Ollscoil na Gaillimhe
University of Galway

Waste Management Report

2024

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INTRODUCTION

University of Galway are on a journey to lead the transition to a sustainable future and have identified sustainability as one of four core values in our University Strategy 2020-2025. The Buildings & Estates team play a key role in achieving our goals and sustainable waste reduction and management is a core feature of these efforts.

Waste management is a key priority for students and staff and perhaps the most visible day-to-day environmental issue on campus. Over the years we have worked hard to put in place benchmarks, collect accurate data and start monitoring how we use, recycle and dispose of waste on campus. In line with Sustainable Development Goal 12 (SDG12) we are committed to responsible consumption & production.

We are proud to have retained 1st place in Ireland and no. 5 globally in the Times Impact Rankings for SDG 12 in 2023, the second year in a row.

Prior to 2021, our waste data was not presenting a full picture of waste on campus, as it did not include our Canteens and Student Residences, as these are managed by separate companies. However from the start of 2022 we have incorporated these figures to develop a whole of campus picture of the waste usage. As such a large increase in the volume of waste from 2022 onwards will be recorded.

2022 was very much a benchmarking year when the campus returned to full activity after the Covid years.

This report outlines the University's performance in the calendar year 2023, current policies, future initiatives and commitments with regards to sustainable waste management. By improving waste practices and behaviours we aim to conserve natural resources, make cost savings and improve waste awareness amongst our students and staff.

Performance & Progress

A big change in the way we collect data was implemented at the start of 2022. For the first time we included the Student Residences alongside the Caterers and the General Campus. The Student Residences accommodate 1800 students during term and a wide variety of guests during the Summer season. They generate a significant volume of waste and the inclusion of this data has had a big impact on our figures. As of September 2023, we onboarded another 620 bed state of the art accommodation centre in Dun Linn and this will have an impact the waste produced from this day on.

Whole Campus

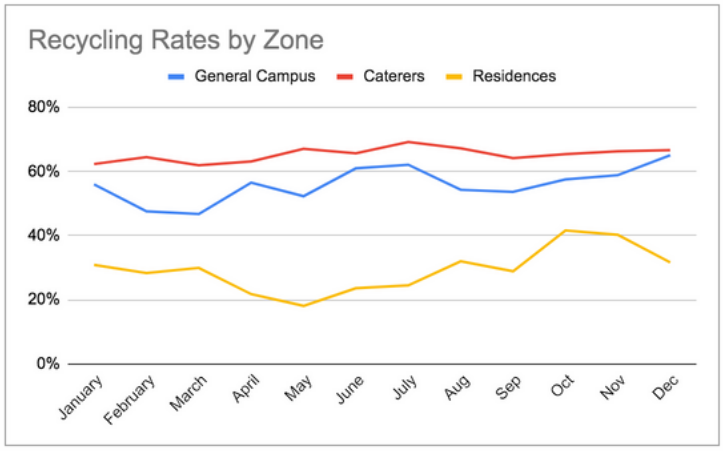
For the first time this year we have sight of the big picture across our entire campus. We are currently achieving a 51% recycling rate in total across teaching, offices, catering and residences.
We will be looking to increase this rate in the coming years through new initiatives outlined later in this report.

Overall Recycling Rate

51.14%

	Whole Campus Combined - 2023 Data											
	January	February	March	April	May	June	July	August	September	October	November	December
Waste Recovered	26,566	35,058	36,085	32,019	34,583	22,956	23,769	25,330	35,881	39,484	42,784	29,953
Mixed Recyclables	17,321	14,651	17,045	17,330	14,088	15,938	15,305	13,342	20,928	23,618	24,283	21,813
Glass	3,103	5,905	5,712	3,357	6,520	4,361	3,979	3,683	2,842	5,550	7,244	4,577
Organic / Green Waste	4,921	4,859	4,808	4,371	3,798	3,078	5,491	5,606	4,469	7,664	16,495	8,500
Confidential Shredding	2,360	4,492	2,440	5,600	2,455	4,320	3,930	2,455	2,730	2,205	1,615	2,085
WEEE	540	0	0	600	160	1,460	1,800	975	4,526	7,840	1,345	0
Total	**54,811**	**64,965**	**66,090**	**63,277**	**61,604**	**52,113**	**54,274**	**51,391**	**71,376**	**86,361**	**93,766**	**66,928**
Recycling Rate	**51.53%**	**46.04%**	**45.40%**	**49.40%**	**43.86%**	**55.95%**	**56.21%**	**50.71%**	**49.73%**	**54.28%**	**54.37%**	**55.25%**

Breakdown of Performance by Area/Zone:



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Main Campus (Teaching, Research, Labs & Staff Offices)

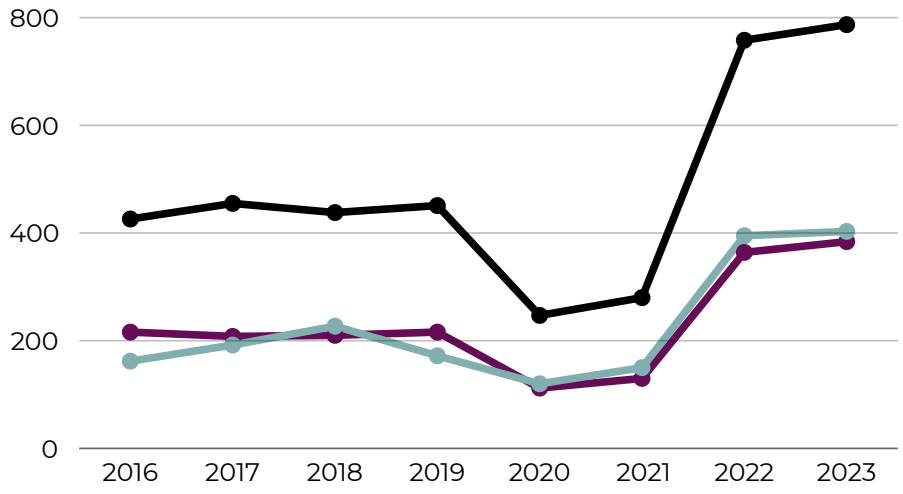
On the main campus, we continue to make progress on our overall recycling rate, having risen to almost 60% in 2023. This exceed our original targets set in 2019, and illustrates significant progress in the past 5 years. The overall waste volume is back towards pre-covid levels, and we will be working to try to reduce this in the coming years.

General Campus	January	February	March	April	May	June
Waste Recovered	14,311	19,899	19,436	16,368	16,036	13,700
Mixed Recyclables	13,246	10,270	12,282	13,712	11,455	12,535
Glass	2,069	3,308	2,358	1,370	3,509	3,110
Organic / Green Waste	0	0	0	0	0	0
Confidential Shredding	2,360	4,492	2,440	5,600	2,455	4,320
WEEE	540	0	0	600	160	1,460
Total	**32,526**	**37,969**	**36,516**	**37,650**	**33,615**	**35,125**
Recycling Rate	56.00%	47.59%	46.77%	56.53%	52.30%	61.00%

July	August	September	October	November	December	Year To Date	Avg. Monthly Weight
12,459	12,866	19,881	19,724	20,080	13,107	197,867	17,504
12,171	9,072	14,547	13,910	14,752	14,780	152,732	12,378
2,545	2,783	1,204	2,778	2,253	2,771	30,058	2,276
0	0	0	0	8,760	4,820	13,580	0
3,930	2,455	2,730	2,205	1,615	2,085	36,687	3,723
1,800	975	4,526	7,840	1,345	0	19,246	1,604
32,905	**28,151**	**42,888**	**46,457**	**48,805**	**37,563**	**430,924**	**35,880**
62.14%	54.30%	53.64%	57.54%	58.86%	65.11%	**58.55%**	

General Campus Waste

Annual weight in tonnes (note - from 2022, residences and restaurants added for the first time)



Total Waste
Total amount of waste producted on campus

Waste to Recovery
General Waste sent to energy recovery facility

Mixed Recycling
Mixed recycling, glass, organic waste & WEEE

Restaurants, Bars & Cafes

Catering partners are required to abide by our Waste Management Policies and track the amount of waste they produce as well as the recycling rate. Each venue must provide for food & mixed recycling bins as well as general waste at a minimum and provide adequate signage. A lot of hard work has gone in to increasing the recycling rate across the bars, cafes and restaurants and this rate has rose 3% again this year, rising to 69% in 2023.

Canteens	JAN	FEB	MAR	APRIL	MAY	JUNE	JULY	AUG	SEP	OCT	NOV	DEC	Year To Date
Waste Recovered	4465	4789	5669	4431	3127	3206	3630	3504	4936	6283	6172	3441	53,653
Mixed Recycling	2035	2221	2863	2018	1493	2043	1944	1790	3366	4645	4451	2644	31,513
Organic / Food Waste	4361	4739	4588	4251	3678	2958	5191	4206	4065	5129	5746	3250	52,162
Glass	154	777	784	587	861	861	434	560	560	770	910	420	7,678
Cardboard	840	960	990	740	340	280	600	640	860	1350	1030	570	9,200
Total	**11855**	**13486**	**14894**	**12027**	**9499**	**9348**	**11799**	**10700**	**13787**	**18177**	**18309**	**10325**	**145,006**
Recycling Rate	62.34%	64.49%	61.94%	63.16%	67.08%	65.70%	69.23%	67.25%	64.20%	65.43%	66.29%	66.67%	69.34%

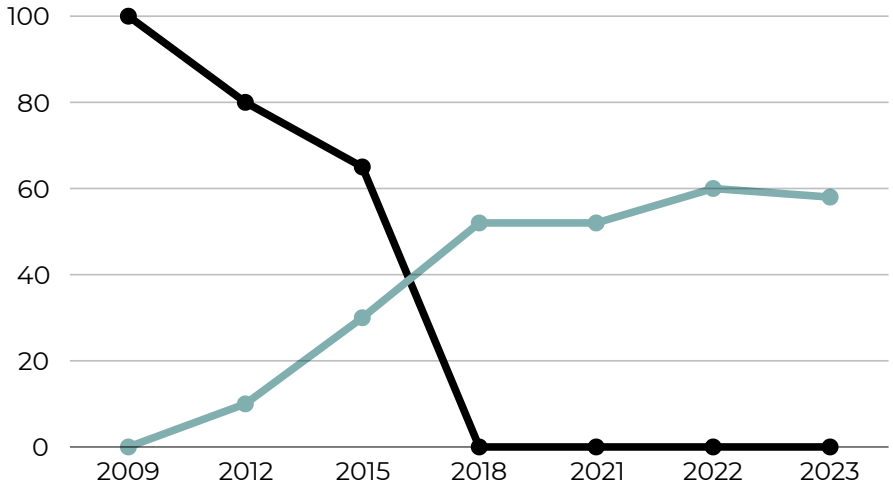
Student Residences

The student residences were included in our overall waste data for the first time in 2022. As can be seen from the figures below, they produce a large volume of waste and unfortunately while there was a slight improvement on last years recycling rate, it is still well below the rest of the campus and due to the significant volume of waste generated by residences, this is dragging the entire recylging rate for the University down. The team at Atalia who manage the residences are working hard on various initiatives to improve this rate and will be collaborating with members of the University CUSP team in the near future to raise awareness amonst student residences there.

Residences	JAN	FEB	MAR	APRIL	MAY	JUNE	JULY	AUG	SEP	OCT	NOV	DEC	Year To Date
Waste Recovered	7790	10370	10980	11220	15420	6050	7680	8960	11064	13477	16532	13405	132,948
Mixed Recycling	2040	2160	1900	1600	1140	1360	1190	2480	3015	5063	5080	4389	31,417
Glass	880	1820	2570	1400	2150	390	1000	340	1078	2002	4081	1386	19,097
Organic / Food Waste	560	120	220	120	120	120	300	1400	404	2535	1989	430	8,318
Total	**11270**	**14470**	**15670**	**14340**	**18830**	**7920**	**10170**	**13180**	**15561**	**23077**	**27682**	**19610**	**191,780**
Recycling Rate	30.88%	28.33%	29.93%	21.76%	18.11%	23.61%	24.48%	32.02%	28.90%	41.60%	40.28%	31.64%	**30.68%**

Main Campus - Total Recycling Rate

Increase in recycling over the past 10 years (excl. catering & residences)



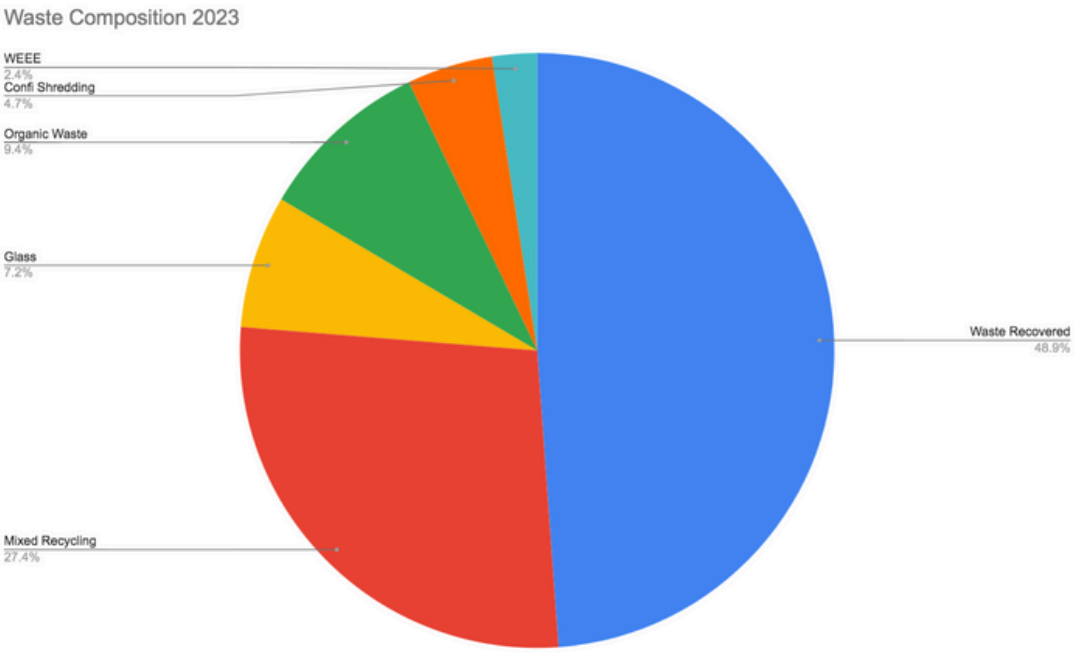
Waste to Landfill
Total amount of waste sent to landfill

Mixed Recycling
Mixed recycling, glass, organic waste & WEEE

This chart helps illustrate the dramatic improvements that have been made on campus over the past 12 years, when all of our waste on campus was sent to landfill. In that time, we have raised our recycling rate to over 50% and achieved Zero Waste to Landfill status with thanks to our waste contractor Barna Waste.

Waste Composition 2023

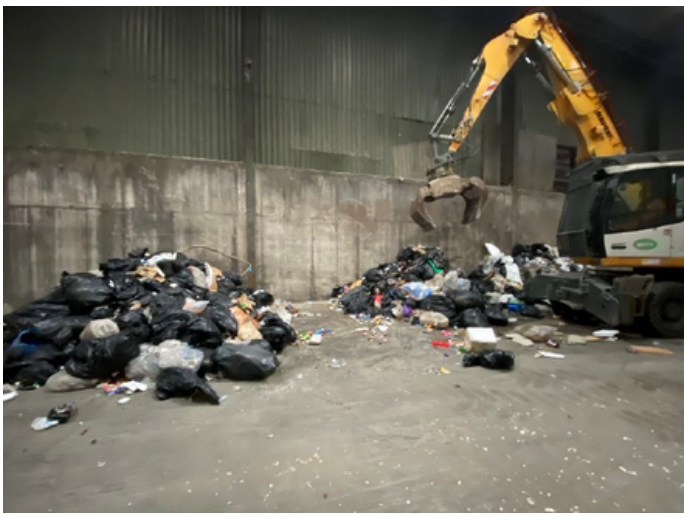
Breakdown of Waste Streams



51% Our average recycling in 2023

Waste Characterization Study

In February 2024 University of Galway commissioned a Waste Characterization Survey through MKO Environmental Consultants and our waste contractors Barna Recycling. We carry out this survey every two years as an important research project to determine the breakdown of different waste streams that are going into the General Waste stream. This then enables us to take action to divert these streams into the correct recycling stream through on site initiatives and awareness campaigns.



As highlighted on the previous section, the University provides hundreds of dual bin recycling/general waste bins as well as glass recycling stations throughout the campus with the goal of minimising the amount of material going to the general waste scheme. The previous survey highlighted a big increase in coffee cups in the general waste stream. This is in part due to the safety restrictions in place for Covid which meant cafes/restaurants did not accept reusable cups. We also noticed a large amount of health textiles and lab plastics owing to Covid19 mask use and testing devices.

2024 Results

Table 4-2 UG Waste characterisation Results

Waste Category	25/07/2014		17/10/2014		21/10/2016 (Adjusted)		10/02/2022		01/02/2024	
	(kg)	% of Total	(kg)	% of Total	(kg)	% of Total	(kg)	% of Total	(Kg)	% of Total
Organic Waste	21.1	15.5	23.9	14.1	16.3	12.4	17.9	10.8	31.29	17.36
Papers	18.5	13.6	25.2	14.9	16.4	12.5	35.9	21.6	14.59	8.09
Cardboards	5.2	3.8	15.8	9.4	15.65	11.9	8.1	4.9	15.6	8.65
Composites	26.0	19.1	19.2	11.4	13.85	10.5	16.8	10.1	14.78	8.20
Textiles	1.7	1.2	4.6	2.7	2.6	2.0*	3.1	1.9	5.56	3.08
Healthcare Textiles	9.0	6.6	0	0	0	0.0	8.2	4.9	0.14	0.07
Plastics	38.8	28.6	64.1	37.9	46.7	35.5	50.2	30.3	68.92	38.24
Glass	2.2	1.6	3.9	2.3	13.8	7.5	4.9	3	4.25	2.35
Metals	3.8	2.8	3.4	2.0	14.65	1.4	4.1	2.5	11.67	6.47
Special Municipal Waste	0	0.0	0	0	0	0.0	0	0	2.92	1.62
Unclassified Combustibles	3.6	2.6	0.9	0.5	0.2	0.0	1.7	1	0.86	0.47
Unclassified Incombustibles	1.9	1.4	3.8	2.3	0	0.0	0	0	0.28	0.15

The table above compares the results of this years survey with previous surveys.

Analysis

The results are broadly similar to previous surveys however there are a few things that stand out:

- Paper & Cardboard is still a very high proportion of the stream, although paper as a percentage has reduced significantly in 2024
- Organic waste is the single biggest contributor to the general waste stream, and while this was gradually decreasing in previous surveys, it is now increasing (although this may be due to a large amount of ash contained in the sample)
- Plastics are a persistent large proportion of the total, and increased 8% this year
- Coffee cup which make up the majority of the Composites category, remain stubbornly high despite the introduction of the 2GoCup scheme

Conclusion

It is clear further work is to be done to improve recycling efforts across the campus. Cardboard and paper especially should be looked at. The University will soon be banning disposable coffee cups from all outlets which will dramatically reduce this category. More efforts need to be made to reduce use of single used plastics such as bottles and food containers.

CURRENT PROCESSES

Across campus, a huge volume and variety of waste is produced and managed by our internal team and external partners.

General Waste

Our primary waste contractors Barna Waste collect the general waste streams across campus, extract valuable materials at their local processing facility, then ship the remainder to a 'waste-to-energy' facility in Europe. This energy is captured for electricity generation.

Recycling

There are hundreds of mixed recycling bins internally and externally across campus. These are collected and then sorted into cardboard, plastic and glass, before being broken down / baled and shipped to specialist facilities for reproduction into new goods.

Organic Waste

At present we provide for organic food waste collection in our canteens, cafes and restuarants. Much of this ends up back at our waste contractor Barna Waste who operate the only large composting facility in the area. A substantial volume of food waste is collected both from the kitchens during preparation and leftovers from customers in the canteens.

Glass & Cans

Glass bottle recycling banks and an aluminium recycling facility are located on South Campus opposite the Orbsen Building and North Campus beside the entrance to Corrib Village. Our waste contractor collects and processes these locally.

WEEE Waste

WEEE (Waste Electrical and Electronic Equipment) is anything that has a plug or a battery and is at the end of its useful life.The B&E team collect WEEE waste across campus. This process allows valuable resources including plastics, metals and glass to be recovered for further use in manufacturing, and ensures hazardous waste is disposed of safely helping to protect our environment.

Hazardous Waste

A wide variety of work is carried on across campus, especially in research buildings where different varieties of hazardous waste are produced. As such, each unit uses their expertise and takes responsibility for organising the safe disposal of the hazardous / chemical waste they produce.

Shredding

DGD Shredding are our contractors who facilitate the disposal of confidential material across the campus. Locakable consoles are available in each building where staff can dispose of confidential material. This is collected and processed by DGD at their Limerick facility.

Recycling Initiatives

Eliminating all disposal cups from September 2024

In September 2024, University of Galway eliminated single-use cups from all campus catering outlets. This follows the Public Sector Climate Action Mandate which requires public sector bodies to "cease using disposable cups, plates and cutlery". As part of this process, dishwashers and self-wash stations were installed in key areas around the campus. We are encouraging the campus community to:

- Bring your reusable hot beverage cup to campus. Cup washers have been installed throughout campus to help you keep your cup clean. All incoming first years have received a free reusable cup. Travel mugs can also be purchased at the SU Shop.
- Order your beverage in a ceramic mug, available in most campus catering outlets. Please leave the ceramic mug in the catering outlet.

Organic / Green Waste Initiative

New Green Waste - Composting Iniative

In 2022 the Buildings & Estates team collaborated with our waste contractor Barna Recycling to set up a new Green Waste recycling stream to collect green waste from our vast 105 hectare campus. This includes all leaves, grass cuttings and hedge trimmings which is valuable composting material. Barna operate the only large composting facility in the region and they also collect food waste from all the restaurants and cafes on campus. They then combine this food waste and our green waste and allow it to breakdown under specialised conditions in order to create a nutrient rich organic fertilizer. This fertilizer is then brought back to the campus for our grounds team to use on new flor and tree bedding instead of imported fertilizer. This creates a fantastic waste circular story.

The Buildings & Estates team were delighted to collaborate with Aurora Leyton, MSc Environmental Leadership and our waste contractor Barna Recycling to document and analyze the impact of this new process and the results were a fantastic video showcasing how this process works and a summary infographic and paper analyzing the process further

.You can watch the video here and the full infographic can be found on the next page.

ORGANIC WASTE MANAGEMENT ON CAMPUS

Waste management strategies can be **linear** or **circular.**
Circular strategies are found to be best for the environment.

Organic waste is biodegradable waste such as **food waste** and **green waste** (tree cutting, grass trimmings, etc).

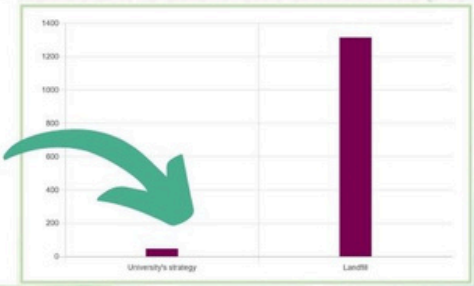
If left untreated, its decomposition can lead to many forms of **pollution**.

Circular strategies for organic waste are treatments like **composting** or **anaerobic digestion**, that produce fertilizer and biogas.


Use of compost on campus grounds

The university takes a circular approach. Organic waste is collected and sent to Barna Recycling to be **composted**. Part of the compost is then returned to campus to be used as a **fertilizer**.

The **Global Warming Potential** of this strategy was measured using **Life Cycle Assessment.**
It showed that **the university's approach is much more benefitial** than sending waste to **landfill** (graphic in kgCO2eq).



We can all make a difference!

Put your food waste on the designated bins con campus. Learn more. And why not try composting at home?

Evaluation and communication of the organic waste management strategy of UG.
Aurora Leyton, MSc Environmental Leadership. 2022.

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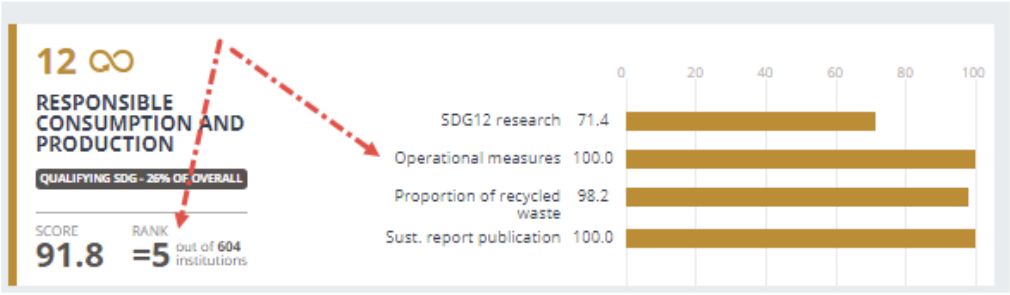
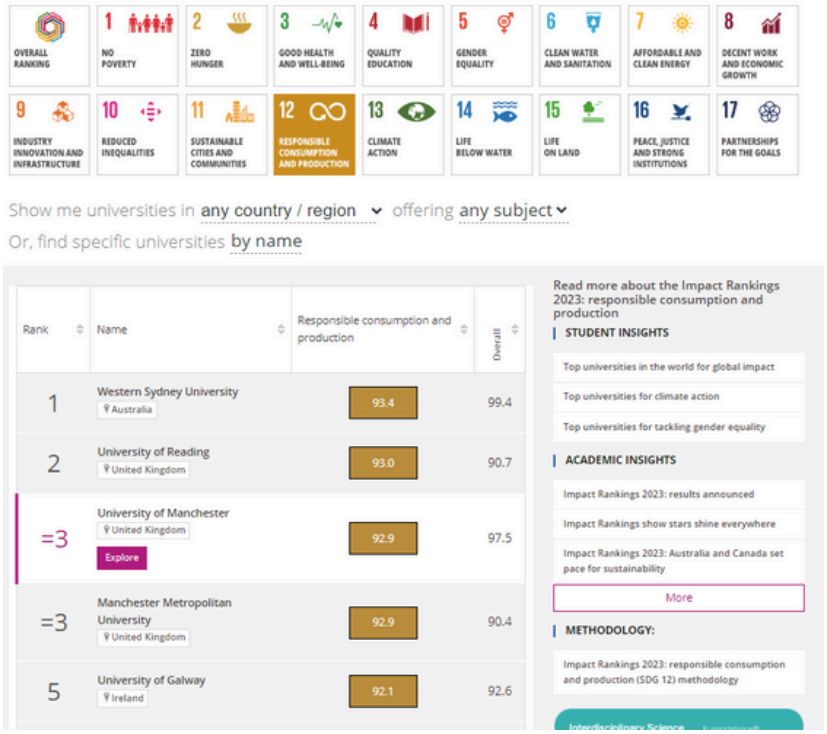
Time Impact Rankings 2023



University of Galway named #1 University in Ireland for sustainable development

The University of Galway retained its position as the number one University in Ireland for Sustainable Development in 2023, rising 13 places from 47th globally to 34th. An incredible achievement. In relation to Waste Management, this falls under SDG 12 - Responsible Production & Consumption. Each year we submit to the Times Impact Survey our waste data and Waste Report, and from this they determine our performance in comparison to over 1400 other universities across the world. We were delighted to be positioned 5th in the world in 2022 for our performance under SDG12, and we retained this position again in 2023.



We will be working hard to maintain and improve upon this ranking in the coming years, and becoming a global leader in the Responsible Production & Consumption category of the SDGs.

TARGETS

Review of 2022 targets

University of Galway is committed to setting and achieving ambitious targets in terms of waste management. Lets start off by reviewing the targets set out in our 2022 Waste Management Plan:

01

Increase recycling rate to 55% by 2025

NEARLY THERE!

While a lot of progress was made since 2010, our recycling rates have plateued in recent years. Our introduction of new organic waste stream should help us achieve this target.

02

Incorporate Canteen Waste Data into Reporting

DONE!

Until now, our waste data did not include the campus catering outlets which produce a significant amount of the overall waste on campus. From 2022 we intend to include this data in our reports to give a truer account.

03

Introduce Organic Waste Stream

DONE!

We plan to introduce a new organic waste stream which will be composted and turned back into fertiliser for our groundstaff to use across campus.

TARGETS

Targets for 2024

The following targets we will be focusing on for the year ahead:

01

Increase Residences Recycling to 40% by 2025

At 27% the recycling rate at our student residences is far too low. We will be working with the management company to introduce new infrastructure and awareness schemes to improve this figure dramatically in the next couple of years.

02

Increase Total Recycling Rate to 55% by 2025

As the recycling rate on the main campus and restaurants is 60% and 65% respectively, we believe that by improving recycling at the Residences will help us achieve this target in the next two years.

03

Reduce Total Volume of Waste by 5%

We will be working with the catering partners and residences management to explore ways we can reduce the amount of waste across campus through various initiatives

CONCLUSION

The results of the waste data for the entire campus in 2023 show a mainly positive picture, with continued progress in the recycling rates across the Main Campus and Restaurants. A slight improvement was noticed in the Residences but this will be a big focus area over the next year and any improvements there will see a dramatic overall improvement for the total campus figures. The waste characterization survey illustrates that we have more to do in terms of diverting paper, cardboard and plastics to the correct recycling streams.

The University has launched a new Sustainability Office in April 2024, and with this will bring a renewed focus on the waste produced on campus, and hopefully new enthusiasm and resources to introduce new waste reduction and recycling initiatives across the campus. We look forward to working with all stakeholders across campus to continue our improvements

We thank you for your continued cooperation in helping University of Galway to become a world leading green & sustainable campus through responsible waste practices

BUILDINGS & ESTATES

For further information on the details within this report or to discuss how you or your department can help us in managing waste on campus please reach out below.

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