Investing in recycling

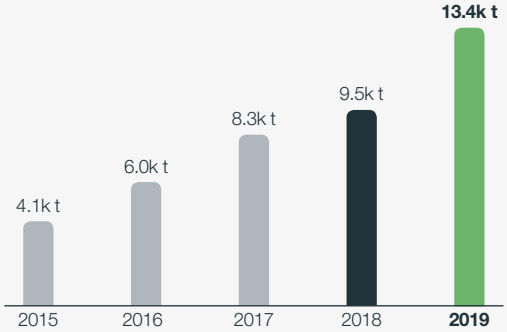
'Thor' Mobile Hammermill Shredder

The average PVC-U window can be recycled up to ten times without any loss of quality.

Strategic priority

Increase the use of recycled materials

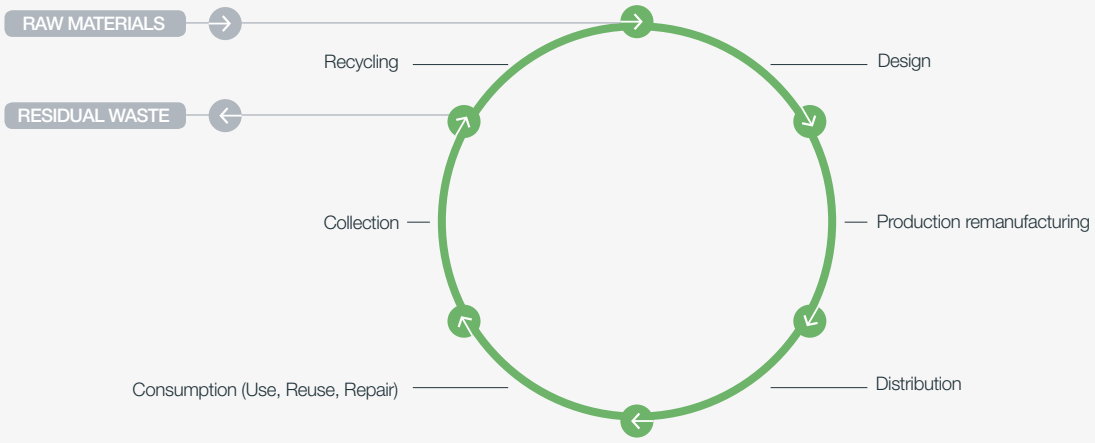
Use of recycled PVC in Eurocell manufacturing



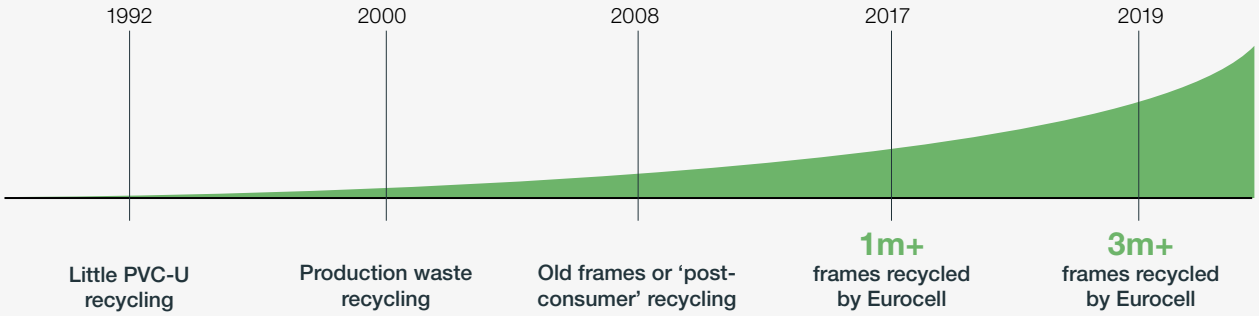
The benefits of a PVC-U circular economy

The PVC-U industry has operated its own circular economy for a long time.

It has been known as closed-loop recycling, and it provides a system for cradle-to-grave re-use of PVC-U, which leading industry players, such as Eurocell, have developed and championed.



The evolution of PVC-U recycling: 25 years of progress



Re-assessing PVC-U

- The average PVC-U window can be recycled up to ten times (with a life cycle of up to 350 years) without any loss of quality.
- Recycled PVC-U can be harder wearing than virgin resin and the proportion of additives can be adjusted to ensure it keeps its strength.
- Eurocell Recycling Midlands recently celebrated its closed-loop recycling 11th anniversary.
- Recycling rates for PVC-U are high in comparison to timber.
- Whereas PVC-U can be reprocessed for high-value products or 'upstream' recycling, the fibres in recycled timber breakdown during the process meaning it can only be used for low-grade products or 'downstream' recycling.
- Timber use driven by consumption in Western Europe is also a major contributor to deforestation.
- Up to 50% of the timber windows removed from refurbishment projects in the UK end up as landfill.
- Timber frame manufacturers do not have comparable advanced pathways for returning and recycling old frames – the paint, stains and preservatives in treated wood make it more difficult to recycle and potentially harmful to the environment.
- Because plastic is an insulator PVC-U windows and doors are like-for-like more energy efficient than aluminium or timber.

End-to-end sustainability

Our Eurocell Recycle 9-step factory process

Bulk transportation
Around 35% of the recycled material is used onsite, whilst the rest is transported in tankers to our main extrusion facility, minimising our carbon footprint.

Washing
Using a series of water tanks, contaminants are 'floated' out.

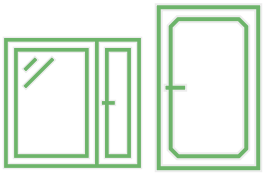
9 8 7 6 5

Extrude finished products
The loop is closed as we manufacture the PVC-U into new products, frequently to higher specification than those being recycled. Such 'upcycling' is key to being a sustainable part of the Circular Economy.

Pelletisation / Pulverisation
The PVC-U granules are processed into finished material ready for extrusion.

Colour sorting
An advanced process utilising high speed cameras, ultra-violet light and jets of air filters out the granules of rubber leaving only clean, colour sorted PVC-U.

+3 million
end-of-first life frames recycled in 2019



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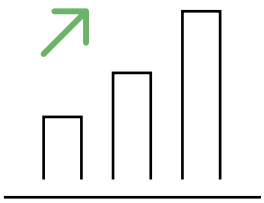
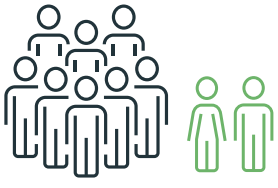
Manufactured product ranges from recycled PVC-U – this continues to expand



37%
Increase in recycled material produced in 2019



c.150
recycling jobs provided to people in the local area

Waste collection
Waste is taken from 3 sources:
- Post-consumer windows
- Fabricator off-cuts
- Bar length

Shredding
Waste is shredded into processable pieces.

Granulation
The waste is granulated into uniform size. At this stage rubber gaskets are still present.

Separation
Using magnetic processes, metals are separated from the rest of the waste and recycled separately.

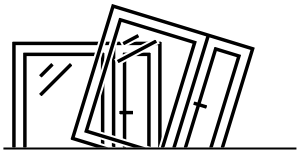
BENEFITS OF EUROCELL RECYCLING

Sustainability
- The use of recycled material enhances product stability and lowers significantly the carbon footprint of our manufactured products.

Reducing waste to landfill
- By recycling old windows ('post-consumer') we reduce the amount of waste sent to landfill.

Protecting our margin
- The use of recycled material in the manufacture of PVC rigid products provides a substantial saving in cost compared to virgin resin compound. We also aim to increase our use of recycled material in order to maintain gross margin as our sales grow.

Mitigating pricing pressures
- Increasing the use of recycled material in our manufactured products helps to mitigate raw material price increases and to reduce our exposure to volatile commodity prices.



c.60,000
Windows recycled per week, on average, during 2019

Investing in recycling technology

Recycling is at the heart of our operation. We have two recycling plants, which are located in Ilkeston (Eurocell Recycle Midlands, formerly known as 'Merritt Plastics') and Selby (Eurocell Recycle North, formerly known as 'Ecoplas'). Ecoplas was acquired in August 2018. We have been investing heavily in both sites. What we do and the benefits of recycling are set out on the pages that follow.

"Our well-developed channels for recovery and recycling allow old frames to be recycled and reprocessed into new products up to ten times without any loss of quality."

What we do

We recycle both customer factory offcuts ('post-industrial' waste) and old windows that have been replaced with new ('post-consumer' waste) to produce recycled material in the form of pellets, micronised and granulate material which are then used to generate brand new extruded products.

How much do we recycle?

During 2019, our two sites recycled 31.4k tonnes (equivalent to over 3 million frames) of post-consumer waste, which would have otherwise been sent to landfill, and 9.9k tonnes of post-industrial waste. Together the two sites used this waste to produce approximately 25k tonnes of recycled material.

Of the recycled material produced,13.4k tonnes (generated predominately from post-consumer waste) was used alongside virgin resin in the manufacture of many of our PVC rigid profiles.

We also used 6.7k tonnes of the recycled material produced (being almost exclusively derived from post-industrial waste) for use in products which are manufactured from 100% recycled material, including thermal inserts and cavity closer systems. A further 5.1k tonnes of the recycled material produced was sold to a range of trade extruders.

k tonnes[1]	2019	2018	Change	Change %
Inputs – waste recycled				
Post-consumer	31.4	22.8		
Post-industrial	9.9	7.6		
	41.3	30.4	10.9	36%
Output – recycled material produced	**24.9**	**18.2**	**6.7**	**37%**
Usage				
Primary extrusion	**13.4**	**9.5**	**3.9**	**41%**
Products made from 100% recycled material	6.7	5.6	1.1	20%
Sales to trade extruders	5.1	2.9	2.2	76%
	25.2	**18.0**	**7.2**	**40%**
Primary extrusion usage as % of total consumption	**23%**	**17%**		

1 Data includes Eurocell Recycle North from acquisition in August 2018.

Eurocell Recycle Midlands – Seeing the return on our investment

Between 2016 and 2018 we invested c.£3 million to expand our Eurocell Recycle Midlands site to more than double usage in primary extrusion from 4.1k tonnes of material consumption in 2015 to 9.5k tonnes in 2018, driving a substantial saving compared to the cost of using virgin material. We have invested a further c.£2 million in this site in 2019, to increase output and improve reliability (including new co-extrusion and other tooling to support the increased usage of recyclate on key product lines).

Eurocell Recycle North – Investing for a greener future

We acquired Eurocell Recycle North in August 2018 for a consideration of £6 million (including debt assumed) to enable us to:

- Meet our increasing demand for recycled material, driven by strong sales growth and a strategic objective to increase the amount of recycling that we do;
- Increase our presence in the recycling market; and
- Reduce our dependence on the Ilkeston site.

Output at acquisition was c.7k tonnes of recycled compound per annum, sold into a broad mix of trade extruders. As expected, investment was required to improve the operating environment and reliability of the plant, to eliminate bottlenecks from production processes and to expand capacity. Total investment post-acquisition stands at c.£3 million, including £2.5 million in 2019. Following these investments in the two sites, we increased total usage of recycled compound significantly in 2019. We expect internal demand for recycled material to increase as our sales grow and as we drive towards improving further the sustainability of our business. We intend to satisfy this demand largely through the further expansion of Eurocell Recycle North.