



## **Partnership Through Sustainability**



## Waste Stream Mapping:

At the beginning of the process we study the Customer's site and map all waste streams with clear objectives to manage, process and bring all materials to the best possible 'sustainable' outcomes.

Understanding waste streams is essential to;

- Reduce the impact to prime operations.
- Reduce waste costs.
- Increase potential revenues
- Achieve the highest 'sustainability' percentages

Maps are available to help the Customer and staff to understand the flow of materials and resulting outcomes.



Oxygen - 'Increasing Sustainability through Recycling and Reprocessing'

AREA	Engine Sub Assembly	Engine Sub Assembly	Engine Sub Assembly	Engine Sub Assembly	Service Area (inside)	Service Area (inside)	Service Area (outside)	Service Area (outside)
Stream	Cardboard	Plastic Film	General Waste	Small Metal	General Waste	Oily Rags-Filters	Cardboard	Plastic Film
Photo Example								
Gathering	1100L Wheelie Bin	240L Wheelie Bin	240L Wheelie Bin	Plastic Crate	240L Wheelie Bin	240L Wheelie Bin	1100L Wheelie Bin	1100L Wheelie Bin
Collation	Baling Area	Baling Area	Wheelie Bins	Box Crate	Wheelie Bins	Box Crate	Baling Area	Baling Area
EWC Code	15 01 01	15 01 02	20 03 01	20 01 40	20 03 01	15 02 02*	15 01 01	15 01 02
Internal Collection	YARD - Main Collection Area	YARD - Main Collection Area	Rear Building Collection Area	YARD - Main Collection Area	YARD - Front of Service Area	YARD - Main Collection Area	YARD - Main Collection Area	YARD - Main Collection Area
External Collection Mode & Frequency	Mondays & Thursdays	Mondays & Thursdays	Mondays & Thursdays	Mondays & Thursdays	Mondays & Thursdays	Mondays & Thursdays -	Mondays & Thursdays -	Mondays & Thursdays -
Disposal Location	Oxygen	Retech	Oxygen	Oxygen	Oxygen	Oxygen	Oxygen	Oxygen
Material End of Life Process	Recycled to Paper Mills	Reprocessed and sold to manufacturers	Segregated for Recycling Stream	Recycled to Metal Recyclers	Segregated for Recycling Stream	Pyrolysis	Recycled to Paper Mills	Recycled to Paper Mills

### Waste, Storage, Handling & Recycling/Disposal Map

Contact Information: Steve Cassidy 086-0215205 / Ballymount Office (Dave Murphy) 01-4625132 / Dundalk Office (Gavin Mulroy) 045-12345 / Codrings (Brian Abbott) 086-123456 / Accounts (Denise Carrie) 042-9396710

GATHER - COLLATE - CODE — SEGREGATE - TREAT - DISPATCH - REPORT

# THE ONE SECOND DECISION



Once the Mapping process is complete, we identify areas of improvement. Why? Efficient segregation creates increased revenues whilst increasing sustainability percentages by directing materials to better outcomes. A quality segregation plan should be encouraged. By understanding the Customers operation, we can work closely with staff and management to design a process that is workable for all and causes minimal interruption to the primary purpose of the business.

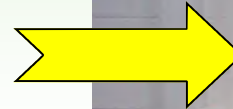
As part of our ProActive support we present to our Customers team a subject entitled 'The One Second Decision'. Light hearted but informative, we present the objectives of segregation, pointing out the positives of providing better material outcomes. Following a short presentation we ask all to participate in a Q&A Session, followed by a agreed implementation plan.

**PRESENT - DISCUSS - REALITY CHECK - PRACTICAL IMPLEMENTATION - REPORT**



## Partnership Through Sustainability

**Segregation:** Separation and segregation of materials begins internally at various locations. We make it easy for staff to simply drop differing materials into clearly identifiable boxes. Segregation 'stations' are planned to make it easy for staff to dispose of materials with onward removal to collation areas in preparation for processing. The boxes offer a clean and sturdy alternative to gaylords. Materials can be removed outdoors if necessary as they have lids.



**Recycling Area:** Material streams, whether from General Waste or End Product Rejects, are gathered in a specific area. General Waste Streams are identified by areas, eg: Cleanroom 1 and 2. Specific bins are allocated to each outlet. This allows us to identify the quality of segregation in each area and to see what materials can be removed to a better outcome (eg: Solid Fuel Recovery). Other bins can be placed in this area to capture specific materials such as plastic film or cardboard.

# On Site Partnership

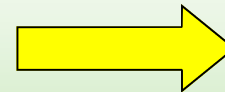


**On-Site Granulation:** At Retech we work in partnership with our customers to granulate reject end product 'on-site', providing both machinery and manpower to achieve a number of goals, including granulation to help reduce outward transport costs x 6 with the savings being returned to the customer as well as supporting the costs of both machinery and the on-site operator. By supporting an operator Customers can save additional revenue through opportunity costs v's their own staff. Through granulation (or shredding) we can also provide greater security benefits as no intact (reject) end product leaves site. Materials are shredded and security is removed as a concern. Additionally destruction reports can be provided in a more timely fashion.



*Option suitable for certain Operations only*

**Granulation Area with Conveyor Feed**



**Granulated Reject End Product**



**Bagging/Boxing Station:** Once materials are granulated, the materials are 'blown' through as system either into boxes or bags. Once full each container is marked as to the material within including material type, date, weight and operator name. Materials are removed to the 'Dispatch Area' for its onward trip to Retch.



**Working Area:** In an ideal world we seek an allocated area where our Operator can work. The size of each area is determined by the specific operational requirements. Areas such as 10 x 10m or 15 x 15m can act as a guide. This includes the requirement for machinery but also for a 'waiting area' for materials being prepared for processing. As an added benefit the Retch working area can also be used as part of the overall 'Plant Tour' to promote 'good Corporate Citizenship.'



*Option suitable for certain operations only*





## Baling

Incorporated into the Retech Working Area (RWA) 'can' be baling facilities. Subject to it being a suitable location the Retech Operator can bale materials such as plastic film and cardboard. By placing the baler in the RWA the Operator can multi task by baling and granulating at the same time.

In addition we can identify different qualities of plastic films, segregated into different bales and increase revenue return to the Customer. Equally we can increase cardboard outputs by identifying materials of use that would otherwise go into general waste.



Some materials extracted from waste streams create a revenue return. By applying the mapping strategy we have been able to increase the amount of materials gathered. Extra material means a better return, reduced waste costs and increased sustainability.



More than Waste





**Direct from Cleanroom**

### **Solid Recovered Fuel**

**Cleanroom SRF contents:  
Oversuits (eg: Tyvek), Mop Caps,  
Beard Covers, Earplugs, Latex  
Gloves (& boxes)**



**Post Baling**



The fuel for the power station will be a mixture of biomass material derived from plants and treated municipal solid waste, commercial and industrial waste and solid recovered fuel.

## **Objective of Segregation**

To separate as many waste streams into clearly identifiable categories that allow materials to enter single journey or closed loop recycling streams. But recycling must be supported by clear reports, certificates of destruction and the most sustainable outcomes for materials.

**Case Study 1:** We segregate materials from cleanroom into designated bins in the Recycling Area. Chosen materials are removed from general waste streams, baled and sent to our S.R.F. facility at Ballymount.

**Identify—Segregate—Dispatch—  
Report**





**Dispatch Area:** This is an area designed to contain granulated and baled materials in a visually pleasing manner.



In clearly signed areas, materials are stored into their categories. Once the appropriate quantities are ready, the Retech Operator calls in our transport and materials are removed from site with little to no interference to the Customers operation. To assist reporting Retech can provide calibrated weighing scales on-site to support the finals reports to be submitted to the customer.

## Reporting—Traceability

The final stage of this process is to provide clear, concise reports that confirm the outcome of all materials. At Retech, we provide Certificates of Destruction for all materials processed. This is an essential addition for both Environmental and Good Corporate Citizen files. Our reports allow both parties to follow trends, volumes and can help inform new strategies going forward.

An essential process is also to provide full traceability for our customers to follow the lifecycle of their materials beyond disposal.



# The Evolving Partnership

When seeking to present a Sustainability Plan for our Customers we must understand that it is an evolving process, which includes on going improvements with regular reviews V's targets to achievements. Sometimes the natural tendering process only replicates the same as has been done before with perhaps some cost advantages but with potential service risks.

The evolving partnership allows the Customer and ourselves to work together ProActively, thus achieving better results both financially and Environmentally. Improvements are achieved through Macro rather than Micro thinking. EG: If we separate this material in a certain manner, we can gain a superior revenue return with additional environmental improvements.



## About Us

Oxigen Environmental provide a variety of services offering a 'One Stop' solution to waste management. Key to our service is the support of experience personnel who are committed to the principle of Sustainability and the 'Irish Closed Loop System'. Key to any evolving contract is the willingness to be ProActive, inventive, with a commitment to on going progress to achieve new solutions and outcomes.

### Key Services

- Plastic Reprocessing
- General Waste & Recycling
- Hazardous Waste management
- Shredding & Data Destruction
- Waste Consultancy
- Organic Waste & Composting
- WEEE



Oxigen





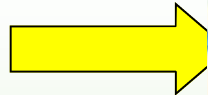
# And Onward



Less than 15% of plastic recycled materials remain in this Country. At Retech we wish to prioritise a strategy entitled 'The Irish Closed Loop System'. By gathering plastic materials from a variety of sources including Post Industrial & Consumer, Retech give priority to supply reprocessed materials to Irish Manufacturers. The macro benefits to the community are broad. The supply of reprocessed materials helps Manufacturers to be more competitive, creating growth in exports. This in turn leads to job growth, increased tax revenues and of course a reduction in our carbon footprint. Indigenous raw materials are more positive environmentally as they are replacing imports.



**Raw Plastic Material**



**Reprocessed Material**



**New Product**

## *The Benefits Synopsis*

**Increase Material Revenue—Reduce Waste Costs—Increase Sustainability Performance—Enhance Good Corporate Citizen Profile**

**Reduce Carbon Footprint—Supports Irish Manufacturers— Enhances Irish Closed Loop System**

**Reduces Imports—Reduces Materials Exported**