability ahead of product launch. From intentionally designing products that can be remanufactured as opposed to simply discarded and replaced, sustainability is a core value of our business. Sustainability is the foundation for our approach to catalytic philanthropy.

Second, we are focused on moving toward intelligent collaboration as a way of addressing social issues. Partnerships are the future of business in a global economy. As opposed to tackling the world's biggest problems independently, we recognize that creative solutions emerge when we work together. For instance, to scale critical access to energy, building a coalition of private sector companies to partner with governments and non-profits can result in a stronger, more sustainable approach to delivering energy to more people in better ways.

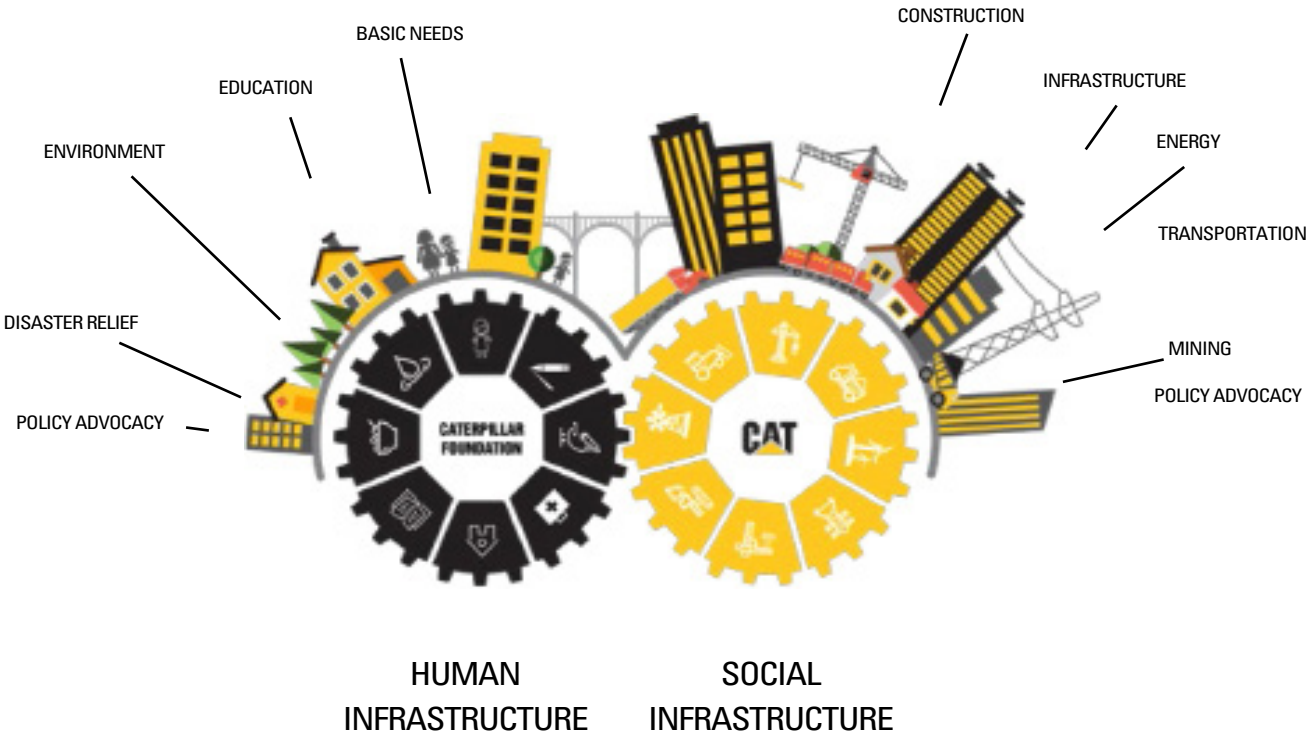
Finally, we believe in the need to further integrate philanthropy and business to conquer global issues. Private enterprise can scale innovations in unique ways, while philanthropic organizations provide an entry point for business in markets not yet ripe for 'for-profit' solutions to pressing human challenges. Our mission is to align, inspire and activate partners to alleviate poverty and make sustainable progress possible.

Together.Stronger.™

At the Caterpillar Foundation, we believe no one individual, company or organization can break the cycle of poverty alone. The strengths of different minds combined together with the wisdom from different experiences leads to more collaboration and more sustainable, scalable solutions to global issues. Just as in business, efficiency is also important to our philanthropic work. We believe that working together is the only way we can create sustainable progress.

Launched in 2014, "Together.Stronger." is our collaborative impact platform that unites businesses, non-profits, governments and citizens to combine their strengths to empower 50 million people to rise out of poverty by 2020. Through this platform, we can leverage the power of togetherness to better the lives of others, make full use of funds, make the best use of various forms of expertise, and complement each other's capacities through purposeful partnership and collaborative actions. Instead of short-term solo philanthropic fixes, which help alleviate immediate suffering, we focus on combining resources to work together in providing the tools to address the root causes of global systemic problems for long-term solutions. We believe this is a better use of our funds and our efforts.

The Caterpillar Foundation partners with groups like the United Nations Foundation, Global Alliance for Clean Cookstoves, Opportunity International, Global Poverty Project, the U.S. Department of State and others to build a collaborative ecosystem that employs advocacy, best-in-class on-the-ground programs, and the integration of business and philanthropy to scale strong global solutions.



Caterpillar Foundation Making Sustainable Progress Possible

Founded in 1952, the Caterpillar Foundation has contributed more than USD 650 million globally to help make sustainable progress possible for all. Through the Caterpillar Foundation, we strategically invest in three critical program areas: Stronger Life, Stronger Future, and Stronger Communities.

In China, the Caterpillar Foundation has committed a total investment of approximately RMB 15.9 million (approx. USD 2.5 million) for 2015 and through 2016.

Stronger Life

We believe that when basic human needs are met, people are able to more effectively pursue economic and educational opportunities. We invest in basic human needs around five key areas: food, water, shelter, energy, and disasters.

In 2000, the China Women's Development Foundation began to implement the Water Cellars for Mothers Program. Its mission is to ensure rural women and their families enjoy equal access to drinking water and water for productive use in water deficient regions, to liberate the workforce to improve family income and quality of life, to enhance the status of women at home and in society, and to ensure rural populations enjoy better hygiene and health conditions. Through the Caterpillar Foundation's support of the program in 2015, the organization provided drinking water to 886 families (including 3,600 people) and their more than 1,100 livestock, as well as water irrigation for more than 700 mu (approx. 466,669 square meters) farmland in rural areas of Chongqing city. The Caterpillar Foundation also supported a sub-project of the program in 2015, to help address the problem of a deficient, unhygienic, and unsafe water supply for teachers and students in rural areas.

Stronger Future

Access to a quality education helps break the cycle of generational poverty, contributes to business growth and builds strong economies. The Caterpillar Foundation invests in holistic programs in numeracy and literacy, mentoring and leadership, and workforce readiness.

In 2009, the China Development Research Foundation (CDRF) established the Village Early Education Centers to provide children in remote villages who have no access to early education with philanthropic, convenient and quality-guaranteed preschool education. CDRF expanded the project to Zhijin County, Bijie City, Guizhou Province in June 2012, with 72 preschool education stations set up in three towns. The number of education stations increased to 204 in 2015, with 204 volunteer teachers involved in the project, and 8,824 children benefiting. Among them, from June 2014 to June 2015, 40 preschool education stations benefited from the Caterpillar Foundation's support, with 1,125 children and 45 volunteer teachers involved. According to assessments, scores in language, sports, cognition and memory for children aged four to five have improved by 23 percent, 36 percent, 27 percent and 34 percent respectively within six months of the program. Meanwhile, the program monitors children in Zhijin County to address conditions of malnutrition. The Caterpillar Foundation also supports the basic needs and training of volunteer teachers, fueling their efforts in providing preschool education for the children in their care.

Stronger Communities

We facilitate environmentally focused partnerships in two key areas: conservation and disasters. By raising awareness, investing in nature and transforming business practices that impact our climate and the lands and waters people and nature rely on for survival, we aim to promote conservation wherever we do business. We are equally committed to responding to the needs of individuals and families impacted by natural disasters.

On August 3, 2014, a 6.5-magnitude earthquake hit Ludian County, Zhaotong City, Yunnan Province. The epicenter of the quake was recorded in Longtoushan Town in the county. Situated in mountainous areas and surrounded by rivers, the town experienced severe damage to local transportation infrastructure, especially bridges, which are critical for local villagers' daily life. Without bridges, local villagers could not rebuild their houses; students could not attend schools; daily business activities witnessed extreme difficulty. In 2015, the Caterpillar Foundation worked with China Foundation for Poverty Alleviation (CFPA) to support the reconstruction of five bridges in the town. About 10,000 villagers benefited directly from this effort, while another 10,000 villagers benefited indirectly.

Efficient Management

To get the most out of limited funds and achieve the biggest social impact, the Caterpillar Foundation uses systematic management methods and innovative operation ideas to improve its operational efficiency.

The Caterpillar Foundation has unique criteria for program selection and management to ensure the most efficient use of funds. We place great importance on program sustainability. One of our criteria is that Foundation support should not exceed 25 percent of the total program budget. In this way, we encourage grantees to broaden their funding sources and not rely too heavily on one or a few donors, allowing them to enjoy healthier financial performance. In addition, measurable results showing the beneficial changes brought by a program to its beneficiaries are mandatory before any application can be accepted.

We have actively introduced innovative ideas to increase program efficiency. For example, in China, most donors focus on post-disaster donations, but this is not always an efficient way to respond to disasters. As a result, the Caterpillar Foundation adopted a new model for our disaster relief efforts. We moved from a post-disaster donation model to investing in disaster preparation. In 2015, we collaborated with Give2Asia to set up the Disaster Preparedness and Mitigation Special Fund with CFPA, providing a funding base at the beginning of each year before any disaster occurs, which allows for an immediate response. Beginning with an initial investment of approximately RMB 1.6 million (approx. USD 250,000), each year the Caterpillar Foundation will allocate funds to CFPA through Give2Asia to be used throughout the year as disasters occur across the country.

The Caterpillar Foundation won the "Best Enterprise Foundation Management Award 2015"

In 2015, the Caterpillar Foundation won the "Best Enterprise Foundation Management Award 2015" in the 12th China's Best Corporate Citizenship Awards held by *21st Century Business Herald* and *21st Century Business Review*.

Employee Volunteering to Respond to the Needs of Local Communities

One of Caterpillar's goals is to connect, empower and engage our employees around the world to drive positive change in communities through volunteerism. Caterpillar China employees demonstrate the goal every day.

In 2015, Caterpillar conducted its first "Global Month of Service" in China, including Caterpillar employees from eight cities in China. Caterpillar employees and their families and friends generously gave back to their communities in a number of ways, including collecting litter, gardening, painting, collecting donations for migrant populations, accompanying handicapped children on outings, and serving underprivileged families in various ways. Volunteers from Caterpillar (Suzhou) Logistics Co., Ltd worked with the Suzhou Little Red Cap Volunteers Association in September 2015 to organize outdoor activities in Wujiang East Taihu Ecological Park for 15 children from the charity house in Wuzhong District, Suzhou. This event helped the children get closer to nature and improve their physical fitness

FIRST Tech Challenge (FTC) is an international robotics technology competition for middle school students aged 14-18, sponsored by FIRST, a world-renowned non-profit science and technology organization. Caterpillar and the Caterpillar Foundation began to support FTC in China in 2012. CRDC chose middle school teams lacking funding and technology and supported their participation in the competition, so as to ignite their passion for technology and innovation. As of 2015, Caterpillar and the Caterpillar Foundation have funded a total of 30 FTC teams in China and given consultations to over 300 students, especially those in remote areas with inadequate educational resources.

Our employees across China are also actively involved in local development of their communities. With cooperation between Caterpillar (Wujiang) Co., Ltd and the Industrial Technology School of Suzhou Industrial Park, the school's 2015 Electromechanical Engineering Department was named the "Caterpillar Class" and receives support in areas such as productive education and talent training.

In addition to encouraging Caterpillar employees to contribute to the development of their local communities, we also advocate activities that promote community development throughout the value chain. In March 2015, Core Executive Programme 1 trainees from one of our dealers, The China Engineers, Limited (CEL) coordinated a fundraising event within CEL to support The New Citizen's Teaching Micro-fund for Migrant Schools, which was established by the New Citizen Program. The program helps teachers in migrant schools implement new teaching practices and provide students with the resources they need to learn. The CEL trainees provided information about the program to their associates and raised funds through public campaigns, exhibitions and performances. Thanks to their efforts, a total of RMB 14,218 (approx. USD 2,204) was raised to support 18 practical education and teaching programs in Guangzhou and surrounding areas.

Forward-looking Statements

Caterpillar's actual results may differ materially from those described or implied in our forward-looking statements based on a number of factors, including, but not limited to: (i) global and regional economic conditions and economic conditions in the industries we serve; (ii) government monetary or fiscal policies and infrastructure spending; (iii) commodity price changes, component price increases, fluctuations in demand for our products or significant shortages of component products; (iv) disruptions or volatility in global financial markets limiting our sources of liquidity or the liquidity of our customers, dealers and suppliers; (v) political and economic risks, commercial instability and events beyond our control in the countries in which we operate; (vi) failure to maintain our credit ratings and potential resulting increases to our cost of borrowing and adverse effects on our cost of funds, liquidity, competitive position and access to capital markets; (vii) our Financial Products segment's risks associated with the financial services industry; (viii) changes in interest rates or market liquidity conditions; (ix) an increase in delinquencies, repossessions or net losses of Cat Financial's customers; (x) new regulations or changes in financial services regulations; (xi) a failure to realize, or a delay in realizing, all of the anticipated benefits of our acquisitions, joint ventures or divestitures; (xii) international trade policies and their impact on demand for our products and our competitive position; (xiii) our ability to develop, produce and market quality products that meet our customers' needs; (xiv) the impact of the highly competitive environment in which we operate on our sales and pricing; (xv) failure to realize all of the anticipated benefits from initiatives to increase our productivity, efficiency and cash flow and to reduce costs; (xvi) additional restructuring costs or a failure to realize anticipated savings or benefits from past or future cost reduction actions; (xvii) inventory management decisions and sourcing practices of our dealers and our OEM customers; (xviii) compliance with environmental laws and regulations; (xix) alleged or actual violations of trade or anti-corruption laws and regulations; (xx) additional tax expense or exposure; (xxi) currency fluctuations; (xxii) our or Cat Financial's compliance with financial covenants; (xxiii) increased pension plan funding obligations; (xxiv) union disputes or other employee relations issues; (xxv) significant legal proceedings, claims, lawsuits or government investigations; (xxvi) changes in accounting standards; (xxvii) failure or breach of IT security; (xxviii) adverse effects of unexpected events including natural disasters; and (xxix) other factors described in more detail under "Item 1A. Risk Factors" in our Form 10-K filed with the SEC on February 16, 2016 for the year ended December 31, 2015.

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