

OUR COMPANY

Irish Packaging Recycling (IPR) is the largest recycling operation in Ireland and is part of a diverse group of companies that includes power generation, power sales, resource recovery and recycling. As a group of companies, we passionately believe that all the materials we collect can be converted into future resources. IPR sorted and produced more than 250,000 tonnes of recycled raw material products for export in 2020 which is broken down on the right:

PAPER & CARDBOARD	232,000 tonne
ALUMINUM	1,357 tonne
PLASTICS	16,500 tonne
STEEL	1,767 tonne
TYRES	813 tonne (104,000 tires recycled)
WOOD PALLETS	1,500 tonne (60,000 pallets recycled)

OUR SERVICE

IPR provide customers with an efficient and consistent service as exemplified through the following initiatives:

- 24/7 customer service:** Emergency trucks capable of providing a 24/7 emergency service for commercial customers if needed. We never let our customers down. We also provide a flexible service for commercial customers that gives the choice of scheduled or one-off collections.
- 24/7 access to our facilities:** All three of our recycling facilities in Dublin have no time or day restriction for access. We staff those facilities 24/7 365 and accept our customers' material any time day or night. We collect a significant portion of the commercial material from Dublin's busy city centre and even material collected by others is delivered to our facilities in the middle of the night. Central locations and 24/7 access facilitates reverse logistics with some of the largest supermarket retailers in Ireland.
- Solving the unsolvable:** We work with our customers to find cheaper, greener alternatives to disposal. Many of our customers in the manufacturing industry have off-process waste for which

PROCESSING OF DOMESTIC RECYCLING

IPR operates the largest household recycling facility in Ireland. The plant, which is in Ballymount, is licensed to process 100,000 tonnes per annum and employs more than 120 staff. Comingled household recycling is separated into different grades of recyclable materials and the residual materials are suitable for SRF production.

We produce the following products from our domestic recycling process:

Mixed paper 37%	HDPE Natural 1%	Pots/Tubs/Trays 2%
Cardboard 14%	HDPE Colour 1%	Mixed plastic film 6%
Aluminium 2%	PET Clear 3%	Fines 9%
Steel 2%	PET Colour 1%	Residual (SRF) 22%

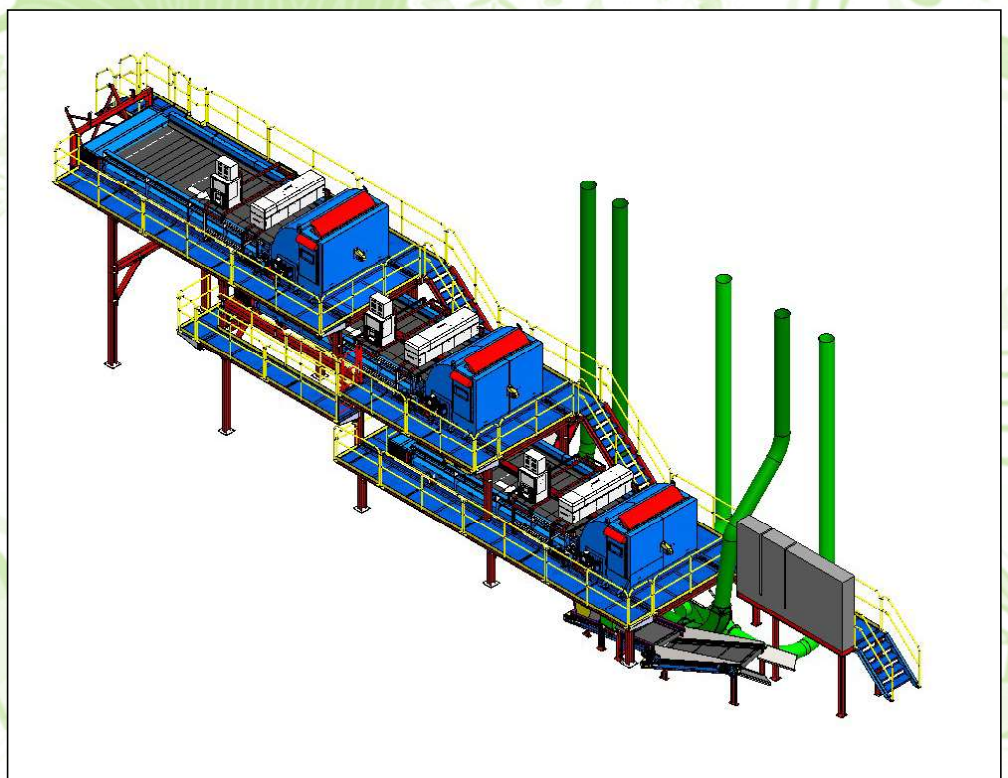
PROCESSING OF DOMESTIC RECYCLING

Products produced by this facility are sold as raw materials for manufacturing new products and exported worldwide. In March 2020 we completed an upgrade to our 3D materials recovery line which added 4 new plastic products to our suit of materials for sale on the export market. This €2M investment means instead of producing “Mixed plastic bottles” we separate and colour sort PET and HDPE. We now sort the household recycling bin into 6 grades of plastic: HDPE natural, HDPE colour, PET natural, PET colour, PTT (Pots, Tubs and Tray) and a soft plastic recovered film.



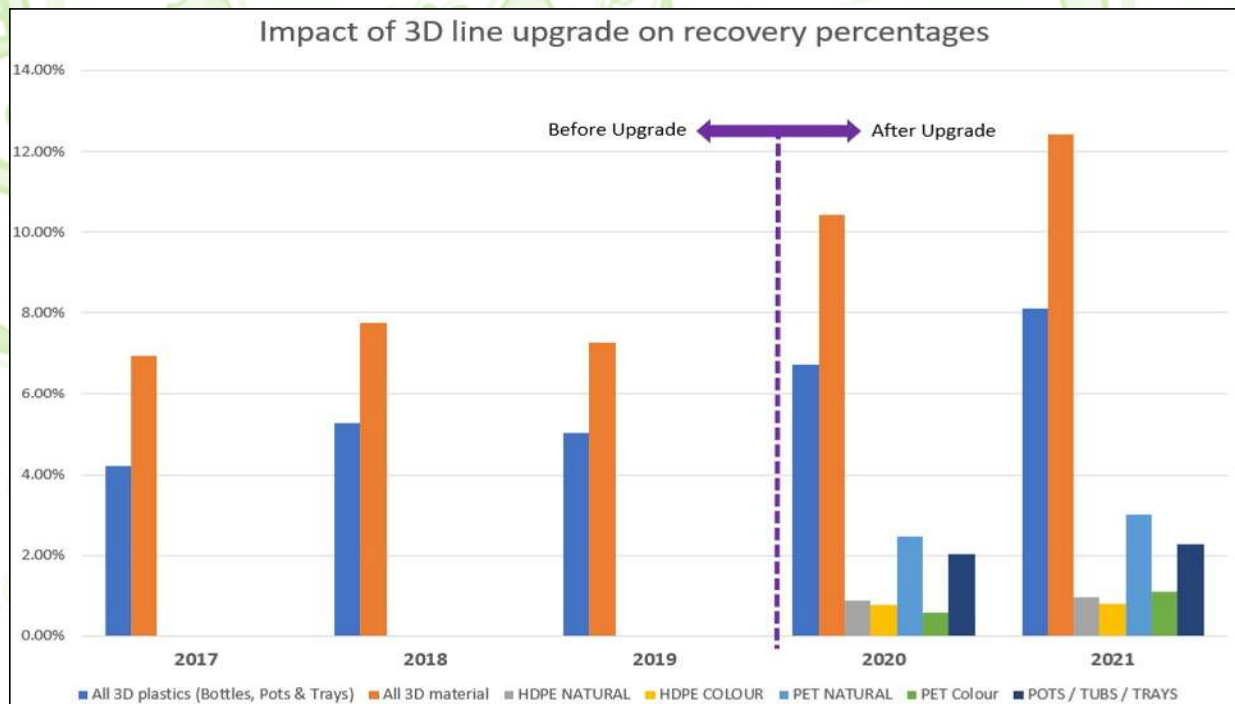
3D RECOVERY LINE UPGRADE

Our facility was built in 2008 and some of the recovery equipment was old and inefficient. We carried out analysis on the effectiveness of the recovery operation and calculated that when the plant is operating at capacity the existing optical separators, producing a difficult to export “mixed plastics” product, was losing up to 700kg per hour. We had the option of recirculating this material, reducing the capacity to process fresh material, or to forgo the material as a plant waste.



3D RECOVERY LINE UPGRADE

Working with McDonald International and Tomra, we designed a replacement recovery line which includes 3 optical separators, 2 eddy currents, vibratory feed tray, 12 conveyors and 6 air-transfer tubes. IPR upgraded the paper recovery processing equipment in 2018, requiring a complete shut-down of the facility for 5 weeks. This upgrade was carried out without stopping the plant! We installed a conveyor temporarily to transport the 3D material into a skip which was swapped and emptied every hour during production. We built a 55M long, 8M high screen between the 3D line and the rest of the plant so McDonald could plasma-cut, grind and weld in complete isolation from the operating machinery. Most large equipment lifts were completed at night and over weekends, and all the commissioning and programming was completed within a 48-hour window before starting the new operation.



The new line has been an incredible success, exceeding expectations in rates of recovery and in quality of products produced. To compare like with like, we produced a chart showing the combination of the 3D plastic products produced before and after the upgrade. The chart shows the 3D items recovered as a percentage of material input to the plant. The upgrade increased the percentage of plastics recovered by more than 3% and of 3D materials (including aluminium and steel) by more than 5%. Based on our average annual input of 85,000 tonnes we are recovering more than 2,500 tonnes of additional plastics per year and a further 1,500 tonnes when you include the benefit of the additional eddy currents recovering aluminium. Prior to the upgrade, this additional material was lost in our plant waste.



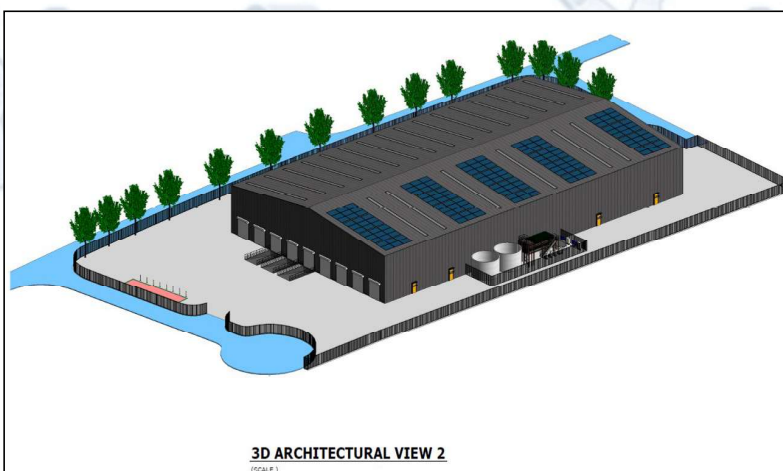
BOTTLE-TO-BOTTLE TRACEABILITY

Our sales team worked closely with Cleantech in the UK and Plastipak in France to demonstrate that the PET bottles recovered from our new 3D line can be turned back into bottles. We have demonstrated and certified a closed loop showing our baled PET product is washed and turned into flake in the UK which was sold to an extruder and pre-form manufacturer in France.

Ireland currently doesn't have a food-grade rPET manufacturing facility, but we wanted to prove it is possible and that recovery of PET in Ireland can be demonstrated to be circular in the context of beverage production within Europe.

BOTTLE-TO-BOTTLE IN IRELAND!

IPR is going to build a PET flake, wash, and extrusion facility in Ireland with the capacity to recycle every PET beverage bottle placed on the domestic market. In 2021 we purchased a site in Portlaoise and in August our planning application was approved by Laois County Council. Our business was recently purchased by Macquarie Investment Bank and our new owners are going to invest in facilities which add value to our current business. This key piece of infrastructure will cost €20M and will employ up to 80 people when it is fully operational. We see bottle-to-bottle manufacturing as an exciting move from recovery operators exporting a raw material, to manufacturers of food-grade pellets ready to be blown into new PET drinks bottles sold on the Irish market. The facility will process 25,000 tonnes of PET bottles sourced initially from the 8 MRF's in Ireland, but has capacity to process every PET bottle returned via the proposed Deposit and Return scheme. IPR has aligned our business objectives to the sustainability objectives of the current government and its commitment to the circular economy.



CONCLUSION

The IPR team are extremely passionate about our business and our work for the environment. Our household recycling facility now produces the best quality products in Ireland and our diversification into markets outside of China means our business is sustainable and closes the loop on the circular economy. Our commitment to invest in a piece of infrastructure which recycles every single-use PET bottle and tray used the domestic market shows we are a dynamic business helping the country meet its sustainability objectives.

