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# Textile Waste Turned New Fibre!

## A MAJOR BREAKTHROUGH AT SATERI

The global fashion industry continues to pursue more sustainable and environmentally friendly ways of meeting society's demand for new clothing. At the heart of these efforts is research into innovative new processes and materials that maintain quality and practicality.

Every breakthrough is reason to celebrate, inching us closer to a more circular industry. Enter Sateri, whose R&D efforts have uncovered a potential gamechanger.

Sateri has successfully produced, on commercial scale, viscose fibre regenerated from textile waste.

The high-quality new fibre uses a mix of dissolving pulp made from recycled post-consumer textile waste by Swedish company Södra and other PEFC-certified wood pulp.

Trialed at Sateri's Linz Nanjing yarn spinning mill using two advanced technologies - Siro compact and Vortex - the new fibre has proven compatibility with existing spinning technologies, ensuring stable yarn production without the need to adjust existing processes or parameters. The fibre also has excellent spinning efficiency and delivers yarn evenness and tenacity.

## FOSTERING COLLABORATION TO BRING RECYCLED FIBRE TO THE MASS MARKET

Sateri's breakthrough comes on the back of RGE's commitment to invest USD200 million towards next-generation cellulosic fibre innovation, announced in October last year.

As the industry looks on, Sateri and its partners are intensely focused on forging ahead. Sateri is already working with several dissolving pulp producers using various innovative

technologies to aid the push towards a circular bioeconomy.

Sateri will be partnering yarn customers, garment manufacturers and fashion brands to market and officially launch this new recycled viscose fibre product in the coming months, with the eventual goal of making recycled fibre available to the mass market.



*"The technology to regenerate textile waste into new cellulosic fibres is emerging and technically challenging but, in the past few months, our R&D team has worked hard to find the right balance between producing a recycled viscose product while maintaining high quality. Our ability to do so using a 35,000 ton-per-annum commercial production line is a breakthrough as it means we are now ready and capable of scaling up production to respond to market demand. We see this as a win for both the environment and our customers."*

- Allen Zhang, President of Sateri

*"Being part of the RGE group of companies allows Sateri access to world-class pulp production expertise. Coupled with our deep experience and competence in viscose production and our yarn spinning capabilities, this value chain integration puts us in a strong position to accelerate next-generation textile fibre innovation and production. The benefits to Sateri's yarn customers and brand partners are quality assurance, stability and responsiveness. We look forward to adding greater value and product offerings to support the development of a sustainable fashion industry - this breakthrough is the first of more to come."*

- Tom Liu,  
Sateri's Vice President for  
Sateri Sales and Marketing

*"We are delighted to be working together with Sateri to help create innovative, sustainable solutions for the textile industry. Södra's groundbreaking OnceMore™ technology is a world first in the separation of blended fabrics and recycling of textiles from post-consumer waste. It has huge potential to increase the circularity and recycled content of textiles and we are excited to begin this cooperation with Sateri. It's great to have a forward-thinking partner like Sateri onboard to drive this forward."*

- Johannes Bogren,  
Vice President of Södra Cell Bioproducts



# Sateri Mills To Comply with EU-BAT by 2023

Sateri's mill in Fujian, China ("Sateri Fujian") has been verified to meet all the relevant limits of the European Union Best Available Techniques (EU-BAT) BREF for Polymer Production. Verified by independent consultant, Sustainable Textile Solutions (STS), a division of BluWin Limited (UK), the parameters assessed included resource utility efficiency, wastewater discharge and air emission.

In its assessment report, STS noted that all factory parameters were within the range of EU-BAT limits; particularly its energy intensity, sulphur to air and chemical oxygen demand (COD) were well under the EU-BAT norms.

With the use of cutting-edge technologies for air emissions control, the total sulphur recovery rate of Sateri Fujian is over 98%. Sateri Fujian accounts for over 20% of Sateri's annual total production capacity.

Sateri Fujian, a greenfield mill completed in 2013, is the first of Sateri's five viscose mills to be assessed to meet the recommended limits set in EU-BAT BREF.

“Our vision is to be best-in-class in viscose fibre production. We aim to achieve a closed-loop system that optimises the return of waste to production process so as to minimise environmental impact. We commit to have all our existing mills in China voluntarily assessed against the EU-BAT standard to meet the standard's provisions by 2023.”

- Allen Zhang, President of Sateri

“The EU-BAT is specifically developed for adoption by industries in Europe. Sateri has demonstrated that it is going beyond regulatory requirements to be an early adopter in China. This is highly commendable and underscores Sateri's position as a leading global manufacturer.”

- Dr Siva Pariti,  
Sr. Consultant of STS

Read press release:



EcoCosy®  
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EcoCosy® Hangtags

Join us today!

Contact: Anyar Pan (yanhua\_pan@sateri.com)

a Sateri brand

Night view of Sateri (Fujian) mill at Jiujiang City, Jiangxi Province, China

# Responding to Climate Change – Decarbonisation Efforts



## World's first Viscose producer to reach CDP Leadership band

Sateri scored 'A-' in CDP (formerly Carbon Disclosure Project) for Climate Change in 2019. The results placed it in the Leadership band for implementing current best practices, alongside the top 27% of companies in its sector. This is the first time Sateri has participated in the annual voluntary reporting for CDP. Notably, it is also the first time that a viscose producer has reached the Leadership band.

Sateri attained an 'A' for more than half of the 11 categories it was assessed for, including value chain engagement, Scope 1,2,3 emissions, and governance. Its 'A-' overall score is well above the 'C' score averaged by companies globally, in Asia, and in the Textiles and Fabric Goods sector. No other companies in Sateri's operating sector managed to score an outright 'A'.

CDP's annual environmental disclosure and scoring process is widely seen as the gold standard of corporate environmental transparency. Sateri's performance against this metric is a strong reflection of how its long-term sustainability approach is being received within and beyond its industry.

“

“We are very pleased to achieve such a commendable score on our first attempt at CDP reporting. It is validation of our efforts and action to combat climate change and our contribution towards decarbonising the textile industry. The CDP platform not only helps us measure and benchmark our sustainability performance against more than 8,400 companies globally, but also serves as a management tool for continuous improvement.”

- Allen Zhang,  
President of Sateri

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## Sateri's fibre products reduce downstream carbon emissions - findings from EcoCosy® Climate Leadership Programme White Paper

Sateri and the China National Textile and Apparel Council (CNTAC) jointly launched the EcoCosy® Climate Leadership Programme in June 2019. The programme galvanises value chain partners to embark on a path to decarbonisation for the fashion industry, with the aim of reducing the industry's GHG emissions by 30% by 2030.

The EcoCosy® Climate Leadership White Paper 2020 released in January 2020 summarises activities conducted in the first phase of the Programme. It provides quantitative and qualitative analysis of the carbon reduction potential of Sateri EcoCosy® fibre products during yarn and fabric manufacturing processes, based on both existing literature and a baseline survey with yarn and fabric companies.

### KEY FINDINGS

#### ECOCOSY BV FIBRE SERIES:

Improved spinnability of Sateri's EcoCosy™ BV Fibre Series lowers energy consumption during yarn production, resulting in 37% less CO<sub>2</sub> emissions compared to polyester and 7% less compared to other viscose fibres

#### ECOCOSY COLOUR SERIES:

Sateri Colour™ Series' spun-dyed technology locks colours within each strand of fibre evenly, reducing the amount of energy, water and chemicals required in downstream textile production processes.

The White Paper also provides stakeholders a basic understanding of China's textile and apparel industry, and explores new pathways for value chain partners to jointly address climate change by realising a low-carbon economy.

Download the full White Paper at [www.bit.ly/ecocosy-whitepaper](http://www.bit.ly/ecocosy-whitepaper).

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MUTED  
HUE

TO THE MOON

FESTIVAL

SUBCULTURE

INNATE

# Trend Book

Get your copy now at [www.iloveviscose.com](http://www.iloveviscose.com)

# FIGHTING COVID-19

Sateri has taken important business continuity measures to safeguard the wellbeing of our people and stakeholders against the COVID-19 global pandemic.



We disinfect common areas and facilities in our premises several times a day. To minimise contact, employees are split into groups for work in separate shifts. They are required to complete health declarations, take their temperatures twice a day, and are constantly reminded of the proper use of masks and the importance of good personal hygiene.

Ensuring the health and safety of our employees has enabled Sateri to contribute to the global fight against COVID-19. As one of the three major suppliers in China for non-woven fabrics which are used in medical and hygiene products such as antiseptic wet wipes, we have been able to provide continuous supply of raw materials for the non-woven market.



Sateri, as part of Singapore-based RGE Group, also donated 390,000 surgical masks to the Jiangxi Red Cross Foundation for frontline healthcare workers in Jiuliang City, Hukou County and Luxi District.

**TOGETHER, WE WILL OVERCOME THE VIRUS!**



# Sateri

## Over the Last Decade

Sateri established itself in China as the country's first wholly foreign-owned cellulose enterprise in 2002. The first viscose mill, Sateri (Jiangxi) located in Jiujiang, started construction in the same year and began operating two years later with two production lines. For the next six years, Sateri continued to operate with one viscose mill, before rapid mill expansions started in 2010 that set Sateri on its path to become the world's largest viscose producer in a decade.

### 2010 2011 2012 2013 2014



Sateri Holdings lists on Hong Kong Stock Exchange.



Sateri (Jiangxi) Fibre Co. Ltd. mill completes its expansion from two to four production lines.



Sateri (Fujian) Fibre Co. Ltd. receives all necessary regulatory approvals for greenfield construction.



Sateri (Fujian) Fibre Co. Ltd. formally starts operations in Putian, Fujian, China.



Sateri's viscose staple fibre operations are privatised and separated from the company listed on the Hong Kong Stock Exchange.

### 2020

Sateri (China) Fibre Co. Ltd starts operations in Jiangxi, China.



Sateri (China) Fibre Co. Ltd. starts production in late 2019 and has two production lines with a total design capacity of 250,000 tonnes per annum. Located close to Sateri (Jiangxi) and Sateri (Jiujiang) in Jiangxi province, this greenfield project is Sateri's latest addition to the family.

### 2015



Sateri (Jiujiang) Fibre Co. Ltd. acquires a viscose staple fibre mill from Jiangxi Longda and puts the operation under its own name.

### 2016



Sateri completes its acquisition of a controlling stake in Linz (Nanjing) Viscose Yarn Co Ltd, a spinning mill set up in 2007 by Austria's Linz Textil.

### 2017



Sateri issues its Sustainability Policy to spell out its commitment to environmental protection and corporate social responsibility. Sateri officially breaks ground for expansion of Jiujiang mill and publishes its first Sustainability Report.

### 2018



Sateri completes Higg Facility Environmental Assessment for Responsible Manufacturing, receives international certification STeP by OEKO-TEX® for responsible viscose production, and 100% bio-based certification from the United States Department of Agriculture (USDA) for its products.

### 2019



Sateri becomes world's largest viscose fibre producer at 1.1 million metric tonnes per year after acquiring Jiangsu Xiangsheng Viscose Fiber Co. Ltd. and renaming it Sateri (Jiangsu) Fiber Co. Ltd.

Sateri, together with nine leading global viscose producers and two trade associations, launches 'Collaboration for Sustainable Development of Viscose' (CV).



Delivery of the first batch of premium grade viscose bales from Sateri (China) mill to its customers in January 2020.

# An Interview with:



Senior Product Manager, Children's Wear Division, Xu De Ben



**Tell us more about 361° and what you do at 361°.**

Established in 2003, 361° is a leading sportswear enterprise in China. The Group is an integrated sporting goods company which principally engages in brand management, research and development, design, manufacturing and distribution. Our comprehensive product portfolio comprises footwear, apparel, accessories under the 361° Core brand, 361° kids brand, and ONE WAY, an authentic Finnish brand for premium functional and specialised outdoor products.

The Group operates a distributorship model through tier-one exclusive distributors and second-tier authorised retailers to manage an extensive distribution network of over 7,000 retail stores across China and approximately 3,000 points of sales across the world. We have also established a leading position in third-tier and other cities in China.

Leveraging differentiated products and strong brand equity, our global footprint spans more than 24 countries including United States, Brazil, and countries in Europe and the Middle East.

I have been with the company for four years as Senior Product Manager of Children's Wear Division, responsible for the overall planning, development, technology, and cost management of the technical department.

**Why did you choose to partner EcoCosy® as the preferred material for your products?**

The world's resources today are continuously depleting and environmental pollution is becoming a serious problem. More and more people are gradually aware of the need for environmental protection and value renewable materials. As a leading company in the fashion and apparel industry, 361° shares the responsibility for sustainable manufacturing and energy conservation.

“  
**COLLABORATING WITH ECOCOSY HAS IMPROVED THE PERFORMANCE AND DIVERSITY OF 361°'S CHILDREN CLOTHING SERIES**  
 ”

EcoCosy® products fulfil these requirements. Sateri, as the owner of EcoCosy® brand, places great emphasis and puts in tremendous effort on the sustainability front. Not only are EcoCosy® fibres a renewable resource, the fibre characteristics of comfort, softness, skin-friendliness and safety suit the needs of our children's wear consumer groups. Collaborating with EcoCosy® helped improve the performance and diversity of our children's clothing series.

**Tell us more about your experience at Sateri's brands visit to Kerinci in Indonesia last year.**

To be able to stand right at the place where all these raw materials used in our clothing came from was an eye-opening experience! I saw the perfect balance of landscape management taking place - from the breathtaking renewable plantations to the peatland forest conservation and restoration efforts; from the economic benefits to the country to the local community development - the entire system now makes sense. Besides this, I witnessed the extensive use of technology, innovation and science-based approaches to help the company make important decisions.

With the scale of the company and the influence it has over its peers in the world, I am excited to be working closely with Sateri and EcoCosy®.

If there is a chance, I look forward to the opportunity to visit again for a deeper understanding and learning experience!

**What are your future plans with EcoCosy®?**

This year, we made 100,000 T-shirts using EcoCosy® fibres. We will increase the volume and jointly promote EcoCosy®. In 2021, we plan to incorporate environmental protection and recycling concepts into the overall planning for clothing and accessories, increase product range and coverage, as well as conduct joint promotional activities with EcoCosy®.



(Top) Helicopter ride during Kerinci site visit for a bird's eye view on renewable plantations. (Centre Right) A short hike through the RER (Restorasi Ekosistem Riau) conservation area. (Bottom Right) Helicopter ride pre-departure. (Left) 361° casual series with Sateri's EcoCosy® hangtag

# UNDERSTANDING BIODIVERSITY

## ODONATA SPECIES AS WATER QUALITY INDICATOR



Sateri, together with Restorasi Ekosistem Riau (RER), has embarked on a study to document the Odonata (dragonflies and damselflies) species of the Kampar Peninsula, Sumatra, Indonesia. Odonata are carnivorous winged insects with aquatic larvae dependent on water for development at the larval stage. They are a well-known flagship group for insect conservation and can serve as proxy indicators of water quality and ecosystem health of the immediate environment where they are found.

(Above) The blue river damsel *pseudagrion microcephalum*- found in RER, Kampar Peninsula, Indonesia

(Left) *Neurothemis Ramburii* - found in RER, Kampar Peninsula, Indonesia



(Pictured Left) DR. RORY A. DOW, MAIN RESEARCHER OF ODONATA PROJECT

Dr. Rory A. Dow has over 15 years' experience in Southeast Asia with taxonomic studies on Odonata and is a member of the IUCN Dragonfly Specialist Group. The Muhammadiyah Riau University provides local academic field support through its Biology Department.

Peat swamp forests are home to a number of specialised species of Odonata and some of the largest remaining of such forests can be found in Indonesia's Kampar Peninsula and on Padang Island. A significant part of these two landscapes are managed by Sateri's strategic supply partner, APRIL Group, with 150,000 ha specifically managed under the Restorasi Ekosistem Riau (RER) initiative which aims to protect and restore ecologically significant degraded peat swamp forests.

Little is known about the Odonatan fauna in Sumatra, and baseline surveys of Odonata in this habitat type are of urgent importance for the conservation of individual species and to provide information about water quality and local ecosystem health.

The main objectives of the study's initial phase are to establish a baseline inventory of the Odonata present in the Kampar Peninsula and develop a Dragonfly Biotic Index (DBI) for the area. Once established, a DBI metric provides a means of monitoring and measuring the environmental health and conservation status of aquatic ecosystems over time.



Although insects play a critical role in the ecosystem and are incredibly diverse, they are often overlooked. This Odonata survey is one of the first on the Kampar Peninsula and has provided us with significant insights which have included new records of species in Indonesia. We look forward to learning more about the dragonflies and damselflies of the peninsula and exploring their potential as environmental indicators with the development of the DBI, in coming months".

- Dr. Chela Powell, RER Restoration Manager.

### INITIAL FINDINGS OF THE STUDY

- |   |   |   |   |   |  |
|---|---|---|---|---|--|
| 1 | A total of 57 species were identified, representing 10 families. There are 102 species of Odonata known to be present in Riau province. | 2 | At least 14 of the species recorded represent first records for either Indonesia, Sumatra including satellite islands, mainland Sumatra or Riau province. | 3 | 22 species are forest dependent and 14 species have a strong preference for low pH water habitats. The pH of water in RER rivers is below 4.0. |
| 4 | One species is listed as Endangered by the IUCN red list, another species is Vulnerable and four others are Near Threatened.            | 5 | One species found is possibly new to science, but further study is required before confirming this.   | 6 | 3 more surveys are planned for 2020.   |

# Sateri Color™

EcoCosy 优可丝 系列产品



时刻纤活, 菁彩绽放  
LIVING COLORS

## 赛得利菁彩™ 纤维

### Sateri Color™ Viscose



原液着色, 色牢度好  
Spun-dyeing for Excellent Fastness Properties

色度值高, 色度均匀  
Vibrant Color Depth & Uniformity

无需染色, 节能环保  
Energy Saving & Sustainable Production

可纺性优异  
Excellent Spinnability

注: 数据源自中国化学纤维工业协会发布的《绿色纤维标志认证说明书》。  
Remark: Data from the Manual for Certification of Green Fibre Logo published by China Chemical Fibers Association.

## GET IN TOUCH

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A close-up photograph of a woman and a young girl. The woman, on the left, has long dark hair and is wearing a light green long-sleeved top. She is smiling warmly at the girl. The girl, on the right, has her hair in a bun and is wearing a pink long-sleeved top. She is looking up at the woman and has her hand near her mouth. They are both smiling and appear to be in a close embrace. The background is a plain, light-colored surface.

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