



Dublin City University

Renewal for Green Campus Flag

June 2018

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1. Introduction

As DCU was only reassessed in November 2017 for our Green Flag much of this report for renewal in 2018 is a repeat of what was reported in late 2017.

Dublin City University, originally established in 1989 by the University statue, is located to the north of Dublin City and is the most significant and comprehensive provider of university education on the rapidly growing and economically important Eastern corridor.

There have been some significant changes at DCU since the initial An Taisce Green Flag was awarded in July 2014. September 2016 saw the completion of the process by which St Patrick's College Drumcondra (SPD), Mater Dei Institute (MDI) and Church of Ireland College of Education (CICE) were fully incorporated with DCU. From this date, all students and staff of St Patrick's College, Mater Dei Institute and the Church of Ireland College of Education are students and staff of DCU.

Two of the most significant changes arising from Incorporation are the establishment of a new Faculty of Education that will be known as the "DCU Institute of Education", the first faculty of education in an Irish university and one of the largest in Europe; and an enhanced Faculty of Humanities and Social Sciences which has a much broader array of subjects on offer.

In addition DCU now has a larger community and a multi campus structure see figure below. It has a stronger, more visible, presence in North Dublin, St Patrick's College, Drumcondra campus is now known as DCU - St Patrick's Campus. DCU All Hallows campus, also in Drumcondra, is now the third academic campus of DCU.

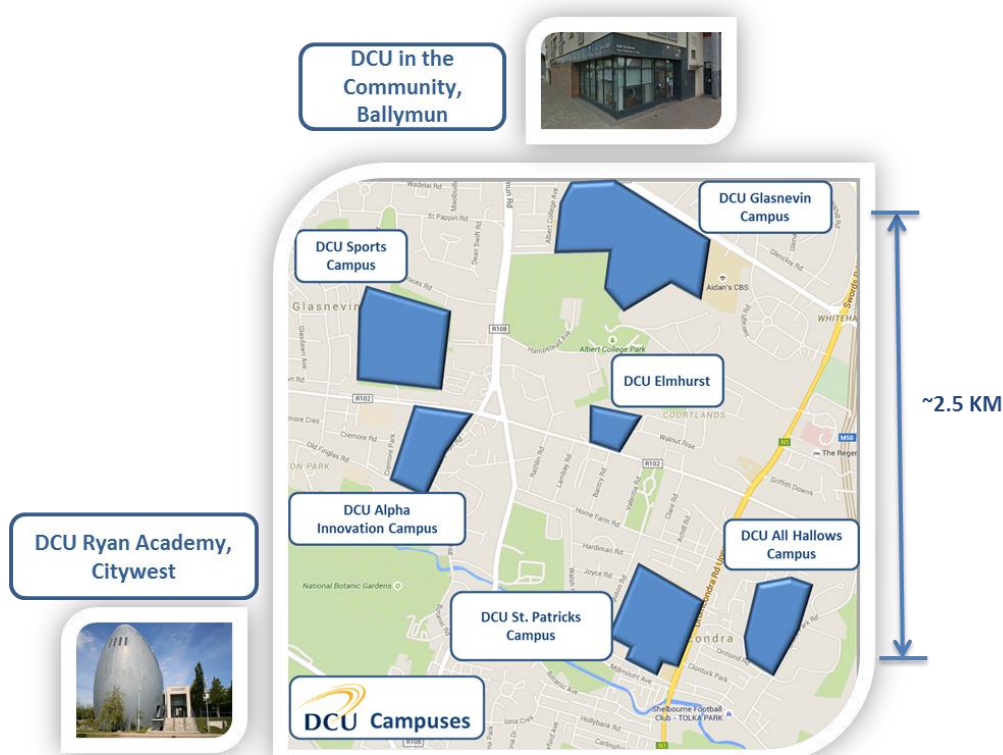


Figure 1: DCU Campuses 2017

This newly expanded DCU is well equipped to support its approximately 16,500 students with a continuing focus on personal, academic and professional life-skill development. The **DCU Access programme** was established more than two decades ago and identifies and supports students from groups currently under-represented in higher education. In 2017, DCU supported nearly 1,300 access students, making it the largest such programme by far in any Irish university.

DCU is the first Irish university to be designated as a “**University of Sanctuary**”, awarded by the City of Sanctuary, in recognition of a range of initiatives demonstrating commitment to welcoming asylum seekers and refugees into the university community and to fostering a culture of inclusion for all.

The **Age-Friendly University (AFU)** initiative at DCU is committed to widening access to higher education, and this includes enhancing the lives of older members of the community through innovative educational programmes, research agenda, curriculum development, online education, health and wellness activities, arts and culture programme and civic engagement opportunities.

2017 seen the launch of the new **DCU Strategic Plan: TALENT, DISCOVERY, AND TRANSFORMATION (2017 – 2022)**¹. In presenting this plan the DCU President Prof. Brian MacCraith said

“Our purpose must surely be to address the major challenges facing the world today and to develop the talent and knowledge that society needs.”

Continuing its mission statement DCU aims to transform lives and societies through education, research, innovation and engagement.

DCUs vision is to be a globally significant University of Transformation and Enterprise that is renowned for:

- the development of talent;
- the discovery and translation of knowledge to advance society;
- its focus on creativity and innovation;
- the advancement and application of technology, and
- its commitment to sustainability.

DCUs commitment to sustainability is clearly articulated in one of the nine strategic goals for the University over the next five year – Strategic Goal : Place sustainability at the core of the university.

At the core of the Strategic Plan 2017-2022, DCU will seek to further develop and implementation the DCU Sustainability Plan created by a cross-institutional Sustainability Council. This council will also play a key role in monitoring the implementation of the plan.

From the narrower environmental perspective of sustainability, DCU will seek to embed best practice across the broad range of DCU multi-campus operations. It will establish ecological footprint metrics and set ambitious targets to reduce these. As an extension of this objective, a specific campus will be identified and developed as a carbon-neutral exemplar campus. Sustainability will play a key role in academic and research activities, with a view to enhancing the insight and commitment of students, the principles of sustainability and sustainability literacy will be integrated into the undergraduate curricula. Specific degree programme(s) will be developed at

¹ <http://www.dcu.ie/sites/default/files/marketing/digitalmedia/presidents-office/strategic-plan/index.html>

postgraduate level. Research focusing on sustainability will continue to be focused on and fostered. Such activity is likely to build on existing strengths and existing international collaborations.

	Specific Actions: Over the next 5 years we will	Indicators of Success/Progress
Sustainability Plan	8.1 Create a DCU Sustainability Plan that will be a roadmap for operating a healthier and more sustainable University, including responsible management, for students, staff, and the local community. A cross-institutional Sustainability Council will be established to support the creation of the plan and to monitor its implementation.	<ul style="list-style-type: none"> Establishment of Sustainability Council Completion & dissemination of Sustainability Plan Roll out of implementation plan Annual reports on achievement of goals set
Sustainable Operations	8.2 Embed Sustainability as a key driver in DCU operations including building management, energy, water, CO2 emissions, transportation, operational resilience, public realm spaces and in the construction of new buildings. The new challenges facing DCU in operating a decentralised campus will have to be taken into account here.	<ul style="list-style-type: none"> Achievement of ISO 50001 certification for energy & water Retention of An Taisce/FEE Green Campus Flag Levels of sustainable commuting to, from & between campuses Implementation of NZEB standard for all future buildings
Curricular Integration	8.3 Integrate Sustainability Principles, Literacy and Awareness into the student curriculum. This will involve working closely with Faculties and the Education Committee to establish the optimal approaches to achieving this objective. There will be a particular emphasis on awareness of the UN Sustainable Development Goals (SDGs).	<ul style="list-style-type: none"> The number of degree programmes with Sustainability components integrated The number of students participating in such degree programmes Creation of optional (online) sustainability module Develop of a Sustainability Engagement digital credential
Ecological Footprint	8.4 Establish Ecological Footprint Metrics for the University and set ambitious targets to reduce these.	<ul style="list-style-type: none"> Establishment of Footprint Metrics for each campus/faculty/unit Annual reports on targets achieved Measures of student engagement & behavioural change
Research Focus	8.5 Promote and support Sustainability Research across the University. This will include, for example, our involvement in the Global Consortium for Sustainability Outcomes (GCSO) and the ongoing work of the DCU Water Institute.	<ul style="list-style-type: none"> Sustainability research metrics International partnerships in sustainability Impact case studies
Carbon-Neutral Campus	8.6 Develop a DCU campus as an exemplar Carbon Neutral Campus .	<ul style="list-style-type: none"> Identification of optimal campus & required implementation plan % progress to carbon-neutral status for exemplar campus

Figure 2: DCUs commitment to Sustainability at the Core as identified in the DCU Strategic Plan 2017-2022.

Building on its existing structures within DCU (see figure below) a cross institutional Sustainability Council is being established reporting to DCU Executive Committee/DCU Governing Authority with representative from each faculty and key operational units.

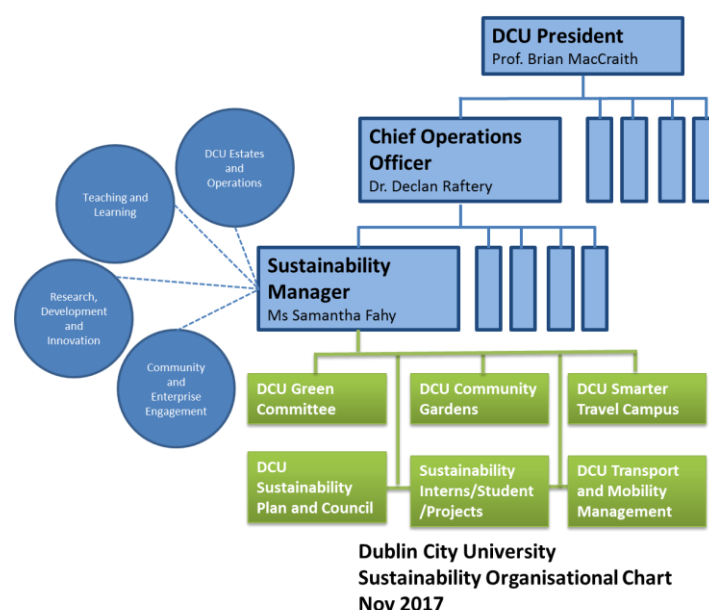


Figure 3: Current organisational structure for Sustainability at DCU

The DCU Sustainability Council is responsible for the further development, approval and implementation of the DCU Sustainability Plan. This cross institutional council, chaired by Dr. Declan Raftery, DCU Chief Operations Officer is currently being established with its first meeting planned for September 2018.

Green Campus at DCU

The awarding of the first green flag to DCU (Glasnevin Campus) in July 2014 had a significant impact on all campus users i.e. DCU staff and students but also local community and visitors to the campus. It raised the profile of sustainability actions across campus and with Incorporation has proven to be one of the linking factors behind which all staff and students can get behind. With this view of cooperation and collaboration DCU aims to create a One DCU Green Campus across all its campuses rather than focus on individual flags for individual campuses. In November 2017 DCU hosted a site visit from An Taisce and following this our Green Flag status was renewed for Glasnevin Campus and awarded afresh to the DCU St. Patricks Campus. It is hoped that in 2018/2019 the All Hallows campus can follow suit.

2. Green Campus Committee

There has been no official update on the DCU Green Committee since our Nov 2017 report. However working together with the Sustainable Living Society we do plan some additional strategies for 2018/2019 to attract and engage students in the DCU Green Committee efforts.

One of the ongoing challenges is how to manage the initial large groups and their hugely varying expectations. It is hoped that the approach taken in 2017/2018 will aid this process by identifying in advance that membership of the Green committee is not passive and identifying some key project in advance and getting feedback on levels of interest. It is also expected that the establishment of the DCU Sustainability Council will aid the operation of the Green Committee by giving it a direct channel of report to DCU senior management.

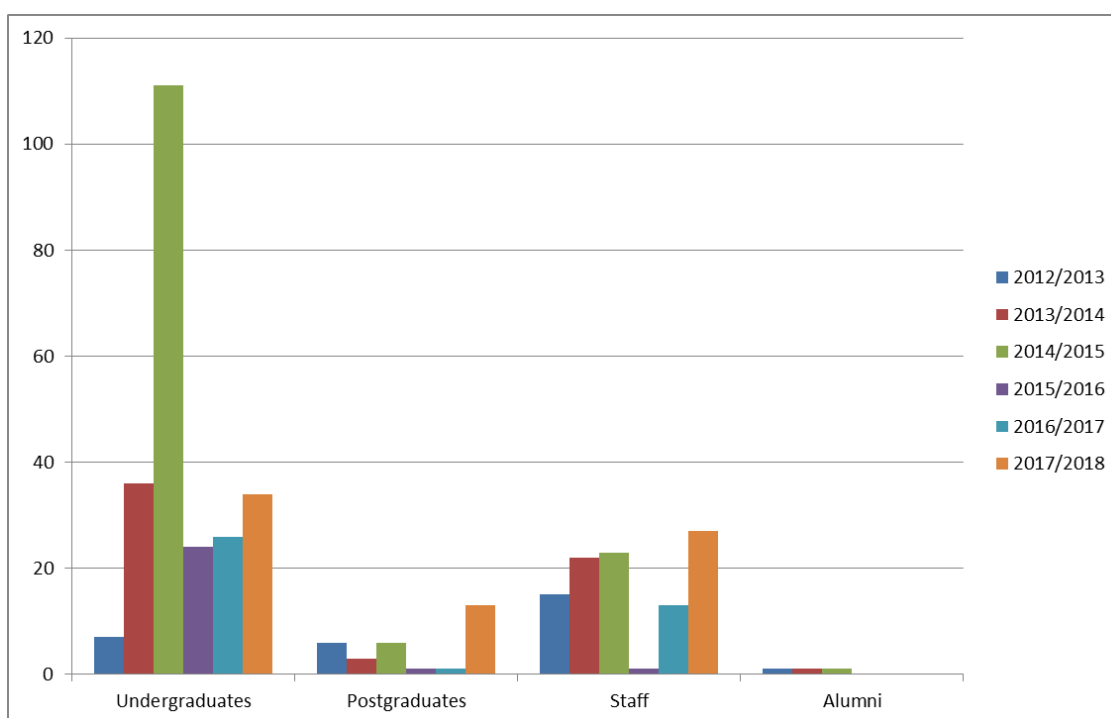


Figure 4: DCU Green Committee Membership 2012 – 2018

Review of 2016/2017 Committee

The Green Committee at DCU is renewed each year early in semester one. With a focus on the New DCU being One DCU it was agreed that there would be one Green Committee bringing together representatives from all campuses. A call to all staff and students via email was circulated early in term 1 with a very positive response. Below is a list of those who indicated that they wished to be involved in the DCU Green Committee. In addition the students established a new sustainability society - DCU's Students for Sustainability in Human Lifestyles (SSHL), with the aim to not only advocate and educate, but to equip students with sustainability skills to last a lifetime to aid the individual to live a minimal damage and conscious lifestyle. Skills lessons and workshops will include bicycle riding/repairs, seminars, vegan cooking class, permaculture, urban gardening, work in the

DCU community garden, trips to sustainable communities & working via WWOOF on organic farms and a range of other groovy stuff.

Table 1: DCU Green Committee Members 2016/2017

DCU Green Committee Members 2016/2017	
Mariane Galpo Masters in Management Business Co-Chair Green Committee	Sam Fahy Sustainability Manager at DCU Co-Chair Green Committee
Rosalind Duke Lecturer (AHC)	Saorla Kavanagh PhD Student at DCU
Conall Ó Dubhir Stockholm Resilience Centre, Stockholm University Interim @ Sustainability DCU Summer 2017	Siobhan Sleeman DICE Project Manager SPC
Ann-Christin Arras Heidelberg University in Germany Interim @ Sustainability DCU Summer 2016	Eleanor Hulm DCU SSHL
Cody Byrne DCU SU VP Welfare	Eimear Maguire DCU SU VP Engagement & Development
Manus Mc Loughlin DCU SU VP Education & Placement	Eamonn Carroll Undergrad SPD
Rita O Dwyer SEN	Seán James Walpole Undergrad DCU
Minako Muraki Exchange Student	Killian Barry GDip Learning Support & Inclusion
Antonio Pupulin BT	Gráinne Smith BUPY2
Ana Jaranay STEP (Staff)	Le Min Chan Actuarial Maths
Effat Ashi Financial Maths	Roxana Pedan Business Studies
Yan Jun Chua Economics, Politics & Law	Oraianthi Touma2atou MTT
Arjon Sengh MSBN	Muthanna Kodana MSBM
Maria Barry Post Doc (SPC)	Ross Kiernan MPS
Jack Philips BMMS	Cara Cavanaugh MSc
Bisimwa JP International Development	Ryan Plaitts Masters Journalism
Thomas McCloughlin Lecturer (SPC)	Susan Pike Lecturer (SPC)
Andrea Cleary Lecturer (SPC)	Conor Maguire DCU SIPTU Rep on Green Committee

There was an initial introductory Green Committee talk/meeting on both the DCU Glasnevin and SPD Campuses which were well attended by both staff and students. At these meetings the achievements of the previous year were reviewed and plans for 2016/2017 were discussed. While there were several meeting called throughout the year it proved difficult to identify times/places that attracted a critical mass and hence several meeting required parallel processing i.e. the same

info communicated to small groups on different campuses. While this was necessary in year 1 of incorporation to help manage the amalgamation, assuring members of all campuses that their contribution was as important as any other, it was not particularly effective for enabling discussion and debate. Asynchronous meetings, website, email and social media communications were used to circulate the message and activity of the committee within DCU.

Outlook for 2017/2018 Committee

A different approach will need to be taken in 2017/2018 with particular emphasis in getting the entire group together to capture and communicate the diversity of the whole new DCU student body. Over the summer 2017, with the help of Conall Ó Dubhir, an interin working with Sustainability DCU from the Stockholm Resilience Centre at Stockholm University, significant work has focused on how to engage and facilitate a multi-campus green committee. The outcome has been the development of an online platform for the capturing and prioritisation of activities as well as a remote participation methodology for online meeting. Appendix 1 provides a short report on the new 2017/2018 committee. There have been over 100 responses from right across campus

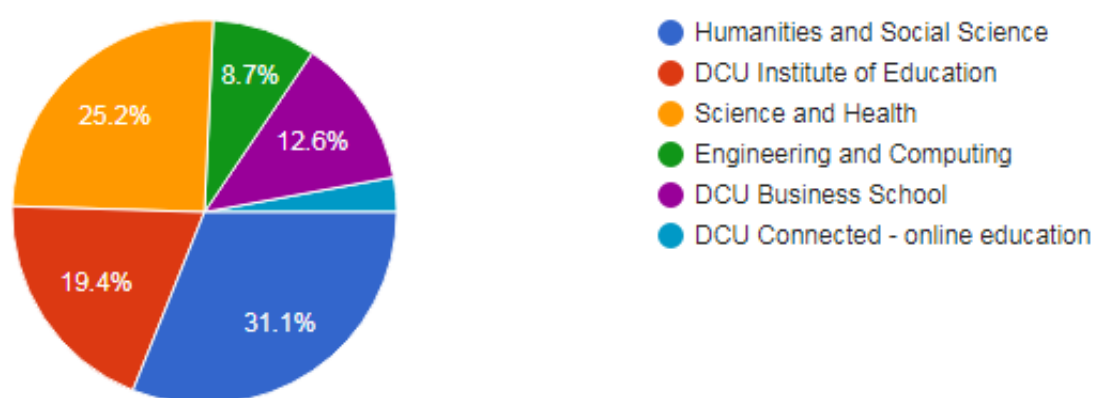


Figure 5: Breakdown of responses across DCU Faculties

The figure above shows the breakdown of the response rate to the online Sustainability/Green Committee. The table below compares this with the percentage of student in each faculty – this would appear to indicate that the response rate is in line with the representation of students with perhaps less student responding from the Business School and more from the Humanities & Social Sciences.

Table 2: Comparison of students per faculty to response rate on Green Committee Email

Faculty	Percentage of student 2016/2017	Response rate
Humanities and Social Sciences	26%	31.1%
Science and Health	23%	25.2%
DCU Business School	22%	12.6%
DCU Institute of Education	17%	19.4%
Engineering and Computing	12%	8.7%

There is a good breakdown across Staff, postgrads and undergrads and as well as giving their input on different projects there was also the opportunity to indicate if they wanted to join the Green Committee as can be seen in the table below.

Table 3: Breakdown of respondents

Role in DCU	Total	Membership of Green Committee		
		Maybe	No	Yes
Postgraduate Student	16	8	3	5
Staff	40	11	13	16
Undergraduate Student	47	15	11	21
Grand Total	103	34	27	42

As is mentioned in the report it is viable to coordinate a committee of ~74 members and so it is proposed to create working groups to focus on specific tasks. A proposed list of working groups has been circulated back to all interested parties along with a request for nominations for working group coordinators.

It is planned that at least some of these meetings will align with DCU SU Green Day events with the SU VP for Engagement (Siobhán Nic Thaidhg, Vice-President, Engagement and Development) also sitting on the DCU Green Committee. Note that these events are being co-supported by the DCU SU and the Union of Students under the EU funded Students Achieving Valuable Energy Savings (SAVES) programme.

Green Committee Associations

DCU Green committee has several links and associations

Organisation	Activity
Cloughjordan Eco Village	Memo of Understanding, Working together on shared learning journey.
DCU Sustainable Living Society	Strongly linked to green committee and activities to promote sustainability to student body
DCU Students Union	Work together with Sustainability and Green Committee to communicate message and organize and support events
Global Consortium for Sustainability Outcome (GCSO)	The Global Consortium for Sustainability Outcomes is a non-profit international consortium of universities that collaborate to implement and scale solutions to sustainability challenges. GCSO membership spans seven countries on three continents, enabling universities to work together in partnership with each other and with governments, businesses, schools and NGOs.
Sustainable Energy Authority of Ireland (SEAI)	DCU have several links to SEAI including grant aid under the Better Energy Communities Awards, as members of the Better Energy Communities Network, and also working with SEAI to increase awareness of energy reduction and efficiency by DCU Staff through energy awareness workshops

Organisation	Activity
Union of Students of Ireland (USI)	DCU is one of the four universities participating in the EU funded SAVES (Students Achieving Valuable Energy Savings) Programme in conjunction with DCU Residences.
Other third level institutions	DCU participated in several forums and event where it works together with other HEI's to develop and delivery the sustainability message! Eg coffee cups campaign.
An Taisce Green Communities	DCU and particularly DCU community gardens work with the An Taisce Green Communities team to provide access and support for project in the community.
Mens Shed Association & Ballymun Mens Shed Association	DCU is working together with the Mens Shed association and Ballymun Shed to establish a Shed on the DCU Community Garden.
Dublin City Council	DCU Sustainability/Green Committee have several engagements with DCC including the removal of hot water from public sanitary facilities, refurbishment of sheds on the DCU Glasnevin Community Garden and the Adopt a Street programme
Drumcondra Tidy Towns Association	DCU Sustainability/Green Committee are working with the Drumcondra TT Ass to help increase biodiversity on the Drumcondra facing perimeter of St. Patricks Campus including new flower baskets, propagation of native ivy, support maintenance of DTT planters etc
Phibsboro Tidy Towns Association	DCU Sustainability/Green Committee are working with the Phibsboro TT Ass to raise awareness on waste and water issues
The DCU Vegan Society	To support positive choices in the DCU restaurants
DCU Cycling Club	To promote cycling facilities on campus and intercampus
IBikeDCU Society	To promote biking, basic skills incl rules of road etc.
Smarter Travel Campus Group	Working to achieve a 90% of campus users using a sustainable form of transport.
DCU Office of Student Life	Several linkages including sustainable bottle/cups, community employment and engagement
Rediscovery Centre	Several linkages including weekly bike clinics, fashion workshop and education and awareness raising programmes.
North Dublin Chamber of Commerce (NorDubCo)	Working on sustainable project implementation including hot water and policy recommendations
RCE Dublin United National Regional Centre for Expertise in Education for Sustainable Development	RCE Dublin is coordinated by Dublin City University (DCU) and its partnership includes educational organisations (DCU, Educate Together), Public bodies (An Taisce, Dublin City Council), industry-academia networks (Sustainable Nation) and non-governmental organisations (FightingWords, Exchange House Ireland and ECO-UNESCO).
National Transport Authority	Smarter Travel Campuses programme and several support awards to improve transport related initiatives at DCU

3. Environmental Review

There have been major changes at DCU over the past number of years with the expansion of the campus with student population increasing by over 32% (figure 6) and estimated to reach 22,000 by 2026. In addition two additional academic campuses have been added at St. Patricks and All Hallows both in Drumcondra (figure 1 in Introduction). While nominally during this phase the DCU Green Committee is focusing on the Water and Transport themes, work has continued on all themes and in many such as energy has even increased further.

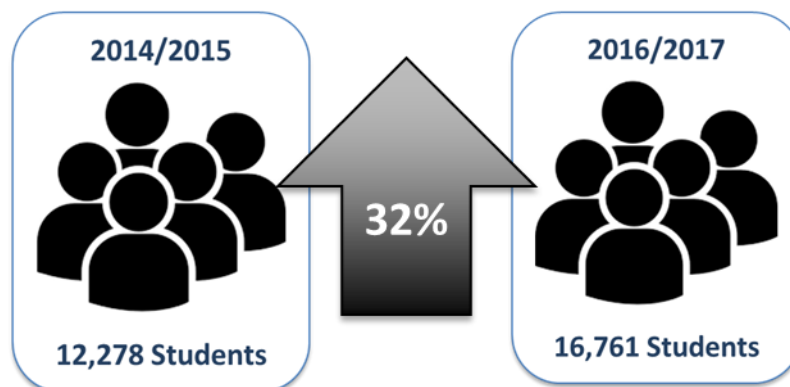


Figure 6: DCU Student population growth through Incorporation



Figure 7: DCU Campus Development 2017

DCU in 2017 encompasses 5 primary campus locations with a ~2km radius. With 75 buildings dating from 1680 – 2016 across 128 acres there are many challenges and opportunities. In this section we report progress on environmental performance across the DCU academic campuses – Glasnevin, St. Patricks and All Hallows for Energy, Water, Waste, Biodiversity and Transport.

Energy

DCU continues to work toward its agreed target of 33% energy reduction by 2020 on 2010 figures and has undertaken several infrastructural projects include LED retrofit, insulation upgrades, building fabric and glazing upgrades with several more in the pipeline.

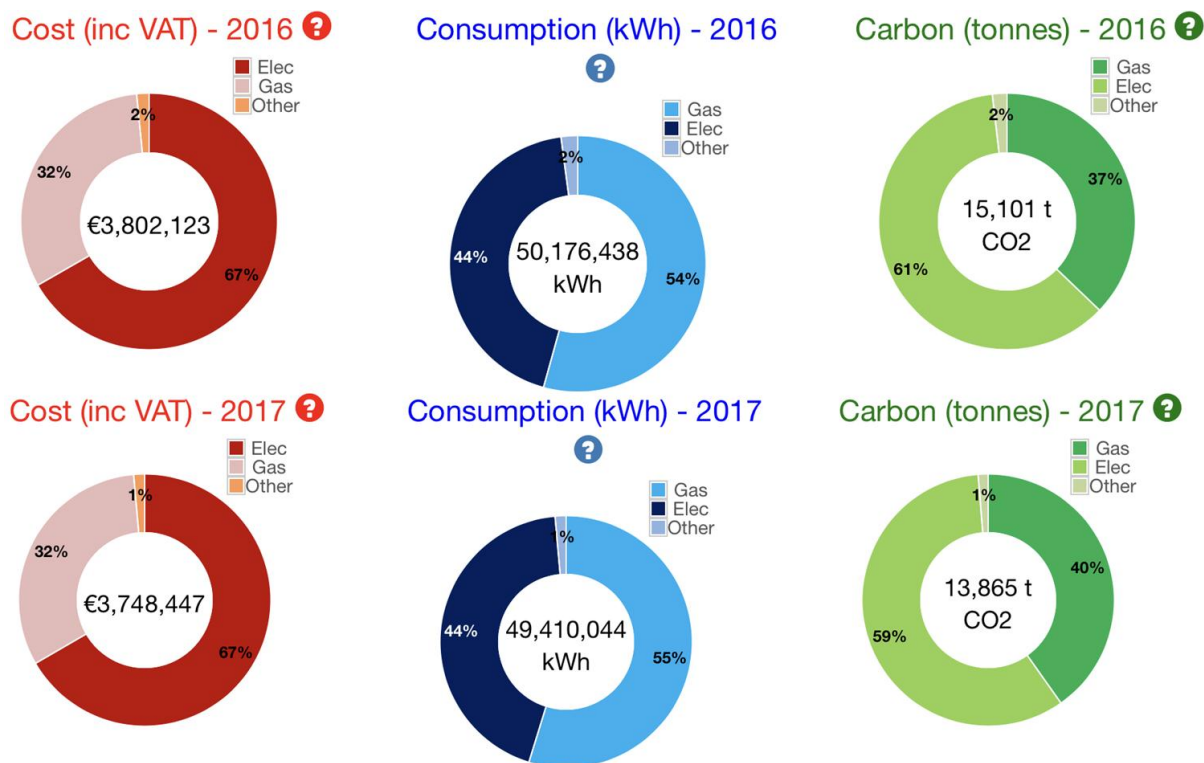


Figure 8: DCU (All Campuses) Energy Consumption 2016/2017

As with all public sector bodies DCU makes annual returns to SEAI under the energy consumption in the public sector scheme. The DCU report based on the data collected through the monitoring & reporting system for 2015 and 2016 can be seen in the figures below.

The 2017UNOFFICIAL report indicated that DCU is at 35% toward the 2020 target of 33% i.e. exceeded target by 2%. In addition in late 2017 DCU underwent the ISO50001 assessment and was awarded certification see figure below.

Since Baseline to 2016

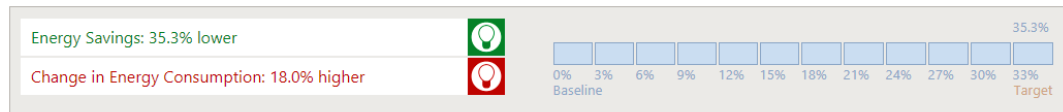


Energy Performance Indicators - 2016



Figure 9: DCU 2016 SEAI Energy Efficiency - Progress to 2020 Report

Since Baseline to 2017



Energy Performance Indicators - 2017

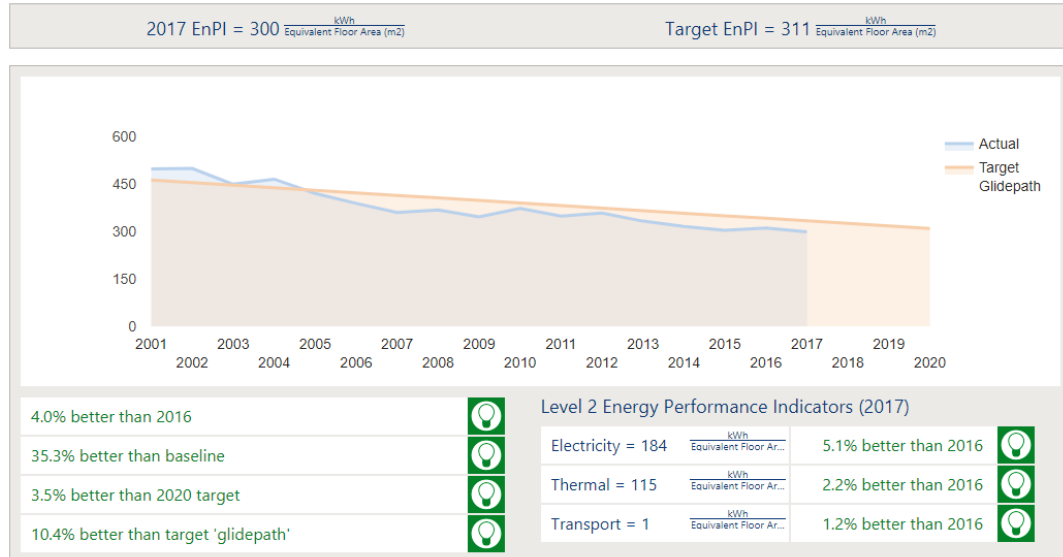


Figure 10: DCU Energy Performance Indicator 2017 – UNOFFICIAL



Figure 11: DCU ISO 50001 Certification

Water

As mentioned above in 2017 DCU undertook an ISO 50001 assessment ISO 50001 will be a key element in how DCU will manage and conserve energy and water into the future.

DCU continued its progress in identifying and fixing the main underground leaks throughout all campuses. This strategy shall continue for 2018, together with co-ordinating the billing with Irish Water following the transition from Dublin City Council. From there the focus shall be on leakage and waste control within each building across all campuses.

An all campus summary exercise shall be carried out on Water Consumption throughout all Campuses in 2018. Once these final audits are completed a plan of action for internal water reductions shall be implemented over the coming years.

A brief summary of our annual water consumption and costs is outlined below for information;

DCU Glasnevin Campus: 200,000 m³ @ € 1.16 = € 230,000

DCU Sports Campus: 5,000 m³ @ € 1.99 = € 10,000

DCU ALPHA Innovation Campus: 15,000 m³ @ € 1.99 = € 30,000

DCU St. Patrick's Campus: 30,000 m³ @ € 1.99 = € 60,000









DCU All Hallows' Campus: 12,000 m³ @ € 1.99 = € 24,000

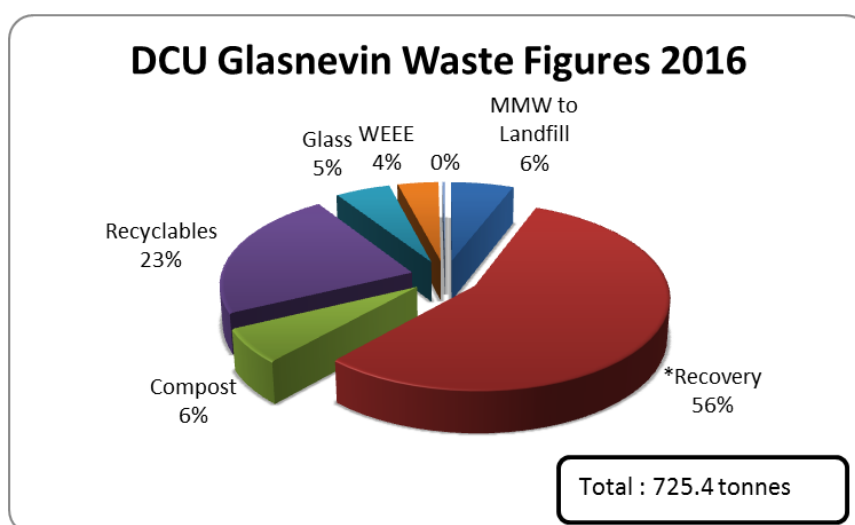
Total Water Consumption across all Campuses is approximately 245,000 m³, costing at the rates above, € 350,000 per annum. It is hoped that these consumption figures can be improved upon over the coming years with a 10% annual savings target set by Estates. It was also noted that the water rates could be standardised into the future by Irish Water and that this would have an impact on the water budget. It was agreed to do a full cost check in September 2018, after Irish Water have over a year providing water to DCU.

Waste

DCU continues to closely monitor its waste and is working towards reducing total waste. The table below identified the progress or lack thereof made between 2015 and 2016.

Table 4: DCU Glasnevin Waste for 2015 and 2016 in metric tonnes.

	MMW to Landfill		*Recovery		Compost		Recyclables	
2016	43.092		405.329		44.241		165.198	
2015	35.9		389.7		52.3		157.9	
	Glass		WEEE		C & D		Total	
2016	37.732		28		1.8		725.392	
2015	53.4		26.8		2.36		718.36	



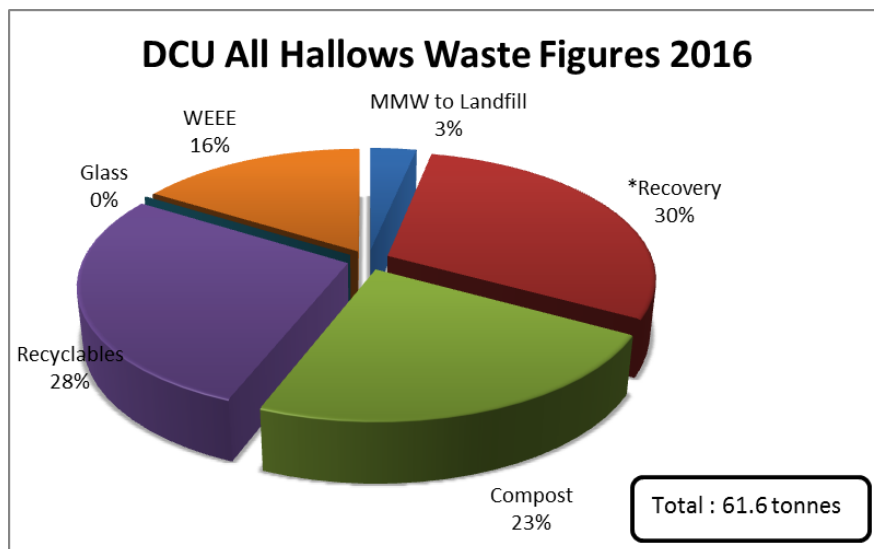
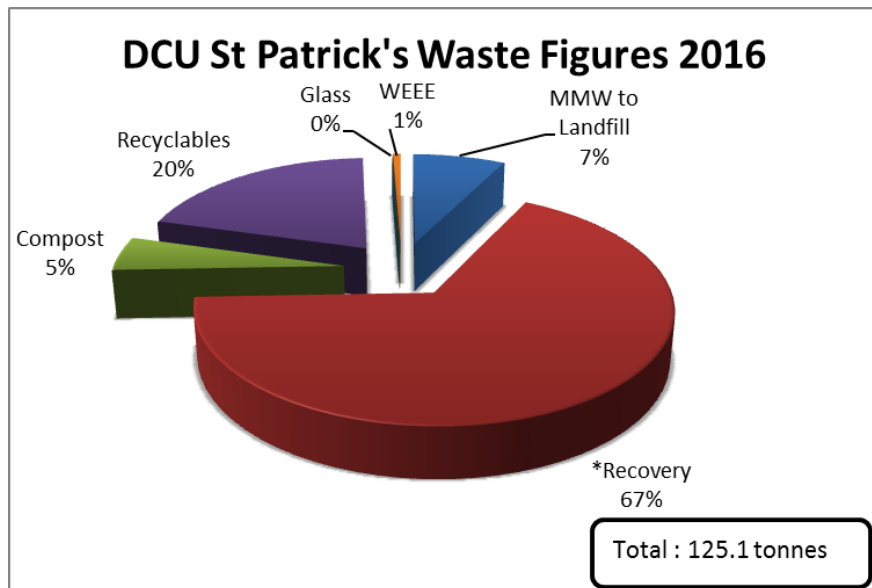


Figure 12: DCU Campus waste for 2016

Biodiversity

DCU has not been in a position to participate in the annual BioBlitz due to conflicts in timings i.e. our student body had not returned from break when it was happening. We are however continuing to monitor our potential invasive species (see table below) on Glasnevin campus and this is being extended to all campuses. In 2016/2017 this has been done ad hoc and therefore a full review will be required in 2017/2018.

Biodiversity/Community Garden Spaces at DCU

Following consultation with several interested actors across our campuses it was agreed to clearly identify specific areas on the campuses that are dedicated to supporting biodiversity on campus. Below is a list of the areas across all three academic campuses.

1 Millbourne Garden, SPC

It was agreed to establish a 'school garden' to the side of the ERC Building. This garden will be a resource for several of the education programmes incl BEd, PMEP etc. In addition it will engage with the St. Patricks Primary School and with the Age Friendly University Initiative through education and participation activities.

Signage will be designed and installed to identify the area clearly. This area will be excluded from all herbicide and pesticide spraying with the exception of treatment for the Japanese Knotweed.

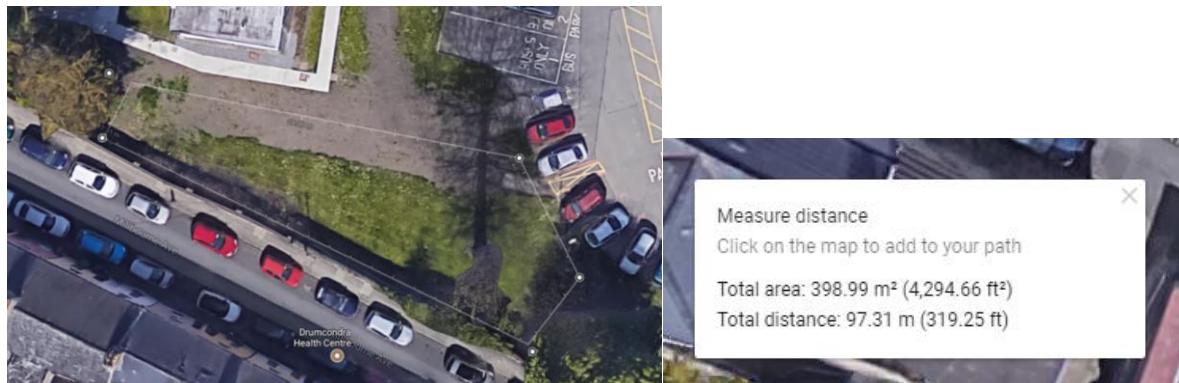


Figure 13: Proposed area of Millbourne Garden (Exact boundary needs to be agreed on site)

2. East Woodland/Drisheog Wood, SPC

This area will continue to be used as a teaching resource for several courses incl BEd, PMEP etc. and will be used for species identification, to hand raise trees, sanctuary for biodiversity, reuse and upcycling of bird boxes etc.

Signage will be designed and installed to identify the area clearly. This area will be excluded from all herbicide and pesticide spraying.

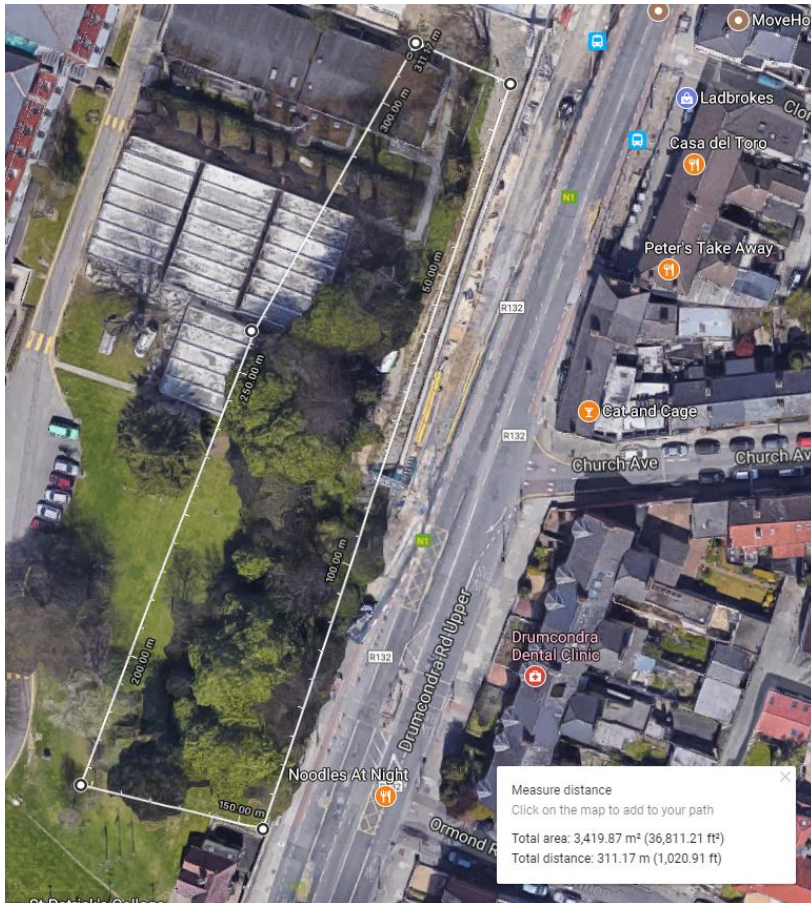


Figure 14: East Woodland (Exact boundary needs to be agreed on site) NOTE this is an old google map image - the prefabs etc have now been removed from this area.

3. Natural Grasslands, SPC

This area will be used as a teaching resource for several courses incl BEd, PMEP etc. and will be used for species identification, biodiversity of grasses and support DCU Campus wide pollinator plan to identify and sow specific native species that will support and encourage native biodiversity.

Signage will be designed and installed to identify the area clearly. This area will be excluded from all herbicide and pesticide spraying and will not be mowed.



Figure 15: Sloped grass area from steps to boundary wall with Drumcondra road, also incl small area to left of steps.

4. Community Garden Space, SPC

The current community garden boxes will continue to be used as a teaching resource for several courses incl BEd, PMEP etc. Signage will be designed and installed to identify the area clearly. This area will be excluded from all herbicide and pesticide spraying.

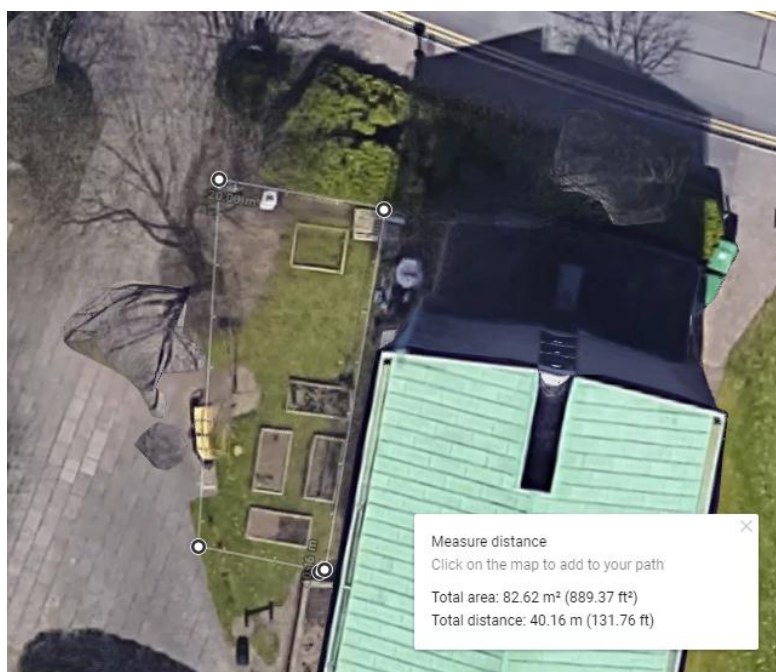


Figure 16: Community Garden Space on SPC.

5. All Hallows Community Garden

DCU has agreed to establish a community garden on the All Hallow Campus. This space can also be used as a teaching and learning resource for SPC and AHC campuses. The apple trees (19) donated from Blancherstown IT will be transplanted into this space.

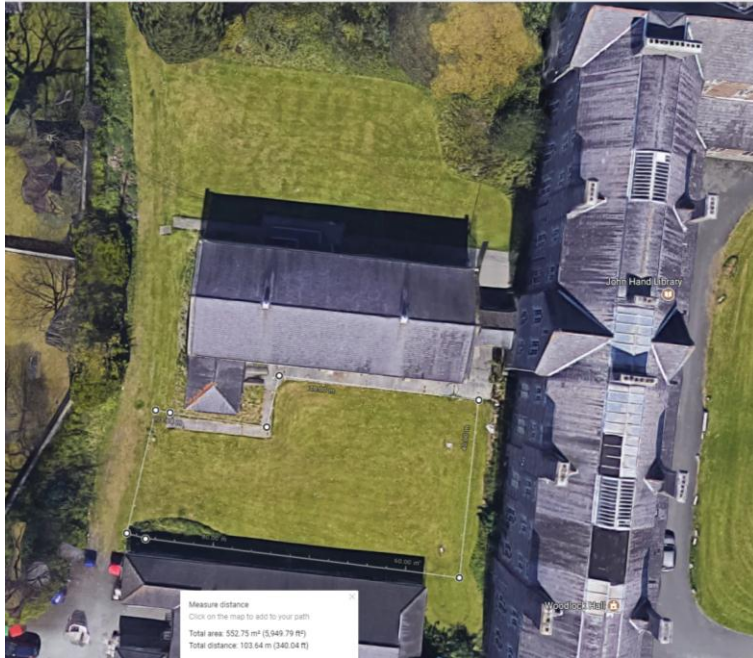


Figure 17: Community Garden Space at AHC

6. DCU Glasnevin Community Garden

The DCU Glasnevin Community Garden is open to the whole community – including DCU Staff and students, local community individuals and groups (such as Ballymun Men’s Shed Association) as well as companies who wish to work together to cultivate and grow wholesome organic food. In addition the garden has recently agreed with Grow Dome (social enterprise) to allow them erect an 11 meter grow dome (similar to that in Rialto) in the garden and it is working with a pre-start-up – Garden Gnomes on the practices and methodologies around urban gardening.

The 1.6 acre garden is a focus for engagement and promotion of healthy living, physical and mental. The garden endeavours to educate and train members in cultivation of organic fruit and veg to enable them to eat healthier while gaining some exercise and fresh air in a supportive learning environment. As a ‘sustainability’ focused garden it seek to develop and demonstrate new methodologies and technologies that will enable a more sustainable practices not only when it comes to food but all aspects of sustainability.



Figure 18: Community Garden at DCU Glasnevin.

Transport

Dublin City University is now a multi campus university and the second largest commuting hub in the north Dublin region after the airport. In early 2018 DCU undertook a survey of all staff and students across all incorporating institutions to assess current transport choices vs a similar survey undertaken in 2017/16. This project was undertaken in conjunction with the National Transport Authority.

There were 2278 respondents to the DCU travel survey, which was conducted online through www.surveymonkey.com between 26th of January and the 15th of February 2018. This represents a response rate of 27% staff and 27% student based on 2,020 staff and 15,845 students.

Overall the response rate to the survey has seen an increase in take up from the 2017 survey. Among DCU's student population, the 2017 survey included 374 students (32% of responses) which increased in 2018 to 1731 students (76% of responses). However, 2018 saw a decline in staff take up of the survey, the 2017 survey had 762 (68% of responses) which reduced to 547 (24% of responses) in the 2018 survey. A higher response rate for both the staff and student survey would be ideal, however it is still an increase uptake from the 2017 survey and the information submitted remains valuable and action undertaken based on this should prove beneficial to Dublin City University.

Staff comparison 2018, 2017, 2016				
Regular mode of transport to DCU	2016	2017	2018	Change 2017/2018
On foot	11%	12%	13%	Up
Bicycle	13%	11%	16%	Up
Bus, minibus or coach	15%	22%	14%	Down
Luas	1%	1%	.2%	Down
Train or DART	3%	5%	4%	Down
Motorcycle or scooter	1%	0%	1%	Up
Driving a car	53%	46%	50%	Up
Passenger in a car with driver going to same destination	2%	1%	1%	Down
Passenger in a car with driver going to different destination	1%	2%	1%	Down
Taxi	0%	0%	0%	No change
Lorry or van	0%	.1%	.2%	Up
Other means	0%	0%	0%	No change

Figure 19: Summary of 2018 Travel Survey

4. Action Plan for 2017/2018

The DCU Green Committee endeavours to keep our Action Plans up to date. They are available on a share drive for individuals to update. This sometimes does happen! However most updates are done by the Sustainability Manager with information supplied by different groups etc. New actions are added to the end of the list to ensure that where projects have not been finished that they are not forgotten and have to be reinvented. It is evident from the Action plans which measures are new and which are ongoing. One of the ongoing challenges is the capturing of ideas and suggestions from enthusiastic new members and the management of their expectations on who should deliver the absolutely fantastic solution that they propose. An attempt to management this in 2017/2018 was the circulation of a feedback form to all staff and students – part of this form was a question on what the individual themselves could do to make the DCU campus more sustainable – there were over 100 responses. The figure below breaks down the theme of these responses across the An Taisce Green Campus themes.

What could you do in DCU to make it more green ?

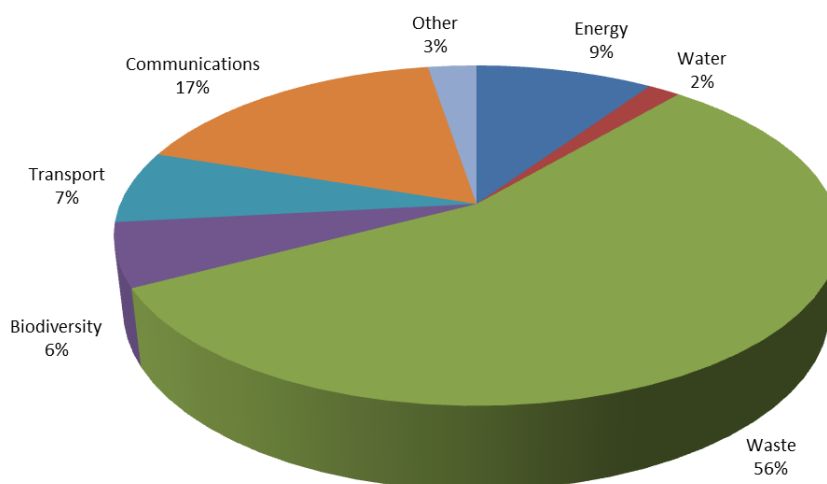


Figure 20: Thematic analysis of ALL responses to individual contribution, note that in several cases more than one theme was identified in the response.

It is really interesting to note the prevalence of waste focused responses. While, of course, waste is a significant issue its impact on the carbon footprint of the University is significantly (many orders of magnitude) less than for instance energy or transport. It could be that people 'see' waste more frequently in their daily lives and feel that they can make an impact on it.

In addition to this open ended question specific projects – as identify by previous green committees – were proposed to see which would be most likely to gain support. The figure below shows a breakdown of support for these projects with the removal of non-recyclable coffee cups gaining the highest level of support at 83% of respondents supporting it ! Other highly supported projects included removal of once used plastics and drinking fountains on campuses.

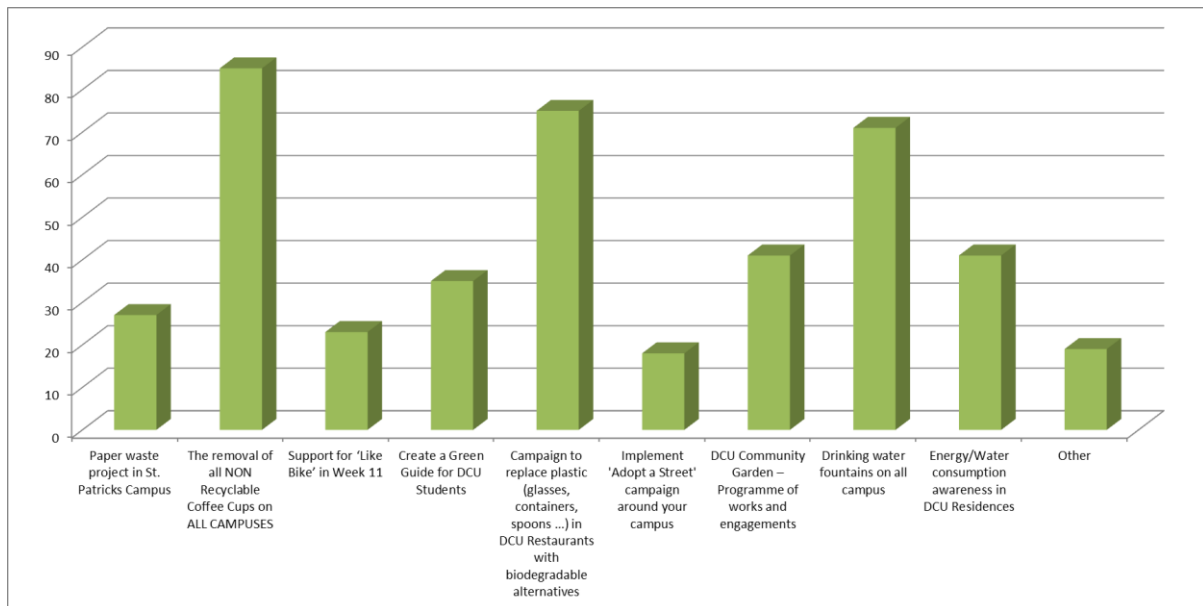


Figure 21: Support for specific projects at DCU

Below is a summary of proposed actions planned for 2017/2018 – these have been drawn from suggestion from the all staff/student engagement

Energy

- Work toward an ISO50001 Standard
- Develop and communicate a energy/carbon management plan
- Raise awareness of energy consumption by Students, Staff and Visitors
- Energy consumption awareness & behavioural change programme in DCU Residences with SAVES Prog
- Seek renewable technology (Solar/wind) for Student Hub

Water

- Water consumption awareness & behavioural change programme in DCU Residences with SAVES Prog
- Identify leaks and fix
- Communicate water consumption data to all staff and students
- Treat as a valuable resource
- Paper waste project in St. Patricks Campus
- Continue 'Adopt a Street' campaign around your campus
- Drinking water fountains on all campus

Waste

- Campaign for the removal of all NON Recyclable Cups on ALL CAMPUSES
- Communicate waste information to all staff and studnets
- Campaign to replace plastic (glasses, containers, spoons ...) in DCU Restaurants with biodegradable alternatives

Biodiversity

- DCU Community Garden – Programme of works and engagements
- Pollinator plan for DCU
- Increase awareness of the importance of biodiversity
- Update biodiversity database
- Increase biodiversity on campus through tree planting events

Transport

- Mobility management plan support active commuting
- Continue Smarter Travel Campus' Walking and Cycling Challenges
- Support for 'Like Bike' in Week 11

Communications

- Info wall on all campus providing current consumption data on key metrics including initiatives to reduce and scope to accept suggestions
- Create a Green Guide for DCU Students

A full list of the completed and ongoing actions plans for the DCU Green Committee are in Appendix 2. These are in the appendix as they make more sense when seen as part of the total document rather than a snippet.

5. Monitoring and Evaluation

In this section we will discuss the monitoring and evaluation of the additional assessment we have undertaken in 2016/2017.

Energy

As presented in Section 3 DCU continues to work toward its agreed target of 33% energy reduction by 2020 on 2010 figures. As well as achieving its ISO50001 accreditation in 2017, unofficial figures in 2018 indicate that DCU has reached 35% ahead of its 2020 33% target.. DCU's Energy Management team have undertaken a raft of project to reduce the rate of energy consumption on campus and increase efficiencies. These incl

- Completed energy audit of Residences
- New condensing gas boilers
- Shared learnings across campuses
- Reduced pool boiler flow temperature setpoint at night
- Appointment of Energy Champions in the BDI, Sciences, Residences and NICB buildings; regular meetings between Estates and Energy Champions
- Completion of EPC assessment of carpark lighting
- Completed gap analysis for ISO50001 certification
- Expansion of the BMS Implement Carpark lighting EPC
- Implement humidity control of pool ventilation system
- Complete DCU Strategic Energy Plan

In addition to this DCU Estates is working with the DCU Green Committee and together working toward ISO50001 Certification in 2017. The challenge of achieving this requires cross campus engagement and together we are working on several project including the EU funded SAVES project.

- Strategic Plan implementation
- Whole campus engagement
- Upgrade boilers and LED lighting
- Carbon neutral strategy development
- GCSO Project – Hot water in public sanitary facilities



Saves Project

This project will work very closely with the DCU Students Union, Sustainability Office and Green Committee to capitalise on the potential impact of this innovative behavioural change programme.

Irish Targets

University	No. of Dormitories	No. of Students in dorm
Dublin City University	15	1,400
NUI Galway	8	1,100
NUI Maynooth	23	986
University College Cork	5	1000

Objectives of overall project:

1. Reach 38,000 students living in dormitories each academic year (114,000 students over 42 months) with the Student Switch Off energy-saving campaign that inspires them to adopt sustainable energy behaviours at a key stage of their lives.
2. Save quantifiable amounts energy (9GWh in final energy consumption) in student dormitories through the adoption of sustainable energy behaviours by students
3. Reach over 100,000 students when they are looking at moving into the private-rented sector to encourage them to make housing choices that minimise their exposure to fuel poverty – e.g. by demanding to see the Energy Performance Certificate (EPC) of the property, not selecting poor-rated properties, and creating more demand for efficient rental properties;
4. Reach over 100,000 students when they move into, and live in, the private-rented sector to improve understanding of their energy bills, to provide general advice on the efficient management of equipment and heating controls, to encourage the uptake of smart meters and to raise awareness of how to use in-home displays to reduce household energy consumption.

Partner countries:

United Kingdom, Greece, Cyprus, Ireland, Lithuania, Romania, Bulgaria

Student Switch Off dormitories monitoring and evaluation

Pre -intervention attitude and behavior questionnaire survey	Sept 2017, Sept 2018, Sept 2019
Follow-up questionnaire survey	May 2018, May 2019, May 2020
Focus groups with students as they leave dormitories	May 2017, May 2018



GCSO/DCU Hot Water Project



DCU, along with nine other partner Universities, are participating in the Global Consortium for Sustainability Outcomes (GCSO) project on trialling the removal of hot water from public sanitary facilities. In DCU we plan to remove hot water from the majority of sanitary facilities in one designated building for the period of one year and closely monitor the impact and perspectives of staff, students and other building users. Hot water is not required for hygiene purposes and due to legionnaire's disease all public hot water system must hold hot water at circa 60 degC to prevent spread of the disease. It is proposed that there are significant energy saving and associated

greenhouse gas emissions savings for the building over the period. We hope that our findings of this innovative project will be of relevance to planning legislation with the potential to be scaled up. We are working closely with Dublin City Council and the Health and Safety Authority in this project.

Also in June 2018 DCU (Jenny Lawler/Sinead Smith/Roderic O Gorman and Samantha Fahy) submitted to the EPA a research project to continue this project at DCU.

SEAI Better Energy Community Grant

In early 2017 DCU was awarded a Better Energy Community grant. This grant will go towards new high efficiency boilers on All Hallows' Campus and the retrofitting of LED lights in the multi-storey car park on Glasnevin Campus. In addition just over €30k will be donated by SEAI on behalf of DCU towards Fuel Poor Housing in the DCU Community. DCU continue to work with SEAI on further grant applications.

Roadmap to Carbon Neutrality

DCU recognised the need to move toward a low carbon environment, to support this effort a roadmap is being developed to identify the challenges and opportunity that arise on the road to a carbon neutral campus. Initial steps included the carbon footprinting of the DCU Glasnevin Campus and also a fourth year project on creating Carbon Neutral Interfaith facilities on the DCU Campuses (Glasnevin, St. Patrick's and All Hallows).

A literature review was completed looking at the current carbon foot printing methodologies and potential mitigation or adaptations to create carbon neutral facilities. The final report is not completed as yet.

Table 5: Table of energy consumption in 2016 for DCU Academic Campuses

2015	Elec (MWh)	Gas (MWh)	Total energy (MWh)	Carbon (tonne)	Students 14/15	Carbon tonne per student
DCU Glas	17,781	19,262	37,043	13,337	11,820	1.13
DCU SP	5,600	2,000	7,600	2,204	2,711	0.81
2016	Elec (MWh)	Gas (MWh)	Total energy (MWh)	Carbon (tonne)	Students 14/15	Carbon tonne per student
DCU All Campuses	22,014	26,907	48,921	14,680	16,761	0.88

As can be seen from the table above the estimated the overall carbon footprint per student has reduced from 2015 to 2016, where DCU Glasnevin students have decreased and the SPC/AHC students increased. It is expected that this is primarily due to the higher energy intensity use on the DCU Glasnevin campus due to research laboratories/residences etc.



Starting back in 2015 the then co-chair of the DCU Green Committee, Denah Harris, established a campaign to have DCU divest from fossil fuel investments. The committee established a petition page (<https://campaigns.gofossilfree.org/petitions/divest-dcu?source=facebook-share-button&time=1455825568>) and just before the end of semester a letter was sent to Prof. Brian MacCraith, President of DCU. In late 2016 Dublin City University Senior Management agreed to divest from Fossil Fuels and have direct their fund managers to implement this request. While we do not have an official statement from our Education Trust at the point of writing this report we understand that we will have this very shortly.

Water

Water continues to be a concern at DCU. As can be seen from the Lowflow report there is a high probability that there are several leaks both on the DCU Glasnevin, St. Patricks and All Hallows campuses. The DCU Estates office are undertaking several measures to enable the identification and rectification of leaks on both campuses which will be reflected in both the consumption and financial reports in 2017.

Hot water project

As mentioned in the Energy section above DCU is participating in an international Hot Water project. This project is being driven by the DCU Sustainability Office in conjunction with interns and members of the DCU Green Committee. It is expected that not only will there be energy savings but that due to the need to flush the systems to prevent the spread of legionnaire's disease that by removing the hot water there will also be water savings. Please note that there will be single point hot water sources in all accessible bathroom for those who require it.

Potable water at DCU

The DCU Green Committee continues to promote the use of reusable water bottles and in conjunction with the DCU students union reusable water bottles are available for €5. In addition in 2018 new potable water fountains are planned for several locations across DCU with a phasing out of bottled water systems.

Waste

The total waste from DCU Figure 19 below is a reflection of the DCU waste streams per student. The data up until 2015 is for DCU Glasnevin campus and its associated student body. The 2016 data is a combination of all DCU academic campuses.

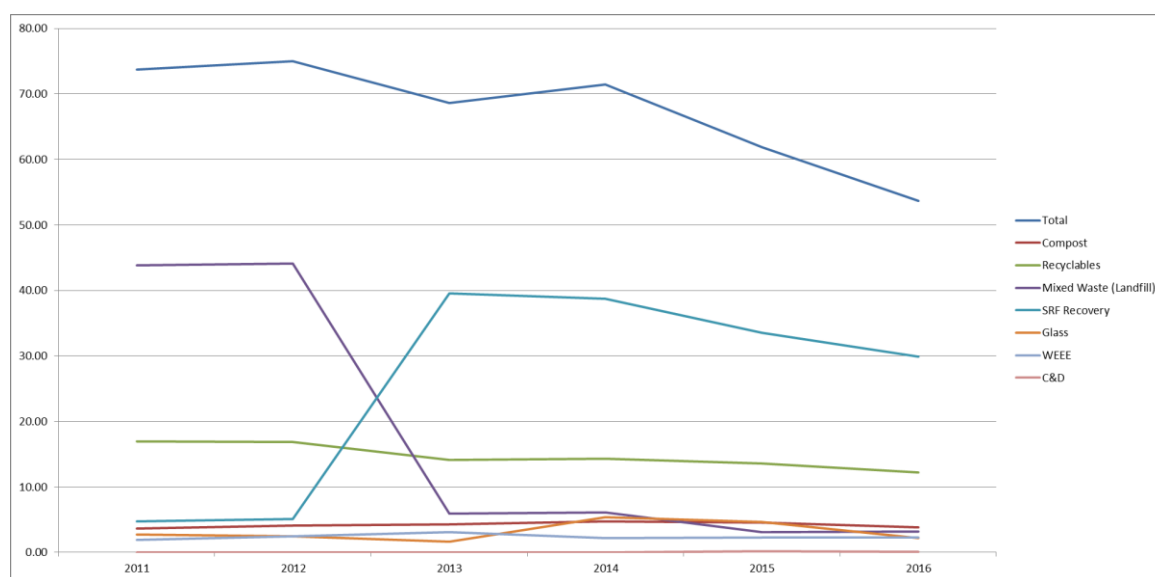


Figure 22: Waste (in Kg) per student at all DCU Academic Campuses

The figure below breaks down the total waste streams per student per academic campus to all for a focused analysis. As can be seen in this 2016 data it is evident that there was no glass recycling on the SPC or AHC campuses – this is now being addressed. Also it is interesting to note that there are much higher levels of composting per student on the AHC – this may be because it is a less densely populated campus than either SPC or GLA. The significant difference between the campuses on SRF recovered waste may be due to different work practices across campus and it is expected that this will adjust as we move forward.

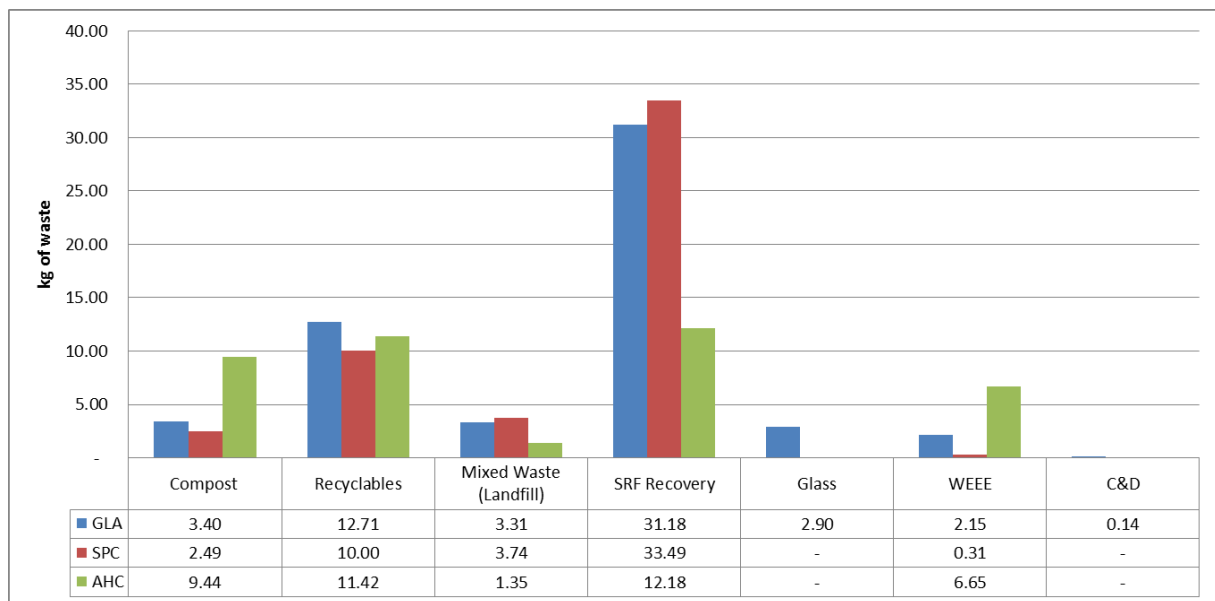


Figure 23: Breakdown of waste per student per academic campus in 2016

Plastic Free DCU

In March 2017 DCU senior management agree to go plastic free.



dcu.ie

DCU becomes first Irish university to go 'plastic-free' | DCU



DCU

1 hr · 🌐

We are going plastic free to become a greener DCU!
"Our prioritisation of sustainability as a key theme reflects DCU's commitment to address a very real challenge, both at local and global levels."

[#greenDCU](#)

DCU Single-Use Plastic Initiatives

Introduction

Dublin City University's Strategic Plan 2017-2022 commits to placing sustainability at the core of the University's activities. The initiatives proposed here address a key challenge of waste management in the marine environment (i.e. the widespread availability of single-use plastics) and aims to make DCU an exemplar institution through their elimination on our campuses.

Six of the seven initiatives proposed will be introduced in 2018.

Full elimination is proposed by the end of 2020.

Rationale

Plastic pollution is having a significant negative impact on the global environment, with 10% of all waste attributed directly to one-use plastics.

Plastic affects human health: Toxic chemicals leach out of plastic and are found in the blood and tissue of nearly all of us. Exposure to them is linked to cancers, birth defects, impaired immunity, endocrine disruption and other ailments.

Plastic spoils our groundwater: A high proportion of waste plastics end up in landfill where the toxic chemicals from plastics drain out and seep into groundwater, flowing downstream into lakes and rivers.

Plastic threatens wildlife: Wildlife become entangled in plastic, they eat it or mistake it for food and feed it to their young, and it is found littered in even extremely remote areas of the Earth. In our oceans alone, plastic debris outweighs zoo-plankton by a ratio of 36-to-1.

Plastic impact the food chain: Even plankton, the tiniest creatures in our oceans, are eating micro-plastics and absorbing their hazardous chemicals. The tiny, broken down pieces of plastic are displacing the algae needed to sustain larger sea life who feed on them.

Plastic costs billions to abate: Everything suffers because of plastic pollution: tourism, recreation, business, the health of humans, animals, fish and birds.

Proposed Initiatives

DCU's Single-Use Plastic Policy Initiatives focuses, in the first instance, on the elimination of the following single-use, disposable plastic items:

- Single-use plastic cups and glasses
- Takeaway coffee cups
- Takeaway food containers
- Takeaway cutlery
- Straws
- Plastic Carrier Bags
- Plastic Bottles

Single-use plastic cups/glasses

Plastic cups/glasses are primarily used for water consumption from water fountains in canteen and restaurant areas and at individual water fountains throughout the campuses. These cups form a large component of the litter stream. In addition such plastic glasses are used in the NuBar and the Helix for drinks.

Alternative options include personal water bottles, reusable cups/glasses and compostable glasses.. In special cases reusable plastic/bioplastic glasses can be used.

The elimination of single-use plastic cups/glasses is proposed with the following deadlines.

Removal Dates

DCU Café/Restaurants/Coffee docks:

17 March 2018

Drinking fountains (Unit Specific):

01 July 2018

All Outlets

31 December 2018

Takeaway Coffee Cups

In 2017 DCU consumed in excess of 700,000 non-recyclable disposable cups. Not only are these non-recyclable, but they are also a major contamination factor in the recycling waste streams.

It is planned to incentivise the use of personal reusable cups by offering a 20% reduction in costs at all outlets on DCU campuses.

The elimination of non-recyclable coffee cups is proposed with the following deadline.

Removal Dates

All Outlets

31 December 2018

Single-Use Plastic Takeaway Containers

Most single use plastic/tinfoil foodware ends up in landfill. If they are littered or escape from landfill, they can enter waterways where they can fragment and cause serious harm to marine wildlife. Because these items are usually used away from home and in public areas, they tend to be littered more frequently.

It is proposed to eliminate single-use plastic containers for food takeaway in DCU with the options available being:

- BYO container [restaurant to provide mechanism for pre weighing and post weighing to ensure correct charges].
- Compostable containers

Removal Dates

All Outlets

31 December 2018

Takeaway Cutlery

Like single use containers, single use plastic cutlery are littered frequently because they are usually used away from home and in public areas. When they enter the marine environment they fragment into smaller plastic pieces and can harm wildlife.

It is proposed to eliminate the use of single-use plastic cutlery to be replaced by reusable cutlery and/or compostable cutlery.

Removal Dates

All Outlets

31 December 2018

Straws

Straws cause significant ingestion hazards for our wildlife. Although plastic straws are used for an average of 20 minutes, they can last in the environment for years and they are one of the top 10 items identified in beach clean-ups. Plastic straws cannot be recycled and fragment in our oceans, making it far easier for wildlife to ingest plastic.

It is proposed that single-use plastic straws be eliminated at DCU. If necessary, compostable/biodegradable straws may be used.

Removal Dates

All Outlets

31 December 2018

Single-Use Plastic Carrier Bags

Plastic carrier bags are one of the most problematic sources of plastic pollution, quite often being the cause of wildlife entanglement and ingestion. They are shown to be targeted by species that mistake them for their food sources and can cause intestinal blockages, causing an animal to starve to death or cause asphyxiation. The impact of plastic bags in Ireland has been significantly reduced following the plastic bag levy. Refuse bags are excluded in Phase I of these initiatives but will be addressed at a later stage.

It is proposed to eliminate the use of all plastic carrier bags to be replaced by BYO reusable bags or paper bags.

Removal Dates

All Outlets

31 December 2018

Plastic Water/Soft-drink Bottles

Beverage containers form a large component of the litter stream. In this context, the sale and use of single-use plastic bottled water and soft drinks, which inevitably leads to littering, mismanagement and escape into the environment, needs to be reduced.

Given the existence of commercial contracts with a range of suppliers and the current absence of routine alternatives, it is proposed to engage with suppliers with a view to identifying solutions to this issue but with a commitment to eliminate sale of plastic water/soft-drink bottles on campus by the date specified.

Removal Dates

All Outlets

01 September 2020

Recyclable Coffee Cups

DCU is working several partners to investigate the possibility of a one Dublin cup similar to models used in Germany.

DRAFT Proposal : Dublin Cup Scheme



Potential Pilot participants

Dublin City Council	City Council
Dublin City University Trinity College Dublin University College Dublin Dublin Institute of Technology	Pilot Organisations
An Taisce Brown Thomas & Arnotts Dept of Finance Conscious Cup	Supporting Organisations

Context

In 2017 it is estimated that across the four HEI's listed above more than in excess of 3 million non-recyclable disposable cups were used. Not only are these non-recyclable, but they are also a major contamination factor in the recycling waste streams.

It is planned to incentivise the use of personal reusable cups by offering a 20% reduction in costs at all outlets on DCU campuses.

The elimination of non-recyclable coffee cups is proposed with the following deadline.

Concept

Reducing and eventually removing the use of single use coffee cups is an agreed target for many. Introducing a DUBLIN CUP similar to the Freiburg cup scheme would provide the convenience of a single use cup with the footprint of a reusable cup. However coffee vendors would have to have facilities to wash the core reusable cup.

- Generic reusable core cup with removable band
- Band w/ institution logo
- Members or Band holder can exchange used core cup for clean within pilot locations across participating institutions
- Pilot locations wash reusable cups for reuse

Freiburg cup scheme



ReCup – Germany – Return, Reuse, Recycle





#1 MÜNCHEN-RECUP

SERVUS München! Vom Olympiapark bis zur Frauenkirche kann man sich jetzt Kaffee im RECUP schmecken lassen.



#2 WASSERBURG-RECUP

SERVUS Wasserburg! Auch die schöne Stadt am Inn hat ihre eigene StRSteedition. Die Edition ist zusammen mit dem Wirtschaftlichen Verband und den Stadtwerken entstanden.



#3 BERLIN-RECUP

TACH Berlin! Von Friedrichshain bis Charlottenburg - den Kaffee gibt's jetzt auch in Berlin im RECUP.



#4 OLDENBURG-RECUP

MOIN Oldenburg, hallo Norden! Bei über 40 RECUP-Partnern kann man nun den Coffee-to-go im eigenen Oldenburg-RECUP genießen.



#5 LUDWIGSBURG-RECUP

HALLO Ludwigsburg, wie schön, dass Du den Mehrweg und das RECUP-Netzwerk im Süden mit ausbaust!



#6 ROSENHEIM-RECUP

GRIß DI Rosenheim! Wie schön, dass wir unseren 1. Geburtstag in unserer Pionier-Stadt mit einer Rosenheim-Edition feiern dürfen!



#7 KÖLN-RECUP

HEY Kölle! Ein besonderer Gruß an diese besondere Stadt, in der man ab jetzt einfach besser bechern kann: Im RECUP!



#8 ALLGÄU-RECUP

GRIß DI Allgäu! Das Allgäu ist als erste Region zum RECUP-Pfandnetz dazugekommen. Schön, dass Ihr dabei seid.



#9 BODENSEE-RECUP

HALLO Bodensee! Wir freuen uns sehr, Euch mit Eurer wunderschönen Edition dabei zu haben. Gemeinsam: #Mehrwegbeschreiten!



#10 AUGSBURG-RECUP

SALVE Augsburg! Ab jetzt trinkt auch die alte Römerstadt Coffee-to-go im Pfandbecher und wir freuen uns über viele neue Partner!



#11 SYLT-RECUP

MOIN Sylt! Wir freuen uns sehr, dass es jetzt auch auf Sylt RECUP gibt, damit sind wir auf der ersten Insel!



#12 HAMBURG-RECUP

MOIN Hamburg! Jetzt wird auch in der Hansestadt nachhaltig gebechert. Alle Partner findest Du in unserer App.



#13 KREIS SCHWÄBISCH HALL-RECUP

HALLO Kreis Schwäbisch Hall! Der Kreis Schwäbisch Hall ist die dritte Region, die sich dem RECUP-Pfandnetz anschließt. Schön, dass Ihr dabei seid.



#14 ROSTOCK-RECUP

AHOI Rostock! Auch an der Ostsee wird schon besser gebechert! Für weniger Einwegmüll in unseren Meeren und mehr Karma im Kaffeebecher!

Munich, Wasserburg, Berlin, Oldenburg, Ludwigsburg, Rosenheim, Cologne, Allgau, Bodensee, Augsburg, Sylt, Hamburg, Kreis Schwabisch, Rostock

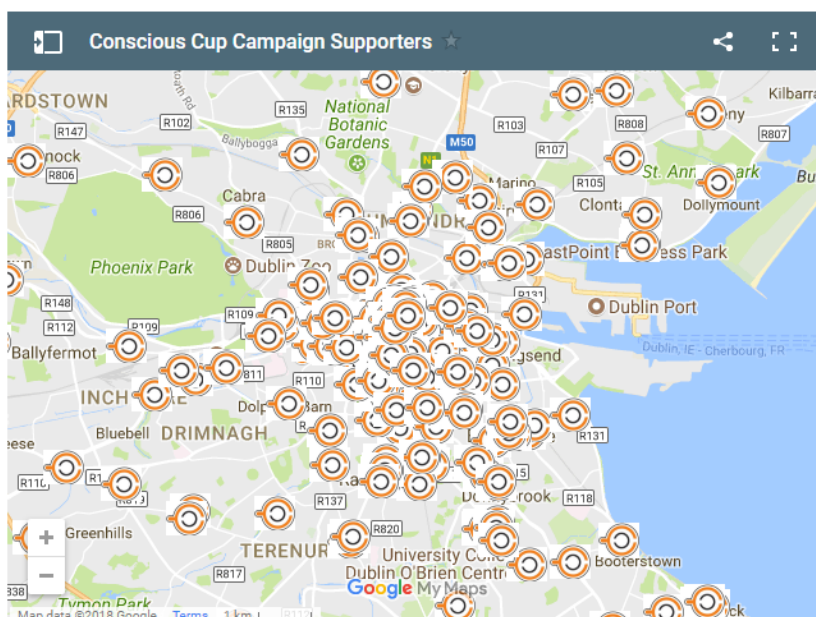
Dublin One Cup

1. Core Reusable Cup with lid



2. Branded Bands

3. Swap used for fresh in participating café's etc (cafes wash the reusable cups)



4. Dublin map of participating cafes etc

WEEE Waste Initiatives to increase take back of electrical and electronic waste (WEEE) for recovery

DCU has been working for some time to increase the level of WEEE recycling, From observations it was noted that there was a lot of electrical and electronic equipment being thrown into skips which at the time would have ended up in landfill. The DCU Waste Management tender was tailored to elicit some feedback and hopefully generate some ideas about to how to go about implementing Electrical and electronic recycling on campus. Working with partner companies DCU has increased its WEEE levels year on year. In 2016 DCU applied under the PakMan Awards and was shortlisted. (copy of application in Appendix 4.)

YEAR	2011	2012	2013	2014	2015	2016
Tonnes	16.4	21.9	28.5	22.2	26.8	38.7

The DCU Green Committee has run several initiatives to support the WEEE target including setting up a competition between staff, students and local community around the DCU Campus to see how could recycle the most.

Paper Waste at DCU

Following on from a project in 2015/2016 targeting paper waste at DCU, specific efforts were undertaken in SPC to address the excessive paper waste on this campus. It was discovered that, lead by Andrea Cleary significant quantities of paper waste are re/ up cycled and used as a resource material for Art Classes as part of the BEd Programme.



Figure 24: Art from re/up cycled paper at SPC

In addition in 2017/2018 these classes in SPC will seek to design and construct a piece of art for a community garden in Ballymun.

Litter surveys

As per recommendations from our assessment in July 2014 DCU Green Committee continues to undertake litter surveys across campus. While the overall the level of litter is low there are consistent black spots. Major issues that need to be addresses is the continued perception that cigarette butts are not litter. DCU Green Committee has done some work on looking into potential alternatives include portable ash trays – this needs further work considering the health impact of

smoking and DCU initiative under the Healthy Campus initiative and DCU is looking as becoming a smoke free campus.

In addition the DCU green committee hopes to work with the DCU language schools to encourage summer language student not to litter. Significant effort is needed here ! Contact has been made with the Language school and inclusion in the 'Adopt a Street' initiative is being considered.

Pack it up Pass it on – Version 4

Following several year of 'pack it up and pass it on' in 2015/2016/2017 in 2018 the DCU residences upped the stakes and also included non-perishable food in their end of year campaign. Two van loads of reusable food and good were gathered and donated to Cross Care.



Figure 25: DCU Residences Team at the Collection site

Beach Clean

In February 2017 a group DCU students from the surf and sail club undertook a beach and cliff clean up at Howth. The beach bums collected several bags of rubbish and intend to continue their efforts in 2017/2018.



Figure 26: DCU Surf and Sail Society after a beach clean in Feb 2017

Biodiversity

The Green Committee at DCU has from its inception been very engaged in biodiversity both on and off campus – below is a list of some of the projects and initiatives that DCU and its Green Committee have recently been involved in.

Horticulture Histories

Horticulture Histories (HH) is one of several project being undertaken under the RCE umbrella, it seeks to engage with primary schools to create a new and innovative account of flora & fauna in the North Dublin region building on archival material captured by primary schools in the 1930's and digitised by Dúchas.ie in the National Folklore Collection of Ireland. During the summer of 2016 Ann-Christin Arras from Heidelberg University in Germany who was undertaking an internship with Sustainability DCU worked on the development of this project (see Appendix 5 attached). While the resources were not available to fully exploit this project initial steps were taken with the St. Patrick National School on the SP Campus supporting their campaign for the Biodiversity Flag. DCU undertook a workshop with 6 classes from 1st – 4th on Biodiversity (worksheet attached)

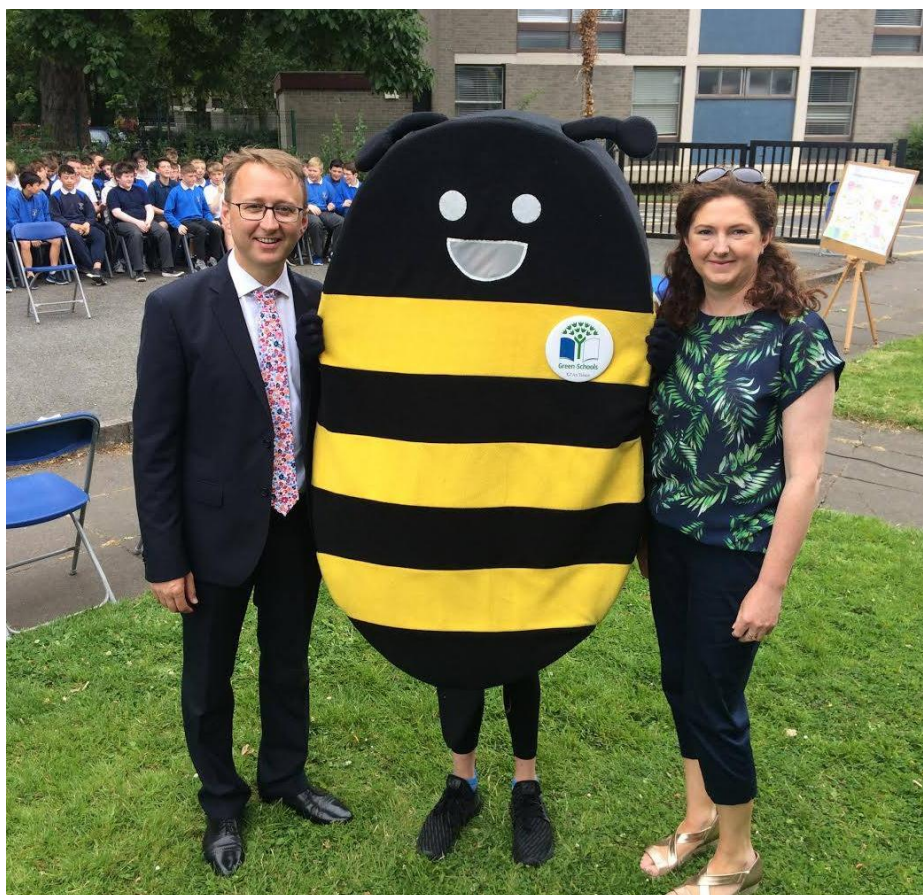


Figure 27: Celebration for the awarding of the Biodiversity Flag to St Patricks National School Drumcondra. Sam Fahy was invited speaker at the Flag raising.

DCU Biodiversity and Community Gardens Spaces

A major recent achievement has been the identification and cross campus agreement on designated biodiversity and community garden spaces across all DCU Academic campuses (see Environmental Review Section pg 24).

In addition to this DCU continues to run a vibrant and active community garden on the Glasnevin Campus. The Community Garden at the Dublin City University Glasnevin Campus aims to

- Be a welcoming space for the whole community where organic fruit and vegetables are sown, harvested and consumed by members of the community garden,
- Provide an opportunity for intergenerational and cross community education and training through active working/volunteering in the garden and tutor lead on site training courses,
- provide an space on a university campus for joint and shared learning across all garden members from academia, under and postgraduate students, local community members, enterprises, community employments schemes, Men's Shed Associations etc
- Be a living lab garden for the demonstration of new and innovation solutions to local and global issues, social, cultural, economic and environmental.

With the support of the Garden Gnomes DCU community garden provides a weekly organic fruit and veg stall for staff, student and general public.



Figure 28: Martin, Jason and Paddy - our very own Garden Gnomes !

Community Supported Agriculture

Activities in the garden include the cultivation and planting of fruit and veg, training and development of Community Employment placements. In addition, in 2017 DCU has signed a formal Memorandum of Understanding with the Eco Village in Cloughjordan. As part of this new partnership we aim to further develop the community support agriculture aspect of the community garden and potentially expand to all campuses.

Pollinator Plan

Saorla Kavanagh, together with member of the DCU Green committee and supported by the DCU President are developing and implementation a pollinator plan for all DCU campuses. Globally, 87 of the leading food crops (accounting for 35% of the world food production volume) depend on animal pollination. Pollinators and the services they provide are threatened by a range of factors including: the loss of floral resources and nesting habitats, pesticide use and climate change. Six bumblebee and 24 solitary species are threatened with extinction from Ireland.

DCU is committed to changing certain management practices in order to protect pollinators on campus. This will be achieved by improving pollinator habitats across all Campus' by increasing the amount of floral resources and nesting habitats and reducing the use of pesticides (herbicides, insecticides and fungicides). The actions of DCU's Campus Pollinator Plan will be based on the AIPP "Local Communities: actions to help pollinators". Specifically 9 actions will be taken in the coming year.

1. Identify and protect existing areas that are good for pollinators.

2. Planting on campus will be focussed towards flowers with accessible and high quantity and quality rewards.
3. Reducing or stopping the unnecessary cutting hedges during flowing periods.
4. Reducing or stopping the unnecessary use of pesticides.
5. Reducing mowing on some areas.
6. Raise awareness of the importance of pollinators and how to protect them via teaching and outreach.
7. Provide an undisturbed area for bumble nesting.
8. Install and maintain bee hotels.
9. Supporting beekeeping on campus.

DCU is committed to pollinator friendly alternatives to current land management practices and believe that these actions are urgently needed for the sake of the sustainability of Ireland's pollinators.

Management Support

In early 2017 Prof. Brian MacCraith was asked to give the introductory remarks at the Biodiversity Forum - <http://biodiversityforum.eu/agenda.php>. Prof. MacCraith gave a introduction to the efforts being undertaken by DCU to support biodiversity. Copy of the talk in Appendices.

St. Patricks Ivy Project

In 2016/2017 in conjunction with the Drumcondra Tidy Towns, DCU agreed to enhance the Drumcondra Road facing side of the St. Patricks Campus. A budget of €2000 was allocation by DCU to support additional flower baskets as well as support for a student project to propagate native Irish ivy from the wall to the south of the main entrance and to transplant this to the newly moved wall to the north of the entrance. This project is support by Dr. Tom McLoughlin and his students.

Transport

A significant focus has been placed on sustainable transport theme by the DCU Green Committee over the past number of years. DCU is an active partner in the NTA Smarter Travel Campus Programme. The DCU Mobility Management Plan aims to have 90% of commuters to DCU avail of a sustainable form of transport.

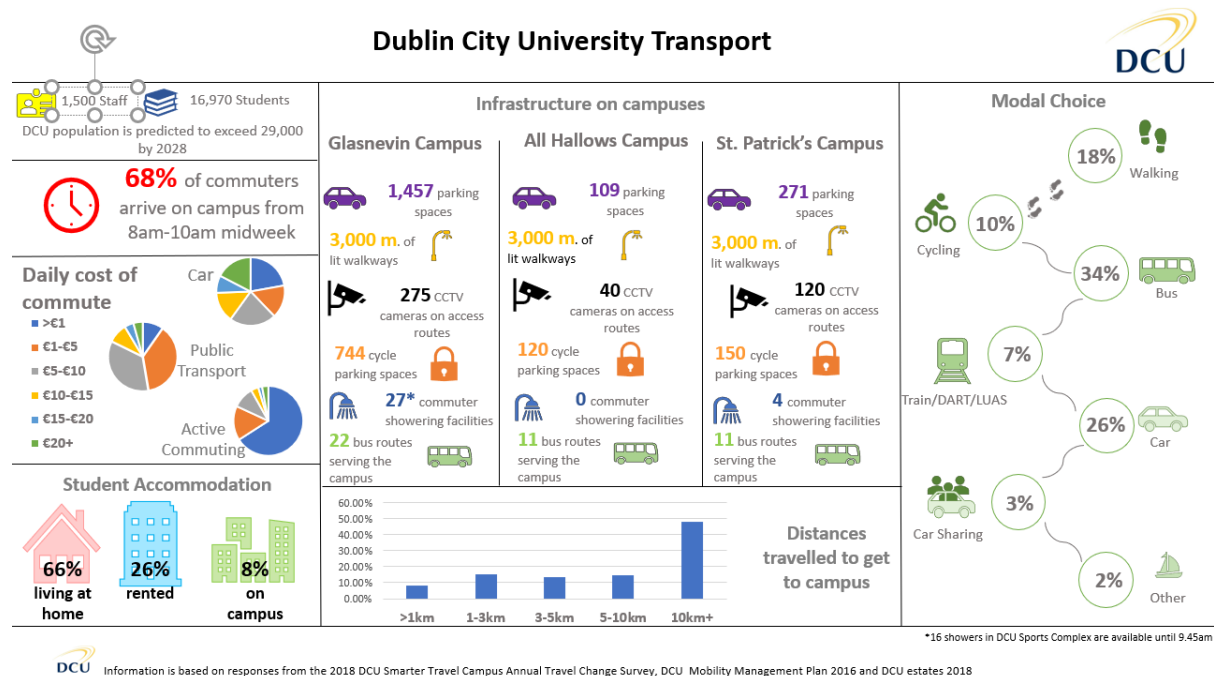


Figure 29: Summary of DCU Transport Survey 2018

Cycle Right Training Pilot

In June 2018 DCU participated in a new NTA pilot where 'Cycle Right' provided a 'train the trainor' course for DCU staff and some external members with a view to them translating this to students in Semester I 2018/19.

Bicycle Clinics

Bicycle clinics on a weekly basis on the Glasnevin campus and monthly on the St. Patrick's Campus where staff and students can get their bikes serviced for free. Initiative supported by the Sustainability Office/OCOO and the DCU Students Union. There are approx 18-20 bikes services on a first come first served basis each week on the Glasnevin Campus and approx the same at the monthly clinics at SPC.

Cycling on Campus

Prior to 2016 cycling was not permitted within the pedestrian areas at DCU. Following much consultation with several unit at DCU including Health and Safety, Estates, Student Union, Communication and Marketing and Sustainability it was agreed to change the signs on campus to permit cycling.

Tús áite ag coisithe

Pedestrian Priority



Figure 30: New Sign for all public areas in DCU

DCU Intercampus Bike Scheme/Bleeper Bikes

In 2015/2016 DCU introduced an intercampus bike scheme for Staff for intercampus commuting. In excess of 150 staff sign up and the scheme is running reasonable well. There is a considerable amount of adminstration and not all user remember to drop back the bikes where they should be. In late 2016 a new bike scheme company (Bleperbikes) approached DCU to undertake a pilot for a stationless bike scheme. Following much discussion the first bikes appeared on campus in August 2017. Full report to follow !



Figure 31: Bleperbikes at DCU

Public Transport Smarter Travel Campus

Enhancing Connectivity to DCU Campuses

As a key driver of undergraduate student application numbers the connectivity of DCU campuses to the public transport network is key. In conjunction with the National Transport Authority and their Smarter Travel Campus programmes, DCU have made significant advances in enhancing the public transport connectivity to all campuses. The table below give a summary of the increased public transport connectivity to the DCU Campuses.

Table 6: Busses serving the DCU Campuses.

Jan 2016	Jan 2017
Dublin Bus Routes: 14	Dublin Bus Routes: 17
Bus Eireann : 2	Bus Eireann : 5
Private Busses : 1	Private Busses : 3

The new services include

Provider	NEW Routes in 2016
Dublin Bus	31D (Baldoye – DCU) 42D (Portmarnock – DCU) 70D (Dunboyne – DCU)
Bus Eireann	Navan – DCU Kells – DCU Rathoath - DCU
Private Busses	Dundalk – DCU Direct (Matthews) Monaghan – DCU (Collins) Ballyfermot – DCU – Airport (Dualway) Newbridge/Naas – DCU (JJ Kavanaghs) Discontinued Swords – Airport – DCU (JJ Kavanaghs) Discontinued

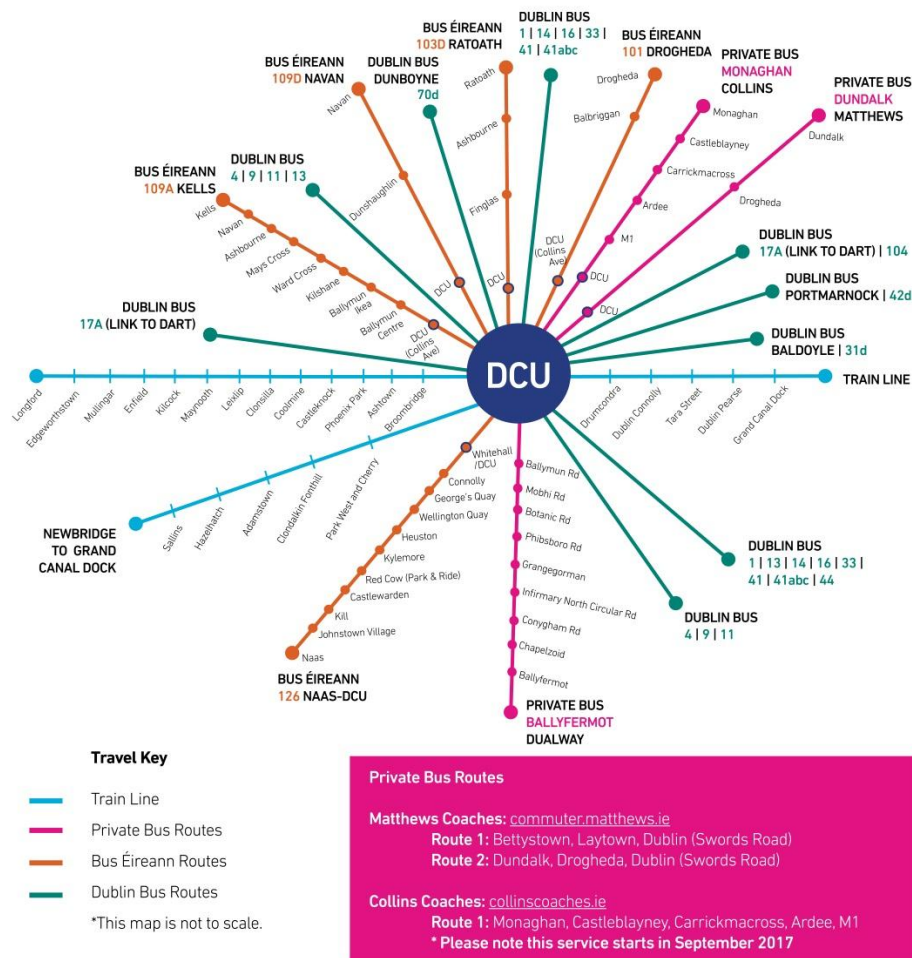


Figure 32: DCU Public Transport Connectivity Jan 2017

Enhanced Promotion

To increase the number of people using public transport to commute to the DCU Campus the following actions were taken:

- Public Transport connections were included in all presentation at School recruitment drives (Jonny Cooper)
- The DCU website information was regularly updates and engaging visuals were developed (Figures 1 above). (Sam Fahy, Katy Halpin)
- Information of public transport included in DCU Frist year packs
- Information on public transport included in Staff and Student orientation (Sam Fahy)
- Direct public transport links between campuses were highlighted to Incorporation teams (Incorporation Office)
- LEAP cards were made available to University Department where commuting between campuses was required on a daily basis. (Incorporation Office/Departments)
- Regular email notification of public transport connections
- Promotion of RTPI across campuses on screens.
- Media Production Society – News clip on new busses at DCU (<https://www.facebook.com/DCUtvNews/videos/1815500952007279>)

Research into Modal Shift

Looking at existing efforts to encourage more sustainable commuting at DCU such as,

joining and committing to the 'Smarter Travel Campus' organised by the National Transport Authority, to installing free bike maintenance tools on campus, bike rental schemes and collating user-friendly information for sustainable commuting to DCU, DCU continues to look for additional measures that can encourage modal change. While considerable efforts have been made the transport related carbon footprint is 38% of all emissions for DCU's largest campus (Walpole, 2016).

This project aims to gain an insight into obstacles that could be experienced in DCU in trying to introduce an uncompromised sustainable transport strategy while also creating an awareness of the topic. It will further examine the level of awareness students, staff and senior management have regarding the environmental and financial consequences of their current transport habits and question if education/knowledge could have an impact on their decisions regarding transport in the future. The purpose of this research is to establish how can DCU:

- reduce transport related emissions
- promote sustainable transport solutions more effectively
- achieve DCU commuter modal change to more sustainable modes of transport

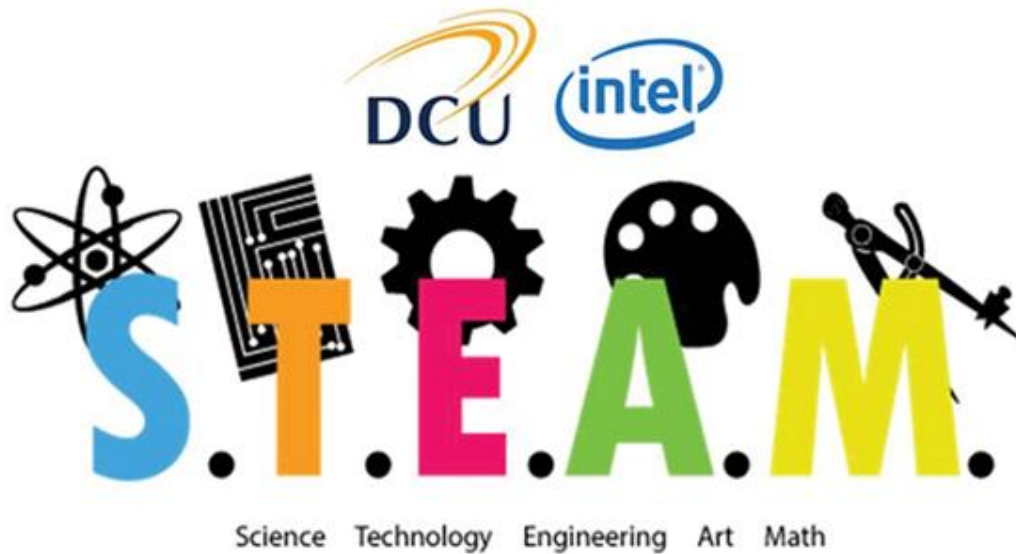
6. Link to Learning on Campus

Over the past year the linkages to education programmes on campus have grown. We are not yet at the point where sustainability is embedded into all modules so that all graduates of DCU understand the meaning of sustainability and the interrelationship between the social, cultural economic and environmental factors that need to be balanced to ensure a sustainable future for all BUT we are making progress! In particular the new DCU Strategic Plan for 2017-2022 will seek to among other things seek to integrate Sustainability Principles, Literacy and Awareness into the student curriculum. This will involve working closely with Faculties and the Education Committee to establish the optimal approaches to achieving this objective. There will be a particular emphasis on awareness of the UN Sustainable Development Goals (SDGs).

Other linkages include over the past year several projects,

Project title	Student	Project	Year	Programme
Reducing the Quantity and increasing the recycling of waste in DCU campus Residences	Sean Daly	Final year thesis	2014/15	Environmental Science and Health
The Viability of DCU's community garden	Alan Rigney	Final year thesis	2014/15	Environmental Science and Health
Water usage and reduction in DCU's Sports Complex	Clionadh Williams	Final year thesis	2014/15	Environmental Science and Health
Feasibility Study of Rainwater Harvesting on the DCU Campus	Mohammed Alotaibi	Master's Thesis	2015	MM544 Sustainable Energy
Biodiversity at DCU	Joe Cornish	Final year thesis	2014/15	Horticulture
The use of potable water in DCU	Ellen Kelly	Final year thesis	2015/16	Environmental Science and Health

Paper consumption at DCU	Bernadette Leng lan Lo	Final year thesis	2015/16	Environmental Science and Health
Soil analysis in the DCU Community Garden	James Platt	Final year thesis	2015/16	Environmental Science and Health
Food Waste	Margaret Cronin	Master's Thesis	2015/16	Open Education
DCU Carbon Footprint	Sean Walpole	Intern	2015/16	Environmental Science and Health
Transport and Behavioral Change	Stephen Dowling	Intern	2015/16	Psychology
INSULATION PRODUCTS, FOCUSING ON GLOBAL WARMING	Natalie Farrell	Master's Thesis	2015/16	Open Education
Carbon Neutral Interfaiths	Brendan Deehan	Final year lit review	2016/17	Environmental Science and Health
Coffee Cups and Beh Change	Cody Byrne	Intern	2015/16	Psychology
Horticulture Histories	Ann Christin Aaras	Intern	2015/2016	Sustainability DCU
Renewable energy in Community Garden	Tadhg Meaney	Final year thesis	2016/17	Environmental Science and Health
Hot Water in public Sanitary Facilities	Oisin Foley	Intern	2016/17	Psychology
Flying Less	Conal Ó Dubhir	Intern	2017	Sustainability DCU
Decoupling environmental impacts from economic activity, what it means and how it relates to the concrete sector in Ireland.	Andrew McGrane	Master's Thesis	2016/17	Open Education - MASTER OF SCIENCE IN MANAGEMENT FOR SUSTAINABLE DEVELOPMENT
A study on the adoption of clean technologies within the Irish seafood processing industry	Tomas Cooper	Master's Thesis	2016/17	Open Education - MASTER OF SCIENCE IN MANAGEMENT FOR SUSTAINABLE DEVELOPMENT
University Transport management	Ann Whyte	Master's Thesis	2017/18	Open Education - MSc IN MANAGEMENT FOR SUSTAINABLE DEVELOPMENT
Food Waste and our legal requirements	Anorai Rooney	Final year thesis	2017/18	Environmental Science and Health
Impact and potential alternatives to hot water supply in public buildings.	Colin Cleary	Final year thesis	2017/18	Environmental Science and Health
DCU Exemplar Carbon Neutral Campus	Safa Al Mashaikhi	Final year thesis	2017/18	Environmental Science and Health



On Friday, October 20, 2017 - 18:00 to Sunday, October 22, 2017 - 20:00 DCU together with Intel Ireland organised the first ever STEAM Hackathon weekend which took place at DCU St. Patrick's Campus.

The 54-hour free event brought together DCU student innovators, creatives, entrepreneurs and developers to build something real and innovative using Intel technology. Students had the opportunity to learn new skills, meet new people, build new solutions and have lots of fun!

About the 'STEAM' challenge - Putting the 'A' into STEM Education – This enables students to explore their artistic and creative sides in combination with STEM (Science, Technology, Engineering, Maths) skillsets to generate new exciting and innovative experiences or products

Link to YouTube of STEAM Hack <https://www.youtube.com/watch?v=mh3tS2u-qtA>

BA in Communications/Journalism/Media Studies

Dr. Brenda McNally, who works in Media Representations of Climate Change and Low Carbon Transition in the School of Communications has set up a challenge for first years in the BA programmes to think up communication events for the following list of Green Initiatives:

- Paper waste project in St. Patricks Campus
- The removal of all NON Recyclable Coffee Cups on ALL CAMPUSES
- Support for 'Like Bike' in Week 11
- Create a Green Guide for DCU Students
- Campaign to replace plastic (glasses, containers, spoons ...) in DCU Restaurants with biodegradable alternatives
- Implement 'Adopt a Street' campaign around your campus
- DCU Community Garden – Programme of works and engagements
- Drinking water fountains on all campus
- Energy/Water consumption awareness in DCU Residences

They are now working on them at present and will have presentations on the last day of semester (Dec 2017) - I will send you on the good ones (and the names of the students) and you can see if there is anything that might work.

Linkages to MG334 Business and Society : This module addresses the key environmental and sustainable development issues facing organisations today. It focuses on the links between corporate social responsibilities, management of the organisation and the environment and on how these may be integrated through strategy and operations. The module assignment require student to research and write a report on one of the following :

- How to make the New Hub sustainable
- Reduce waste production on DCU Campus
- National No Smoking Day on Campus
- Car Sharing Initiative
- Energy Awareness Campaign for Students
- DCU in the Community
- Education – integrating sustainability
- Social Enterprise Model for the DCU Community Garden
- Intercampus bike scheme for students

Space to Grow Module

This module run in St Patricks focused on provide student teachers with an understand of biodiversity and the development and implementation of outdoor teaching tools and methodologies. The module has undertaken several interesting project including establishing and maintaining its own growing space on the SPD campus and well and bring primary school children together to design and build a plastic bottle green house – this project is half way thru



construction and will be finished in 2016/2017.

Within this project trainee teachers also went to work in a preschool in Drumcondra to establish a growing space for the preschool children.

Also as part of this project the student not only created new habitats for birds they recycled old microscope boxes in the process. The group also participated in an bioblitz of the Royal Canal and posted their results on this website

<http://www.ispotnature.org/projects/spdroyalcanal>.



New International Project on Sustainability Education that is being funded by the Global Consortium for Sustainability Outcomes (GCSO) (Cliona Murphy/Greg Smith)

The GCSO Education Project recognizes that for the world to become more sustainable, people of all ages need to learn certain principles of sustainability and attain relevant competencies. The GCSO Education project is therefore aimed at supporting primary school teachers from Ireland, Germany, USA and Mexico to effectively teach about sustainability as an integral component of their respective curricula.

The project will involve 80 primary school teachers from the four countries participating in a Continuing Professional Development (CPD) programme that is aimed at developing teachers' conceptual and pedagogical knowledge of Sustainability. The CPD programme will support teachers in helping children to develop essential sustainability competencies while engaging with different subject areas in the different National Curricula.

In Ireland staff from the Institute of Education (IOE) in DCU will develop and implement a CPD programme on Sustainability that will be tailored to suit the Irish primary school context. The content of this tailored CPD programme will in particular integrate with the SESE, English and Mathematics curricula (DES, 1999).

The IOE research team will work closely with the participating teachers to ensure that the content of the workshops is also relevant to each school's environment. The IOE team will work closely with the teachers and their schools to support them in implementing the CPD activities and methodologies in their classrooms and within whole school settings.

7. Informing and Involving the Campus and Wider Community

Encompassing such issues as equal access to social resources, corporate governance, community, diversity, culture and quality of life, social sustainability is one aspect of sustainability but one that is often the weakest in terms of representation. DCU has long recognised the merits and responsibilities of engaging with the wider community and contributing to the social and economic contexts of the community in which we are based. The development of a specific 'Civic Engagement' mission and the establishment of the DCU in the Community Outreach Centre in Ballymun is a solid expression of the commitment which DCU has made to community outreach projects.



Figure 33: DCU SU VP Siobhan NicThaigh with members of the DCU Sustainable Living Society launching DCU Green Week

The DCU Green Committee/Sustainability Programme has leveraged several of these existing link to enhance our engagement with the local community. We have worked closely with several local organisations and intend to continue and build on these mutually beneficial linkages.

The Community Garden is now open to all of our community internal and external to DCU. We are working closely with the Age Friendly University Initiative at DCU to support intergenerational learning.

DCU and Cloughjordan ecovillage

After much discussion and work through 2016, in 2017 DCU signed an memorandum of understanding with the Cloughjordan ecovillage. Under this agreement there will be shared learning, research collaboration, internships and the promotion of An Ghaeilge. (See Appendix 6)

DCU Procurement Policy

DCU Procurement Policy reflect DCU desire to ensure that sustainability is considering in the operations of the DCU campuses. A copy of our Procurement policy can be seen in Appendix 9.

DCU Community Garden and Social Enterprises

DCU community garden is delighted to have signed an agreement with Grow Dome (<http://www.thegrowdomeproject.com/>) . Grow Dome are in the process are building an 11 mtr aquaponics grow dome in the DCU Community Garden. Lots more to come on this!!



Figure 34: Grow Dome in DCU Community Garden under construction summer 2017.

DCU Community Garden and Community Employment

DCU Community Garden now host 2.5 community employment placements who are building their experience and skills to help them progress to further education or employment over the next year. Jason and Marty are both registered with the Royal Horticulture Society and over this last summer have been working on the development of their own enterprise in urban gardening/farming. They are being supported by the DCU Community Garden and have had a garden stall each Friday on the Glasnevin Campus over the summers. Significant effort was needed to ensure that there was fruit and veg for each week with planning and planting schedules. Volunteers from the campus also help out in the garden.



Figure 35: Martin Matthews and Jason Maguire managing the garden stall



Figure 36: Some of the fruit and veg available on the stall (cucumbers, chillies, artichoke, turnips, courgette, salads....)

In addition to Jason and Marty, Paddy spends 50% of his placement working in the garden but also he has with the support of the DCU Office of Student Life has started a small garden on the All Hallow Campus. As well as a small herb plot twenty vintage apple trees have been sown in a new All Hallow orchard. These trees will be transplanted to the new Community Garden space on the All Hallows campus that will be open to all staff, students and local community.



Figure 37: New Orchard at All Hallows Campus

Adopt a street

The DCU Green Committee has participated in the Adopt a Street initiative for several year and this continued in 2016/2017 with over 20 volunteers participating. DCC have been very helpful in early 2017 with the provision of lots of equipment (pickers, brushes, bags etc) to enable a resource to be put on all three campuses to help facilitate this. This activity is well received by the local community with many coming out to thank volunteers for their efforts - a win for both community and DCU public relations ! There is however some effort needed to manage and organise the groups to go out.



Figure 38: Adopt a street volunteers 2016/2017

8. DCU's Green Committees Green Charter

The Green Committee at Dublin City University, made up of volunteer staff and students, believes in a sustainable future that provides the fair and equitable balance that is needed to share the earth's resources between all its inhabitants. It believes that as an educational institution DCU must tackle this existential challenge through our teaching and learning, research and innovation and by operationally working toward reducing our carbon emissions. It is an enormous task that we must all tackle together.

Our Green Committee is committed to

- embedding sustainable practices across our University
- informing and educating other within the DCU Community about importance of sustainability and why we need to create a more sustainable future
- informing and educating other within DCU on what they can do to have a positive impact both on and off campus
- informing and educating our wider community, including family and friends about importance of sustainability and why we need to create a more sustainable future
- informing and educating our wider community, including family and friends about what they can do to have a positive impact the sustainability of our planet

Specifically in 2017/2018 we are focusing on

Energy

- Work toward an ISO50001 Standard
- Develop and communicate a energy/carbon management plan
- Raise awareness of energy consumption by Students, Staff and Visitors
- Energy consumption awareness & behavioural change programme in DCU Residences with SAVES Prog
- Seek renewable technology (Solar/wind) for Student Hub

Water

- Water consumption awareness & behavioural change programme in DCU Residences with SAVES Prog
- Identify leaks and fix
- Communicate water consumption data to all staff and students
- Treat as a valuable resource
- Paper waste project in St. Patricks Campus
- Continue 'Adopt a Street' campaign around your campus
- Drinking water fountains on all campus

Waste

- Campaign for the removal of all NON Recyclable Cups on ALL CAMPUSES
- Communicate waste information to all staff and students

- Campaign to replace plastic (glasses, containers, spoons ...) in DCU Restaurants with biodegradable alternatives

Biodiversity

- DCU Community Garden – Programme of works and engagements
- Pollinator plan for DCU
- Increase awareness of the importance of biodiversity
- Update biodiversity database
- Increase biodiversity on campus through tree planting events

Transport

- Mobility management plan support active commuting
- Continue Smarter Travel Campus' Walking and Cycling Challenges
- Support for 'Like Bike' in Week 11

Communications

- Info wall on all campus providing current consumption data on key metrics including initiatives to reduce and scope to accept suggestions
- Create a Green Guide for DCU Students

To get involved just email sustainability@dcu.ie

<http://www.dcu.ie/ocoo/sustainability/sustainable-campus.shtml>

<https://www.facebook.com/sustainabilitydcu>

<https://www.facebook.com/DCUCommunityGarden>

Here is a link to the Charter: <https://www4.dcu.ie/ocoo/sustainability.shtml>