



SAYA



南亞塑膠公司
NAN YA PLASTICS CORPORATION

a responsible brand by Nan Ya Plastics



Introduction on Garment Cutting Scrap Recycling with SAYA



Putting things in
perspective...

Nan Ya Plastics
#800
US\$20.06B

About Nan Ya Plastics Group

Global Employees	11,427
Established Since	1958
Registered Capital	US\$2.69 billion

Vietcom Bank
#814
US\$18.13B

Formosa Plastics
#981
US\$19.49B

Formosa Petrochemical
#1062
US\$26.46B

Forbes

The World's
Largest Public
Companies
2023



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The background of the image shows two large, rectangular bales of crushed plastic bottles, likely PCR (Post-Consumer Recycled) bottles, stacked vertically. The bales are made of clear and blue plastic, and are secured with black straps. They are set against a clear blue sky with some light clouds. The right side of the image has a solid green overlay where the text is located.

8,000,000,000

PCR Bottles Renewed
by SAYA in 2023



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SAYA 365

Rscuw



Post-consumer Recycled Bottles

1,000,000+ bottles are sold every minute globally.



Textile Scraps and Offcuts

5%-25% offcuts from garment production.



Off Grade Fabric

100% of companies have some off grade fabric.



Used Garments

15% of global plastics are used for garments.

**on average
15% of fabric become cutting scrap waste in
garment production**



**This equals about
300,000 tons
of textile waste each year
in Vietnam**

Cutting scrap is also calculated into brands' product CO2 emission

Scope 1

- Fuel combustion
- Company vehicles
- Fugitive emissions

Scope 2

- Purchased electricity, heat and steam

Scope 3

- Purchased goods and services
- Business travel
- Employee commuting
- **Waste disposal**
- Use of sold products
- Transportation and distribution

*Ref: What are Scope 3 emissions and why do they matter?, CARBON TRUST

<https://www.carbontrust.com/our-work-and-impact/guides-reports-and-tools/what-are-scope-3-emissions-and-why-do-they-matter>



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Brands starting to take action on Scope 3 (cutting scrap waste)



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Climate & Energy | Industry Insight | Circular Economy | ESG Investors | Climate Change

Despite climate pledges, fashion brands 'way off track' on cutting carbon from the catwalk

targets 56% reduction in Scope 3 emissions

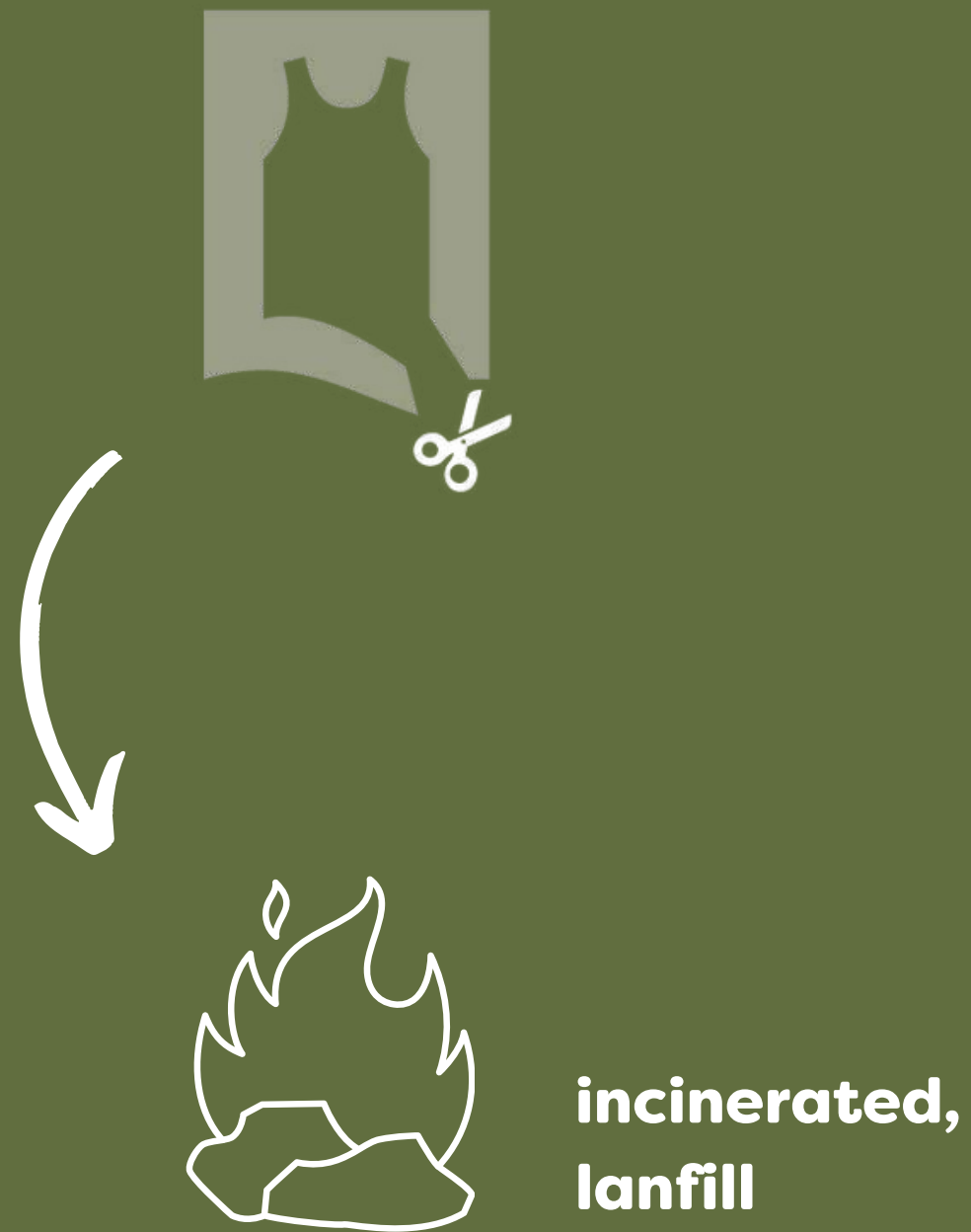
Scope 3 emissions by
2030, compared with a 2019 baseline. This is the case in most companies, where Scope 3 emissions are 90
times emissions in its own operations. Its latest report, for 2022, shows it's so far cut them by 7% to
around 5.6 million tonnes, compared with its 2019 baseline. And this progress doesn't include the
consumer use phase, which adds another 1.4 million tonnes.



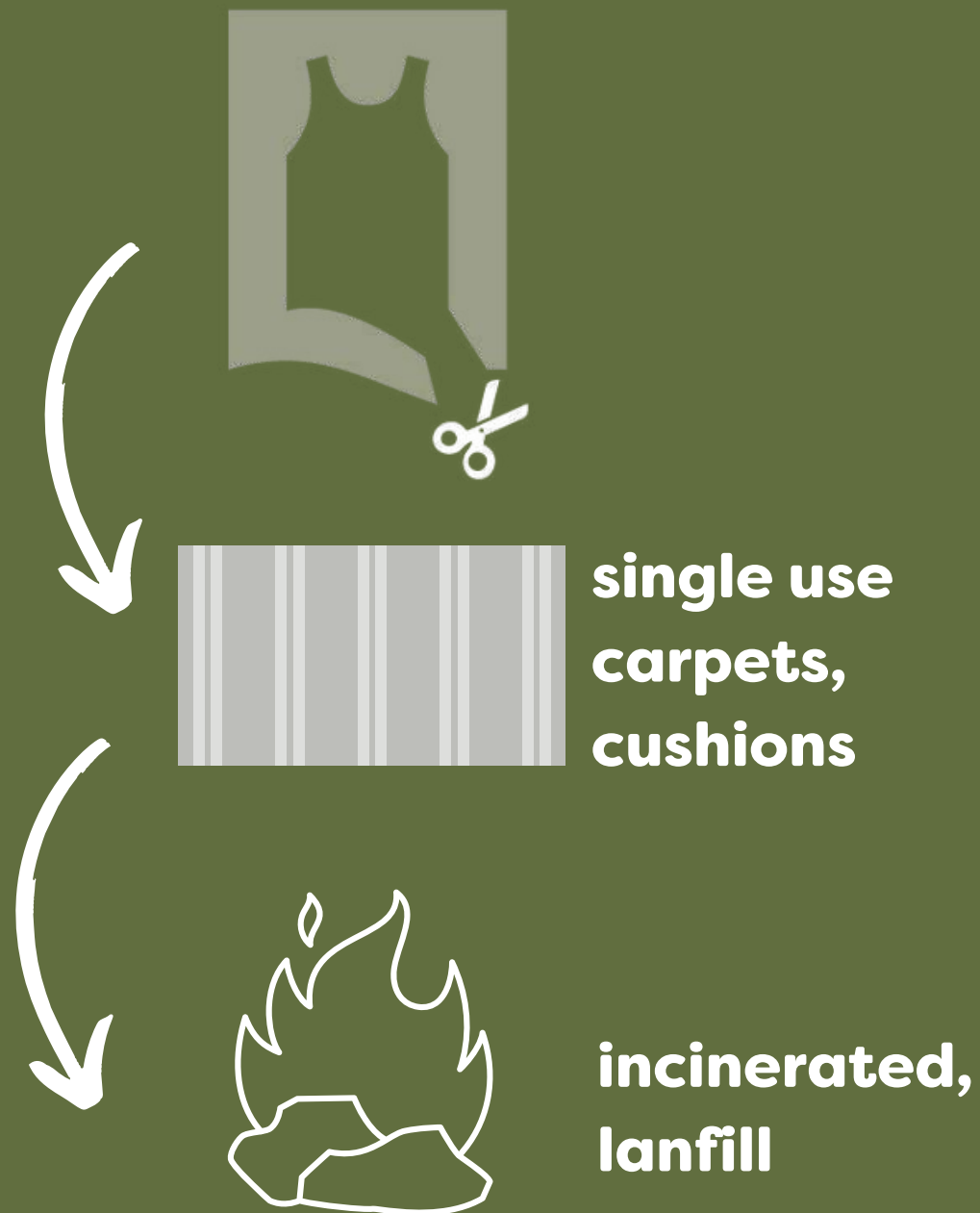
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Different Approach on Cutting Scrap

Disposal



Downcycle



Recycle



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Fast fashion doesn't recycle your used clothes

The circularity scam that always ends up in a landfill



- **Downcycled or Destroyed:** Seven items were quickly destroyed, in poor condition. Some were used as fuel to produce energy in cement plants, contrary to the brands' claims about downcycling or burning for fuel only items not suitable for reuse.
- **Resold in Europe:** Only five items have found a second life in second-hand clothing stores or with customers on the same continent. Although promising, this used clothing trade in some regions contributes to the waste problem in countries with significant challenges.
- **Just disappeared:** Several items have been trapped in the global used clothing trade, stagnating for months in indeterminate locations or warehouses, never fulfilling brands' promises of reuse or recycling.
- **Sent off to Africa:** The most controversial category involves clothing shipped to African countries, entering the massive second-hand clothing markets with

Recycling Feedstock Comparison

Feedstock	Recycling method	Price	Color	GHG (kg CO ₂ e)	Water Use (m ³)	Circularity
Bottle	Mechanical	Standard	White	0.53	0.14	NO
100% PET textile	Mechanical	Standard	White - Yellow	0.53 + x	0.14 + x	YES
Blended fiber or textile	Chemical	4x Standard	White	1.3 + x	2.1 + x	YES

x = resource for textile pre-treatment

*Ref:
Nan Ya Plastics, Taiwan
2023 American Chemical Society (ACS) Sustainable Chem. Eng.



Cutting Waste Recycling Challenges



Paper marker



Fabric with blends & treatment finishes



Scrap separation by fiber content

Textile to Textile Recycling Needs your help

- **Building new infrastructure together -**
 - **Sorting**
 - **Handling**
 - **Logistics**
- **Seeking collaboration with Vietnamese stakeholders to enable textile waste circularity**



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Innovating Renewal Technologies

Q&A

Mike Shih *Marketing Executive*
change@sayarenew.com

 Sayarenew.com

**Contact us if you have
100% PET feedstock!**