PRODUCT SUSTAINABILITY REPORT 2020

SAYA

Business of Renewal

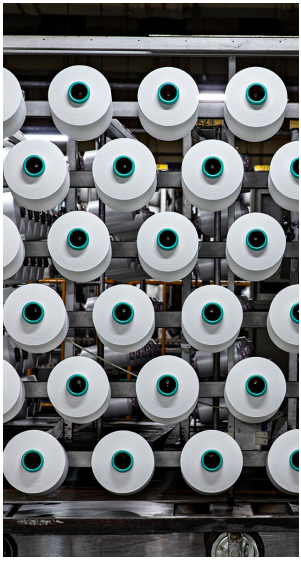
About Us

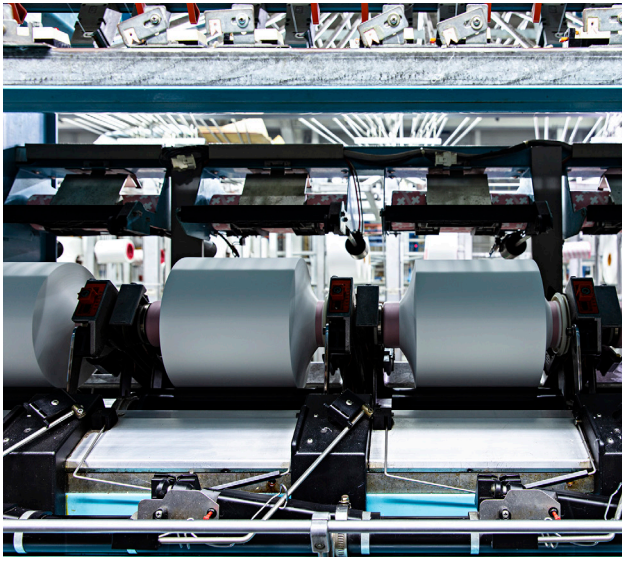
Building a Better Tomorrow

Nan Ya is part of the Formosa Plastics Group, a family business that was founded by two brothers in 1954. More than 60 years later, Formosa has become one of the largest private companies in Taiwan.

One of Formosa's core values is to promote the concept of the circular economy through the products it creates and by reducing its own environmental footprint.

As a global leader in performance fibers, Nan Ya's mission is to reliably deliver quality, sustainable fibers through a transparent supply chain. We continually work to improve our environmental performance and create innovative products. We foster close pa rtnerships with our customers to co-create solutions that enable brands to stay ahead of fast-moving market trends and improve the environmental performance of their products.





Overview

- Premier producer of recycled polyester fiber in the world[1]
- Production capacity of 174,000 tons/year of rPET
- 4000 employees
- US$11+ billion in sales
- High-performance polyester products: Recycled pellets, yarns, and textiles for apparel, footwear, furniture, outdoor equipment, automotive, tires, and many other applications
- Polyester fiber division: 13 production facilities

Our Plants

New Taipei City
TAIWAN

Nhon Trach
VIETNAM

South Carolina
USA

Kunshan
CHINA

Our Sustainability Journey

Year after year, we strive to build upon our successes by finding innovative ways to improve the sustainability performance of our products.

2010-2015

Launched bottle-to-textile recycling

Draw and spin fibers with post-consumer recycled content PET (rPET) chips from Japan

Received certification from Global Recycled Standard (GRS) 2.0

2016-2018

Switched to in-house rPET flake and chips manufacturing to ensure a steady and transparent supply while rapidly scaling up capacity growth to meet global demand

Expanded to new streams of GRS certified rPET flake to include sources from Japan, Taiwan, China, Vietnam, Thailand, Philippines, Indonesia, USA

Launched antimony-free virgin PET (titanium-based catalyst)

2018

Recycled 32,000 metric tons of plastic bottles into rPET yarn

2019

Recycled 65,000 metric tons of plastic bottles into rPET yarn

2020

Expanded recycled processing capacity to 174,000 tons/year

GRS 4.0 certified

bluesign® certification for select manufacturing sites

Pilot SAC's Higg Facility Environmental Module (FEM)

Adoption of Higg Material Sustainability Index (MSI) to assess environmental impacts of materials and processes

Converting garment cutting scraps and overstock fabrics into new yarn - the SAYA RSCUW Project

Offering bottle and garment sources with regional specificity

2021>

Complete phase out of traditional PET catalyst (antimony-based* catalyst, which can pollute rivers and drinking water)

bluesign® certification for additional manufacturing sites

Roll-out SAC's Higg Facility Environmental Module (FEM) to additional manufacturing sites

Pursue Fair Trade certification to ensure we make a positive difference for the workers that make our products

Collaboration with key clients to continue to develop pioneering products that deliver improved sustainability performance

Creation of online access of traceability data for customers

Our Certified Commitment to Sustainability

We partner with independent verifiers to hold ourselves accountable to the highest sustainability standards. Independent verifications provide assurance to our customers that our products meet or exceed rigorous global standards.

bluesign®

bluesign® ensures we've eliminated harmful chemicals, reduced energy and water usage, and properly managed and reduced air emissions and wastewater. Two of our dyeing and finishing facilities are bluesign® certified. We are in the process of obtaining bluesign® certification for our yarn manufacturing facility in Taiwan.

OEKO-TEX Standard 100®

Our products have received the OEKO-TEX STANDARD 100® ensuring that our products meet strict chemical standards.

Sustainable Apparel Coalition (SAC) Verified Higg Facility Environmental Module (FEM)

The Higg vFEM provides an a verified assessment of our environmental performance and identifies opportunities for continuous improvements that we will use in future decisions. We're piloting SAC's vFEM with one of our a key manufacturing sites in Taiwan. Bureau Veritas is providing third-party certification verification of our vFEM assessment. We will plan to use the results to identify areas for improvement and continue to improve our vFEM score. We also plan to roll-out the Higg vFEM to other manufacturing sites.

SAC Material Sustainability Index (MSI)

We are using the MSI to assess our materials. Our goal is to better understand the impacts of our materials and to identify opportunities for improvement. We plan to disclose our scores each year so that customers can track our progress. We are also submitting detailed environmental data for our materials to the SAC so that the information can be added to the MSI database for the entire industry to use.

Textile Exchange's Global Recycled Standard (GRS) 4.0

GRS has certified the recycled claims for all of our recycled products by tracing our input materials, conducting on-site audits, and assessing every stage of production.

OceanCycle Certification

We recently partnered with OceanCycle in our efforts to collect plastic waste from coastal communities and recycle it into our products. OceanCycles certification addresses where and how the recycled material is collected, ethical working conditions, and traceability from collection to final product.

Introducing SAYA®

Our Newest Recycled Polyester Fiber

SAYA Now®

More than a million plastic bottles are purchased every minute (that's about 20,000 bottles per second). Only about 7% of those bottles are recycled into new bottles.[2] The remaining plastics are landfilled, incinerated, burned, or clogging waterways, littering our beaches and roadsides, and harming marine life. The production of virgin plastics also consumes massive amounts of energy and emits large quantities of greenhouse gas emissions.

We are focused on being part of the solution. We have created a line of products that breaks this chain of production to trash by capturing plastic waste and transforming it into high-performance textiles.

SAYA Now® is our newest recycled polyester fiber made of 100% post-consumer[3] recycled PET (rPET) from plastic bottles.

By using post-consumer materials for our SAYA Now® products we create demand for the materials and give them a new life. This prevents them from piling up in landfills, ending up as litter, or finding their way to rivers or oceans. That's why we're proud that SAYA is made of 100% post-consumer recycled material.

SAYA Now® is made from post-consumer recycled materials, including recycled plastic water and soda bottles.

SAYA Next®

SAYANEXT

Fabric cutting scrap is an inevitable part of garment manufacturing that results in up to 30% wastage per linear yard. Most of this fabric scrap ends up in landfills or incinerators as commercially viable recycling systems have not been readily available. As a leader in the fiber and textile industry, SAYA has been committed to finding a solution. Working together with our global network of brands and garment manufacturers worldwide, SAYA is tackling the issue head on with SAYA Next®.

SAYA NEXT® is the industry's most advanced mixed content recycling program and includes products made from recycled fabric scrap and overstock fabric and yarn.

Seeking to provide solutions to the industrial waste problem shrouding our industry, SAYA RSCUW addresses the garment industry's largest areas of waste: cutting scrap and overstock fabrics. SAYA RSCUW creates new recycling possibilities for materials that would typically be discarded.

In 2021 we will add post-consumer garment recycling to the SAYA Next® product line.

SAYA Next® is made from post-industrial[4] recycled materials, and includes our SAYA RSCUW (Recycled Scrap & Cutting Waste) project.

Environmental Benefits of SAYA®

By the Numbers

SAYA® uses significantly less energy and emits fewer greenhouse gas emissions compared to virgin polyester production. An analysis by Utrecht University found that sourcing mechanically or chemically recycled polyester fibers results in a reduction in energy use by 45% to 85%, and a reduction in global warming potential of 24% to 76% compared to virgin polyester[5].

We completed an internal analysis of our own recycled and virgin polyester chip production. The analysis found significant reductions in energy and greenhouse gas emissions of recycled chip compared to virgin chip production:

Mechanically Recycled Polyester Production
(compared to our virgin polyester production)

Energy Consumption

CO_2e Emissions

Chemically Recycled Polyester Production
(compared to our virgin polyester production)

Energy Consumption

CO_2e Emissions

By producing 65,000 metric tons of recycled polyester in 2019 we estimate the following reductions in greenhouse gas emissions and energy consumption (compared to producing the equivalent amount of virgin polyester):

- **47,900 Metric Tons of CO2e Saved**
- **589,872,200 MJ of Electricity Saved**

Producing 65,000 metric tons of rPET instead of virgin polyester reduces greenhouse gas emission equivalent to:

Driving a car 118 million miles

More than 8 million metric tons of plastics end up in the ocean every year. That is equivalent to dumping the contents of one garbage truck of waste into the ocean every minute[7]. Our aim is to divert plastics that may have otherwise ended up in the ocean into a second useful life by creating a demand for recycled plastics.

We are actively partnering with organizations in Thailand, Vietnam, Philippines, Japan, Indonesia, and Taiwan that collect plastics near the ocean for recycling. These plastics are certified by GRS and OceanCycle. OceanCycle is reimagining the circular economy through sourcing, certifying, and reusing materials to prevent ocean plastic pollution.

The total amount of polyester produced globally each year is about 55 million metric tons. Only 13% of that is made from recycled PET[8].

Nan Ya currently represents about 1% of the production of recycled polyester globally and we are committed to growing that number each year.

Our Goal

Represent 2% of the global production of rPET by 2021

SAYA® Raw Material Sourcing

We've created a robust supply chain to ensure uninterrupted access to high quality post-consumer recycled PET bottles and flake, the raw material that goes into our SAYA® products.

- Nan Ya partners with over 40 recyclers globally to ensure uninterrupted access to rPET
- SAYA® is fully traceable and certified by Global Recycled Standard (GRS) 4.0

Many producers of recycled polyester have faced challenges sourcing recycled PET bottles and flake due to import restrictions. We've been able to ensure uninterrupted access to these raw materials by building proprietary flake-to-chip facilities on-site at bottle collection facilities in Thailand, Philippines, and Vietnam. These facilities turn recycled PET flake into chips that are shipped to our yarn facilities for extrusion into high quality yarns. This strategic infrastructure enables us to import the raw materials for recycled polyester into countries that restrict the import of unprocessed recycled PET bottles and flakes.

Traceability in the Supply Chain

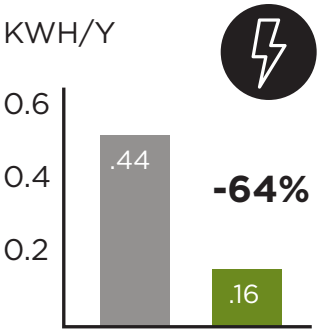
Nan Ya has a robust tracking and tracing program to ensure Global Recycled Standard GRS 4.0 certified content in our materials. Our materials contain a unique anti-forgery tracer in the final rPET fiber. This tracer combined with our internal data systems enables us to trace the recycled material from the final products back to the original procurement of the raw materials. These assurances enable brands to provide verified recycled content claims on their products.

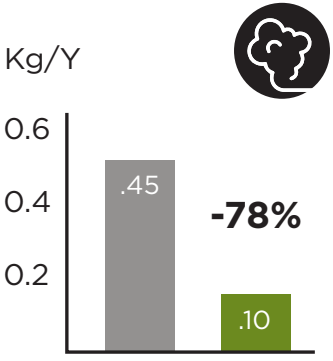
Antimony-Free

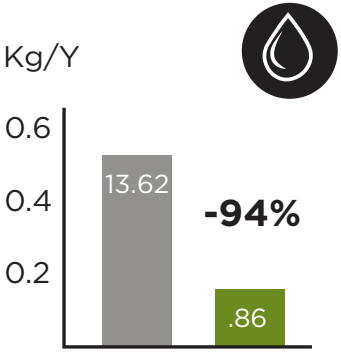
We've taken proactive steps to eliminate antimony (SB), a traditional catalyst for polyester from the production of SAYA®. We're proud to offer antimony-free recycled PET option on select collections.

Enhancing the Environmental Profile

For an even greener profile, our innovative water-free solution-dying process, CHROMUCH® can be combined with our SAYA® product. CHROMUCH® is an innovative solution-dyed technology that blends pigments and dyestuff into the fiber, giving textiles a more brilliant and deeper color that is longer lasting. CHROMUCH® uses 64% less energy, 94% less water, and emits 78% fewer greenhouse gases compared to piece-dyed materials







Piece Dye CHROMUCH

Performance Attributes

With SAYA®, there is no compromise. SAYA® has a superb environmental profile and world-class technical performance. SAYA® meets the highest yarn specifications and is available in a wide array of options to meet your needs.

Performance options include:

- Moisture Management & Quick Dry
- Thermoregulation, Insulating & Cooling
- Weather Protection
- Odor Control & Anti-microbial
- Stretch
- Lightweight
- Fine Deniers & Micro-Soft Touch
- Cotton-Like Feel
- UV-Protection
- Anti-Static
- Anti-Transparency

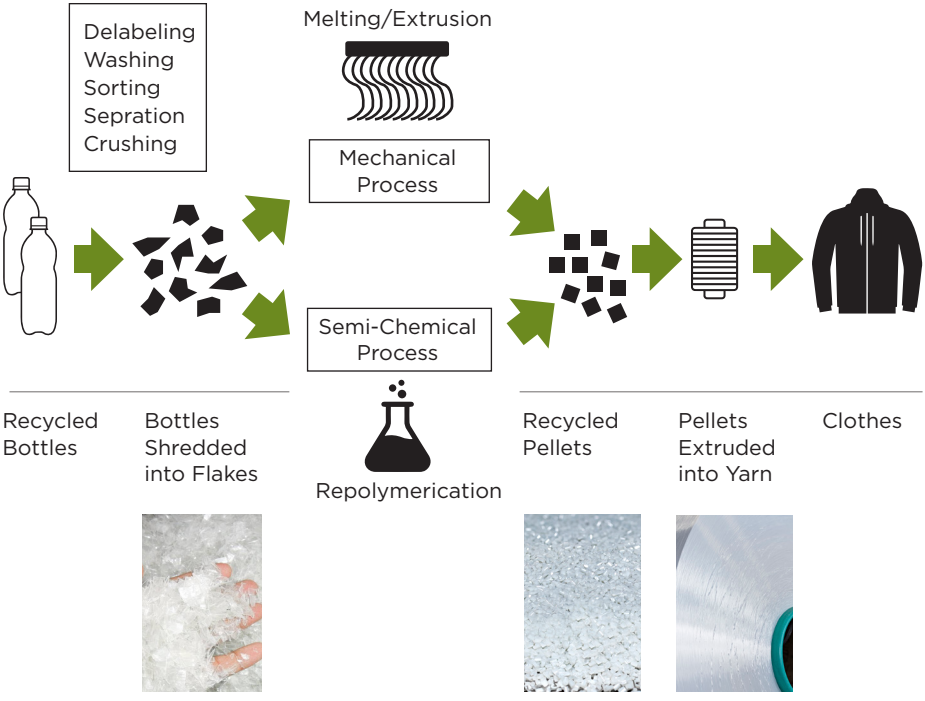
SAYA® Recycling Technology

SAYA® is produced using proprietary mechanical recycling and chemical recycling processes at our facilities.

Our enhanced mechanical and chemical recycling processes include:

- Pretreatment of rPET flakes: 5-stage sorting and 2-stage purification
- Batch optimization, real-time color control, and real-time physical/chemical quality control

Process Overview



Footnotes

[1] Based on production volume

[2] The Guardian: A million bottles a minute: world's plastic binge as dangerous as climate change: https://www.theguardian.com/environment/2017/jun/28/a-million-a-minute-worlds-plastic-bottle-binge-as-dangerous-as-climate-change

[3] Post-consumer recycled material is from waste that is generated after a product has been utilized and can no longer be used for its intended purpose. This includes items such as soda bottles and water bottles.

[4] Pre-consumer recycled material is material diverted from the waste stream during the manufacturing process. This includes items such as fabric scraps from the cutting room floor at a clothing manufacturers.

[5] Utrecht University: Open-loop recycling: A LCA case study of PET bottle-to-fibre recycling: http://www.eco-core.eu/LCA%20Article%20in%20Press%2007.09.10.pdf

[6] measured in Carbon Dioxide equivalents (CO_2e)

[7] Ellen MacArthur Foundation 2017. The New Plastic Economy: Rethinking the Future of Plastics & Catalyzing Action: https://www.ellenmacarthurfoundation.org/publications/the-new-plastics-economy-rethinking-the-future-of-plastics-catalysing-action

[8] Textile Exchange: Preferred Fiber & Materials Market Report 2019: https://store.textileexchange.org/product/2019-preferred-fiber-materials-report/

SAYA

SAYArenew.com

SAYA a Renewal Innovation of Nan Ya Plastics