



Case Study

Tullamore
Distillery

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Helping Tullamore Distillery distil waste management and produce 11 million litres of whiskey a year sustainably.

WHO WAS INVOLVED IN THE PROJECT?

- **Paul Flanagan** - Commercial Sales Manager, AES Recycling
- **Dermot Mooney** - Tullamore Distillery (William Grant & Sons)



Tullamore Distillery's Dermot Mooney pictured with AES Commercial Sales Manager Paul Flanagan

WHY START ON THIS JOURNEY?

- Tullamore Distillery is a world famous Irish whiskey distillery located in Tullamore, County Offaly. Built by William Grant & Sons it is the home of Tullamore D.E.W. whiskey, where it is milled, mashed, fermented, distilled, matured, and bottled.
- Prioritizing environmental sustainability and greener waste management solutions, the distillery sought a partner that would help them reach their sustainability goals and share their values whilst ensuring compliance against Irish and EU environmental regulations governing waste disposal.
- For Tullamore Distillery their focus was two-fold:

1. Production

- Tullamore Distillery produces a number of different types of waste, including organic waste, wastewater, packaging materials, and hazardous materials. A knowledgeable waste management provider who understands the complexities of handling different waste types and can implement appropriate disposal methods to minimize environmental impact was seen as key, allowing the distillery to reduce waste creation, increase recycling rates and divert waste from landfill.

- By streamlining their waste collection, sorting, and disposal processes and implementing safe and compliant waste handling procedures operational disruptions could be reduced and the distillery could mitigate against the risk which inadequate waste management practices can pose risks to both the environment and staff and visitor health.
- Collaboration was essential to identify opportunities for improvement and implement best practices at the 58 acre site.

2. Office

- Despite in-house signage present there was a distinct lack of segregation in both canteen and staff office bins, resulting in contamination
- AES Recycling were selected due to their ability to offer tailored waste management solutions and expertise specific to this industry and for their ability to bring added value through innovative technologies that improve efficiency, reduce waste generation and enhance recycling capabilities.

INITIATIVES FOR CHANGE

A number of new initiatives were implemented;

- Firstly an in-depth waste audit was conducted to understand the types and predicted volumes of waste generated at the distillery at both a production and office level.



- At **office level** a visual inspection of office desk bins and Tullamore Distillery's 5 canteen areas illustrated a lack of understanding from employees on how to segregate waste, with staff continually placing incorrect items in bins.

- To increase segregation and improve recycling a staff education campaign was carried out, consisting of in house training and the use of Source, Tullamore Distillery's online internal communications platform.
- This was supported by colour coded 3 waste stream bin units, housing general waste, recycling and organic. To drive familiarity these units were installed throughout the building.
- All mixed office desk bins were removed and replaced with the segregated communal bins to increase recycling rates. To be recyclable all plastic bin bags were changed to clear tint bags
- To educate staff custom colour coded posters were placed at each bin, with AES liaising with Tullamore Distillery to feature key items which caused confusion amongst staff.



Custom waste posters and colour coded bins

- At a **production level** - cages were introduced to separate and store cardboard while it is waiting to be baled and recycled, helping to avoid contamination. This means greater quantities of cardboard can be stored neatly onsite and less collections are required, a measure which reduces the CO2 produced. Building on this a second baler will be introduced.
- Two bin compound areas were built by Tullamore Distillery from composite materials to house waste bins and skips, making the site more aesthetically pleasing whilst improving safety, an important factor during whiskey production tours.
- 12 cubic yard skips are used to segregate bulky waste with individual skips in place for steel, compost, general waste, timber and glass bottles, keeping footpaths safe.



Privately housed skip compound

- Specially designed sealed rolos are used for the chaff and dust which is produced from the corn to ensure it does not blow outside. These are filled from an automatic electronic mechanism that carries them from the factory to the rolo outside. Once full the rolo is transported to the RAD plant.



Chaff and dust being transferred from the factory

- Wooden casks are used to store the whiskey produced and are imported from America, where they can only be used once. Because Tullamore Distillery empty these casks from the top the casks can be reused multiple times, a significant step with between 20 and 30 casks used everyday.



- Timber shavings are emptied into a designed skip and are transferred to an Anaerobic Digestion Plant.
- A FALACH 50 briquette press machine is used to turn sawdust and shavings into briquettes. This is an innovative way to recycle timber shavings and reduce carbon footprint.



Wood chippings in designated skip

KEY RESULTS

- Through these measures AES have helped Tullamore Distillery to optimize their disposal methods and minimize their carbon footprint, aligning with their sustainability goals.
- Waste generation has reduced and recycling rates have increased significantly, helping to reduce waste disposal costs whilst maximizing resource utilization. Key 2023 results include;
 - Biodegradable wastes (from garden & park) **increased by 19%.**
 - Biodegradable kitchen and canteen waste **increased by 33%.**
 - Commercial Mixed Recyclable Waste **increased by 35%.**
 - Commercial Mixed Municipal Waste **decreased by 36%.**
 - Municipal Wood has **decreased by 47%.**

WHAT'S NEXT?

- AES and Tullamore Distillery will work to bring innovative waste solutions and improvements to the site.
- Follow up training initiatives will be implemented to educate both current and new employees on how to segregate waste.
- More waste-to-energy solutions will be explored to reduce disposal costs and carbon emissions while generating energy.
- AES will work closely with Tullamore Distillery to develop strategies to reduce the carbon footprint associated with waste management at the site. Circular economy initiatives will be explored to minimize waste generation and maximize resource recovery within the distillery's operations.
- Dry yeast bags used at Tullamore Distillery are laminated and made up of mixed plastics and cannot be recycled in the standard manner. Both companies are seeking for a more environmentally friendly solution to their disposal.
- An improved bailing solution will be introduced to recycle the plastic straps which keep the casks together during transport.
- Through ongoing monitoring, reporting, education and feedback, AES will help Tullamore Distillery optimize its waste management, reduce its costs, achieve its sustainability targets and drive continuous improvement.

