Our Journey Is Our Destination

Trinity College Dublin – The University of Dublin

Sustainability Report 2015
This report was published August 2016 and covers the 2015 calendar or academic year (Oct. 2014 – Sep. 2015) unless otherwise stated. It is based on the most accurate and applicable data available at the time of writing.
“Setting an example is not the main means of influencing others;

It is the only means.”

- ALBERT EINSTEIN
# OUR JOURNEY IS OUR DESTINATION: 2015 HIGHLIGHTS

## ENERGY & CLIMATE

- **23%** Improvement in Energy Efficiency, **4%** Increase in greenhouse gas emissions, **229%** Increase in Renewable Energy (Versus baseline 2006-08).
- **3%** Improvement in Energy Efficiency, **1%** Decrease in greenhouse gas emissions, **24%** Increase in Renewable Energy (Year-on-year (YoY) 2014 V 2015).

## WASTE & RECYCLING

- **49%** Recycling Rate Achieved.
- **YoY:** **13%** Increase in waste generated.
- **11%** increase in waste per FTE.
- **8%** increase in hazardous waste generated.

## WATER & WASTEWATER

- **36%** Reduction in Water Use Versus Baseline (1% YoY increase).
- **41%** Reduction in Water Use Per Student Versus Baseline.

## SUSTAINABLE TRANSPORT

- **95%** of Staff and Students Use Sustainable Transport for Commuting.
- **16%** Staff and Students Commute By Bicycle (25% reduction over baseline).

## RESOURCE USE & FOOD

- **40%** Reduction in Paper Use (Versus 2011 Baseline).
- Majority of campus food now meets minimum 1 of 4 sustainability criteria.

## TREES & BIODIVERSITY

- **1,300+** trees across University grounds.
- Increased green spaces and enhanced biodiversity areas.

## GREEN PROCUREMENT

- **100%** of key tenders issued now reference environmental standards.
- Increase in number of tenders with marks for Green criteria.

## EDUCATION & RESEARCH

- Estimated ~**50%** Staff & Students inducted into Green Campus programme.
- Improving the campus as a living lab via the TCD GreenPages website.

## COMMUNICATION & STUDENT INVOLVEMENT

- Decrease in visitors to the University’s GreenPages website (-36% Baseline).
- Dedicated Student Union (SU) environment officer appointed.

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For Further Details Please Visit the Trinity GreenPages Website: [http://www.tcd.ie/GreenPages/](http://www.tcd.ie/GreenPages/)
Introduction

Trinity College Dublin, the University of Dublin, was founded in 1592 and is recognised for its academic excellence and transformative student experience. The historic campus is located in the heart of Dublin city centre and is composed of both historical and iconic buildings. With a tradition of scholarship spanning more than four centuries, Trinity is home to talented and inquiring minds, a liberal education, and research conducted at the frontiers of disciplines.

Sustainability has been at the heart of Trinity for a very long time. The late Professor Simon Perry originally founded the University's green campus committee in 1993 as a means for staff and students to raise campus environmental issues and to propose innovative solutions. Building on this initiative the University published its Sustainable Development policy in 2008 and in 2013 the University was awarded its first Green Flag award for campus sustainability. Trinity's five-year strategic plan (2014-2019) further committed the University to becoming an institutional leader in sustainability.

This is our first annual Sustainability Report and it is entitled “Our Journey Is Our Destination”. While sustainability objectives and targets can be set, achieved or reviewed, the most important aspect of our efforts is our continuous journey towards sustainability. It is unlikely that this journey will have a definitive end. Instead, much like the education Trinity’s students receive, it is a beginning to a continuous learning process set to continue and adapt to the changing challenges of the future.

One of the key focuses of our sustainability strategy is to inspire people to move towards the path to a more sustainable future. We want to inspire all the Trinity community. This includes our students, our staff, our alumni and our million plus visitors to the campus each year. We also aim to inspire our academic peers, our neighbours and the international academic community to which we belong.

This report covers the nine key sustainability aspects we identified as part of our Green Flag campus award in 2012. These aspects include energy, carbon, waste, water, transport, resource use, green procurement, sustainability education and research, and student involvement. Each aspect is further detailed in each section of this report.

Provost's Welcome Message

"I am delighted to welcome you to the first annual Trinity College Dublin sustainability report which will inform you on the efforts Trinity is making to raise environmental awareness in the University, improving the sustainability of the campus and utilising the campus as a living lab for sustainability.

Trinity was first awarded it's Green Flag status in 2013. As part of our commitment to the Green Flag, we committed to producing an annual sustainability report. This report allows all our community engage in our aspirations around sustainability and help us track our progress towards our sustainability goals.

I am fully committed to achieving the ambitious sustainability objectives we have set for ourselves. They are important objectives and ones in which we must play a leading role in our effort of becoming a university of global consequence."

Patrick Prendergast, Provost
Our key sustainability drivers are the University’s Sustainable Development Policy (https://www.tcd.ie/about/policies/sustainable-development.php) and the University’s 5 year strategic plan (2014 -2019: https://www.tcd.ie/strategy/strategic-plan-201419.pdf). The following are the key sustainability extracts from the strategic plan, which follow the definition of Sustainable Development established by the UN Brundtland Commission, which states "development that meets the needs of the present without compromising the ability of future generations to meet their own needs”.

**MISSION C: FEARLESSLY ENGAGE IN ACTIONS THAT ADVANCE THE CAUSE OF A PLURALISTIC, JUST, AND SUSTAINABLE SOCIETY.**

**Goal: C8.1 Sustainable Campus**

Trinity aspires to be a global leader in university sustainability. The college’s properties comprise a significant and integral part of the Dublin conurbation. Trinity has a responsibility to conduct its activities in a manner that protects and enhances the environment, conserves natural resources, reduces greenhouse gas emissions, and supports society as a whole. Much progress has been made in these areas since 2008, marked by the award of the Green Flag campus status in 2013 for which Trinity committed to a series of objectives for energy and carbon emissions, waste management/litter reduction, water and waste-water management, sustainable transport, resource use, biodiversity, green procurement, education and research, communication and student involvement. Our objective is to move further towards becoming a sustainable campus, a key measure of which will be to become the first university in Ireland to join the eminent group of visionary universities constituting the International Sustainable Campus Network (ISCN). We will achieve this objective by:

- publishing an Annual Sustainability Report, including carbon, energy, waste, transport and water consumption data
- ensuring, through the Estates and Infrastructure Development Plan, that all new buildings (in particular our E3 development), refurbishments, and purchases comply with and, where possible, exceed, energy-efficiency standards
- promoting research into, and teaching on, sustainability issues as well as promoting the campus as a living laboratory
- setting up a Sustainable Campus Advisory Group and appointing a sustainability champion
- undertaking sustainability audits and engaging campus users in sustainability targets
- working towards developing an environmental management system and an energy management system
- publishing a carbon footprint and action plan for reducing carbon emissions
- fostering links with Dublin City Council’s ‘Greening the City’ and with national and EU smart city and other relevant initiatives.

**Goal: C7.3 Relationship with the City**

- promoting environmental sustainability, in partnership with Dublin City Council’s ‘Greening the City’ initiative and developing, via the Estates and Infrastructure Development Plan, a campus infrastructure in line with this objective.
1. Energy, Climate Change & Greenhouse Gas Emissions

Our Objectives Are To:

1. Use Energy Efficiently;
2. Increase the Use of Renewable Energy (Onsite and Offsite);
3. Reduce Greenhouse Gas Emissions (Direct and Indirect);
4. Prepare for Climate Change (Mitigation and Adaptation).

Our Targets Are:

- 33% Increase in Energy Efficiency by 2020; (Status: \( \uparrow \))
- 14% Year-on-Year Increase in Renewable Energy Use Until 2020; (\( \uparrow \))
- 2% Year-on-Year Decrease in Greenhouse Gas Emissions Until 2020; (\( \downarrow \))
- 80% Reduction in Greenhouse Gas Emissions by 2050; (\( \Rightarrow \))
- To Create a Climate Change Action Plan by 2016/17. (\( \Rightarrow \))

Our Progress:

Trinity has improved its energy efficiency indicator by 23% against the 2006-08 baseline. Renewables now account for 8.6% of energy consumed, primarily from grid-based wind power. However, annual greenhouse gas emissions have increased by 4% since the baseline. We will need to increase our efforts in tackling greenhouse gas emissions in order to meet our interim goal of a 3% annual reduction to 2020 and to stay on track towards our long term 2050 target. Ireland’s national renewable electricity target of 40% by 2020 will help Trinity in reducing its greenhouse gas emissions but further measures will be required under energy efficiency, renewables deployment and technology upgrades as well as behavioural changes. For more detailed information about Trinity’s progress towards its reduction target please visit the University’s GreenPages website.

Annual Highlights:

Trinity has completed a number of energy saving projects during the year as well as benefiting from previous energy efficiency upgrades. There are a number of solar water heating panels on roofs across the University including on the residences in New Square, the Pavilion and the Lir. Projects completed in 2015 included installing high efficiency LED lighting in a number of locations across the campus and improved heating controls.

Get Involved & Learn More:

- Why not volunteer for the Green Campus committee or organize a carbon awareness event for the annual Trinity Green Week.
- Turn off computers, screens, printers and peripheries in evenings, at weekends and during holidays.
- Always purchase energy savings equipment and lighting (aim for A+ rated or better).
- Report any energy saving ideas you might have, no matter how small, to sustainability@tcd.ie.
Energy Statistics

Figure 1: Energy Efficiency Indicator

Figure 2: % Energy from Renewables

Figure 3: Carbon Footprint (Absolute)

Figure 4: Carbon Indicator (per FTE)
2. Waste, Recycling & Litter Reduction

Our Objectives Are To:

1. Reduce Waste Generation/Prevent Waste;
2. Increase Recycling;
3. Eliminate Waste to Landfill and Reduce Energy Recovery;
4. Have Zero Litter;
5. Reduce Hazardous Waste.

Our Targets Are:

- 10% Decrease in Total Waste Generated by 2020; (Status: ⬇)
- 50% Recycle for Total Non-C&D Waste by 2016; (⬆)
- ZERO Waste to Landfill by 2015 (Achieved 2012); (⬆)
- 100% of University Users to be Within 100m of a Litter Bin by 2012 (Achieved 2012); (⬆)
- 10% Reduction in Hazardous Waste by 2020. (➡)

Our Progress:

Trinity has now reached a municipal waste recycling rate of 49% and we are within touching distance of our 50% target. We have sent no waste to landfill since 2012 with most non-recyclable waste being converted into Refuse Derived Fuel. However, we still face challenges as our overall waste generation continues to grow in particular for hazardous waste and WEEE (waste electrical and electronic equipment). Going forward we aim to apply a materials management approach to our procurement and waste management systems, as they have a direct influence on each other. We are continually improving our data capture of our waste streams and aim to collect and report on construction & demolition waste (not currently reported). We are also focused on eliminating litter and disposable single-use items while embedding cradle-to-cradle material management into our design processes.

Annual Highlights:

Trinity has expanded its bin-less office system further across the campus. This places responsibility with the office user to segregate their waste and bring it to the recycling bins near their office. Each office participating in the scheme is supplied with desk trays (placed on individual desks for storing waste) and landing bins (desk trays are emptied into these when full). We have also turned some of our outdoor solar compacting bins into recycling bins.

Get Involved & Learn More:

- Did you know most waste can now be recycled once it is contamination free? Visit the TCD GreenPages to see where each waste should go.
- If it’s not broke, don’t fix or replace it. Most items that do break can usually be fixed/repaiere saving time, money and resources.
- Think contamination. Just one coffee cup emptied into a recycling bin can mean none of the waste in the bin is fit for recycling.
- One man’s trash is another man’s treasure. Getting rid of old items such as clothes, computers or furniture? Try giving them to a charity shop such as SVP or try trading them online. End of year clear-outs can be passed onto next year’s students. Remember, it all helps.
Waste Statistics

Figure 5: TCD 2015 Waste Streams

Figure 6: TCD Waste Statistics

Figure 7: TCD Hazardous Waste Statistics
3. Water & Wastewater

Our Objectives Are To:

1. Reduce Water Use;
2. Increase Onsite Water Use;
3. Increase Water Reuse & Recycling;
4. Decrease Wastewater Generation;
5. Improve Wastewater Quality.

Our Targets Are:

- 45% Decrease in Water Consumption Per Student by 2020; (Status: ✆)
- 5% Increase in Onsite Water Use by 2020; (➔)
- 10% Increase in Water Reuse by 2020; (➔)
- 10% Reduction & Quality Improvement in Wastewater Released by 2020. (➔)

Our Progress:

Trinity has decreased its water use by 36% since the 2010 baseline, equivalent to a 41% reduction per full time student equivalent. The University used the equivalent of 17,800 litres of water per student (49 litres/day/student) over 2015. The University has a continuous leak detection programme to identify and repair major leaks in the campus’ piping network. Several laboratories use closed loop water coolers, which do not discharge water to sewer. These have been instrumental in the reductions achieved. All new buildings/major renovations include water efficient fixtures and fittings such as dual flush toilets, low flow showerheads and auto-stop taps. Further use of rainwater and local groundwater are actively being investigated.

Annual Highlights:

Trinity used just over 283.4 million litres of water in 2015, a 1% increase on 2014. Rainwater harvesting systems are installed in the Trinity Biomedical Sciences Institute and the recently refurbished residences in House 38 and 40. A new state-of-the-art water based hockey pitch was installed at the sports facilities in Santry, which uses groundwater and a closed loop water recycling system. The recently resurfaced rugby pitch in College Park has required additional watering, which will continue into 2016. There was a 5% reduction in rainwater runoff due to reduced rainfall over the year.

Get Involved & Learn More:

- Try be water efficient by not running the tap while brushing your teeth, not running the shower before you are ready and rinsing food in the sink rather than under a running tap (visit http://www.taptips.ie/ for more ideas).
- Only use dishwashers, washing machines and other water consuming devices when they are full.
- Install a low flow aerator head on your tap and always buy water efficient devices such as washing machines and dishwashers.
- Never flush chemicals, oils or hazardous substances down the drain. They could block pipes, cause leaks or damage wildlife and the environment.
- If you find a leaking tap or tap with too high a flow rate, don’t ignore it. Report it to repairs@tcd.ie.
Water Statistics

TCD Water Efficiency
M3/FTE Student

Figure 8: TCD Water Use Per Student

- 2016: Target 10% improvement in water efficiency. ACHIEVED.
- 2020: Target 45% improvement in water efficiency.

TCD Water Runoff
M^3

Figure 9: Total Rainwater Received
4. Sustainable Transport

Our Objectives Are To:

1. Increase Use of Sustainable Transport;
2. Increase Renewable Energy Use in College Transport;
3. Reduce Car Use;
4. Promote Cycling.

Our Targets Are:

- Maintain over 90% Use of Sustainable Transport to 2020; (Status: 🔺)
- 10% Increase in Renewable Energy in Transport by 2020; (🔺)
- 5% Reduction in Single Occupancy Car Trips by 2020; (🔺)
- 10% Increase in Bicycle Use by 2020. (¶)

Our Progress:

Trinity staff and students have increased their use of sustainable transport to 95% since the 2011 baseline, a 1% improvement, with 16% travelling by bike and 23% walking. Only 5% travel by car and only 3% are single occupancy vehicle users. The smarter travel survey is carried out every 3 years among staff and students as part of the Irish national smarter travel programme. The University campus has access to some of the best public transport in Ireland and has a very limited amount of car parking. Due to this Trinity has one of the best sustainable transport rates for a university in the world. The impacts of international/business travel on the University’s CO2 footprint are currently being assessed and will be further detailed in future reports.

Annual Highlights:

Trinity has run a number of awareness campaigns around sustainable transport on campus and via its smarter travel website. There are a number of projects to improve the amount of cycle parking available on the campus including the use of two-tier bike parking racks. However, according to the latest travel survey cycle use has decreased from 22% to 16% (25% reduction over 3 years). There is anecdotal evidence this could be due to student rent increases pushing students to living further away from the campus. The University is promoting the use of zero emission vehicles by providing two electric vehicle charge points for staff to charge their vehicles and is investigating the use of electric vehicles in its fleet. Approximately 4% of fuel consumed in University owned vehicles was from renewables (biofuels) as per the national biofuel targets.

Get Involved & Learn More:

- Why not try cycling/walking to college once or twice a week. It's a great way to keep fit and there are plenty of cycle friendly facilities available.
- Instead of driving or flying to meetings/events, see if you can telecommute using videoconferencing such as Skype, Google Hangouts or FaceTime.
- There is a range of financial incentives for sustainable travel such as bike-to-work tax breaks, tax incentive travel cards and grants for EVs.
- Please visit https://www.tcd.ie/collegehealth/promotion/travel/ for more on sustainable transport for the campus.
Transport Statistics

Figure 10: 2015 Commuting Travel Survey

Figure 11: Renewable Energy in Transport
5. Resource Use & Sustainable Food

Our Objectives Are To:

1. Reduce Paper Use;
2. Increase Sustainable Food Use;
3. Reduce Bottled Water Use;
4. Reduce Disposable Material Use.

Our Targets Are:

- 20% Decrease in Paper Use by 2020; (Status: ↑)
- 50% Food to Meet 1 or 4 Sustainability Criteria by 2016; (➔)
- 50% Reduction in Bottled Water Use by 2020; (➔)
- 50% Reduction in Disposable Materials by 2020. (➔)

Our Progress:

Trinity has reduced its purchased paper use by 40% since the 2011 baseline but still uses over 14 million pages each year. There are a number of catering outlets on campus and further work on promoting sustainable food options is progressing with most food now meeting at least one of the four sustainability criteria. There has been a 12% increase in bottled water use on campus since the baseline in 2011. Further roll out of mains fed water fountains is planned to help address this increase. An assessment of disposable items available on campus is being reviewed and options to promote reusable items assessed.

Annual Highlights:

Trinity has reduced paper use significantly in 2015 due to a number of processes going paperless, the increased use of electronic documents and through awareness campaigns. The annual Trinity Green Week held a number of awareness events around sustainable food and the catering department offer a number of vegetarian and healthy food options as part of their daily menus. There is now an extensive network of water fountains for use across the campus and this will be further increased in the most suitable areas. The elimination of small (<1litre) bottled water has been assessed and not pursued due to anecdotal evidence it could encourage the drinking of other bottled sugary drinks as opposed to increasing tap water use. Reusable coffee cups are now available at most coffee stalls and provide a discount to users over disposable cups.

Get Involved & Learn More:

- Use e-documents and don't print unless you really need to. Always print double sided and try reusing old single sided prints for scribble paper.
- Use the water fountains on campus to refill your bottle and try getting a TCD reusable mug for coffee/tea. You will even get a discount for using it.
- Why not give catering suggestions for sustainable food using their feedback forms. You could also try the daily healthy vegetarian specials.
- Avoid using disposable materials such as plastic cups, plates and cutlery from offsite catering. There are plenty of reusable options available.
Resource Use Statistics

**TCD Paper Use**

Figure 12: TCD Paper Use

**TCD Bottled Water**

Figure 13: TCD Bottle Water Use
6. Biodiversity & Trees

Our Objectives Are To:

1. Increase Tree Numbers;
2. Increase Green Areas;
3. Increase Biodiversity.

Our Targets Are:

- 10% Increase in Number of Trees by 2020; (Status: ↑)
- Maintain and Improve Green Areas by 2020; (➡)
- 5% Increase in Biodiversity Rich Areas by 2020. (➡)

Our Progress:

Trinity has over 1,200 trees across its estate including a small woodland at its Santry sports grounds. We continue to increase the number and diversity of trees which provide numerous services including producing oxygen, creating habitats, sequestering CO2, fixing nitrogen, distilling water, reducing flooding, creating a renewable fuel/material and improving campus aesthetics. In the period 2012-2015, the amount of green area of the University's estate has increased by 0.3%, higher biodiversity areas increased by 0.4% and the number of trees increased ~12%. The University campus has some of the most well recognised and historic trees in Ireland. It also has its own botanic gardens in Darty for research purposes. The two famous Oregon maples in Library Square are the largest known specimens in Ireland and the UK (and possibly in Europe) and are thought to originate from as far back as 1827.

Annual Highlights:

Trinity has recently opened a new garden beside its Botany building, converting an area originally covered with prefabs into an open green space. An area between the Pavilion and the rugby pitch is being allowed to grow with reduced management further improving the biodiversity rich areas on the campus. We are currently assessing the location of beehives on campus to promote a campus pollinator plan. As part of the development plan for the new business school, a biodiversity rich green wall has been incorporated into the development plan. We continue to implement the hundred-year management plan for trees across the University estate.

Get Involved & Learn More:

- Plant a tree. As the Chinese proverb says, “the best time to plant a tree was 20 years ago, the second best time is now”.
- Support wildlife by avoiding the use of pesticides in gardens and lawns where possible. Try to include a little wild area in your garden.
- Enjoy some local honey. Buying locally sourced honey helps support beekeepers and their pollinating bees.
- Try to incorporate green roofs and walls into new construction projects or even keep a few office plants if space is limited.
- If you want further information on the trees of Trinity, try reading the “Trees of Trinity College Dublin” book available in the Library shop.
Intervarsity Bioblitz (2013)

7. Green Procurement

Our Objectives Are To:

1. Increase Environmental Awareness of Suppliers;
2. Increase Green Criteria in Tender Marking;
3. Improve Use of Whole Life Cycle Costing.

Our Targets Are:

- 100% Tenders Requested to Submit Environmental Information by 2020; (Status: 🔺)
- 10% Increase in the Number of Tenders with Green Award Criteria by 2020; (➡)
- Maintain or improve levels of sustainable criteria used in category management. (➡)

Our Progress:

Trinity is keen to promote sustainability throughout its supply chain. This includes day-to-day purchases, teaching/research equipment and capital projects. The University's strategic plan via the Estates and Infrastructure Development Plan commits all new buildings, refurbishments and purchases to comply with and, where possible, exceed, energy-efficiency standards. We also strive to incorporate further sustainability into building design. In the technical specifications of each individual item of equipment, we often detailed particular "green" requirements, such as:

- CFC free refrigerants (ULT freezers, lab refrigerators);
- Audible alarms if fridge door is open > 2 minutes (ULT freezers, lab refrigerators);
- Exceptionally good insulation to minimise the evaporation rate (Nitrogen Storage Dewars).

Annual Highlights:

Trinity now has a standard environmental information clause in all its procurement tenders issued. Trinity has played a central role in ensuring the placement of sustainability-based award criteria in university sector collaborative procurement initiatives concerning the Laboratory & Research expenditure category. This contract covered a significant number of commonly used bench-top lab equipment such as centrifuges, ovens, air cabinets, as well as laboratory fridges and ultra-low temperature freezers (items where energy efficiency is particularly important). In 2015, Trinity used sustainability award criteria with a minimum weighting of 10% in the following contracts: Electronic Components & Electrical Consumables (multi-supplier framework agreement); Multi-function Devices (MFDs – printers, scanners, photocopiers); Print Management Services; and Laundry Services.

Get Involved & Learn More:

- What will you do with what you are buying at the end of its life? Make sure you think cradle-to-cradle for lifecycle of purchases.
- Think before buying. The item you need may already be in your department, elsewhere on campus or available from a reuse website.
- If you want to see if there are any sustainable alternatives for your purchase, contact the TCD procurement office directly.
8. Education, Research & Entrepreneurship

Our Objectives Are To:

1. Induct all College Users into the Green Campus;
2. Increase Sustainability Focus in Courses Taught;
3. Support Sustainability Research;
4. Support Sustainability Focused Entrepreneurship.

Our Targets Are:

- 100% Staff and Students Inducted into Green Campus by 2020; (Status: 
- 10% Increase in Sustainability Course Content by 2020; ( 
- Promote and Increase the Use of the Campus as a Living Lab by 2020; ( 
- Create an Annual Sustainability Award (i.e. Green Carpet Awards) by 2017; ( 
- Increase and Support Entrepreneurship in Area of Sustainability by 2020. ( 

Our Progress:

Trinity continues to foster the next generation of environmental leaders by supporting the creation of new sustainability-related curricula, research, and cross-disciplinary opportunities such as via the Green Campus Committee. We are working towards inducting all our campus users into our green campus programme, including the million plus tourists the campus receives each year. There are a number of educational courses and research centres with sustainability at their core including the Trinity Centre for Biodiversity Research (TCBR) and the Trinity Centre for the Environment. Trinity has also set ‘Smart, Sustainable Planet’ as one of its key research themes. We are continuing to investigate learning modules for staff/students on sustainability.

Annual Highlights:

Trinity ran a number of broad curriculum courses in the area of sustainability including Planet Earth and the Idea Translation Lab. These are open as an optional course to most undergraduates. We have agreed to include information on the green campus to all campus residents as part of their welcome induction, as well as to new staff as part of their welcome pack. We are continuing to facilitate the campus as a living lab and continually updated the GreenPages website with sustainability data throughout the year. The University continued to win major research grants in the area of sustainability and these were highlighted during the University Green Week. The Science Gallery ran the Strange Weather exhibition around the topic of Climate Change.

Get Involved & Learn More:

- Visit the GreenPages website to induct yourself into the green campus programme (http://www.tcd.ie/GreenPages/).
- If you have a suggestion for increasing the sustainability focus of your chosen subject, ask your lecturer if it could be included in future teaching.
- If you are interested in research in the area of sustainably, contact the Research Office (https://www.tcd.ie/innovation/contact/)
- Launchbox, Trinity’s accelerator for student start-ups, is always looking for sustainable startup ideas. Why not apply on http://www.launchbox.ie/ and join the list of previous sustainable start-ups including FoodCloud and LabCup.
9. Communication, Student Involvement & Transparency

Our Objectives Are To:

1. Increase the Number of Green Events on Campus;
2. Increase Green Events Run by College Societies/Clubs;
3. Meet all Requests for Access to Information on the Environment;
4. Report on all Environmental Aspects;
5. Increase the Use of TCD Green Pages Website.

Our Targets Are:

- Maintain or Improve Levels of Sustainable Events by 2020; (Status: 🆙)
- 10% Increase in Number of Societies Participating in Green Events by 2020; (➕)
- 100% Fulfilling of Requests for Information on the Environment (On-going); (➕)
- Develop and Launch Annual Sustainability Report by 2016; (➕)
- 5% Increase in Visitors to GreenPages Website by 2020. (₋)

Our Progress:

Trinity has continued to increase the number of sustainability events held during the University Green Week, the longest running university Green Week in Ireland. Student led societies and clubs continue to participate strongly in events in particular the Trinity Environment Society. The University’s Information Compliance Office continues to support applications for access to information on the environment and fulfilling legal compliance. The annual reporting mechanisms have now been established and will continue for producing the annual Trinity Sustainability Report.

Annual Highlights:

Trinity ran its successful annual Green Week in February, with dozens of events highlighting sustainability. As part of the Green Flag award application, the students organised the first ever town hall meeting on campus sustainability, which identified some gaps in communicating the sustainability message to the campus community. The University commenced it application to retain its Green Flag for another 3 years towards the end of 2015. All requests for information on the environment were met by the University, including those around the student led divestment campaign. This report fulfils the target of producing an annual sustainability report for the University. The Trinity GreenPages website was also updated throughout the year with news and events on who to improve campus sustainability but visitor numbers dropped by 36%. The GreenPages website will be updated to be more mobile friendly in 2016/17 which should increase visitor numbers.

Get Involved & Learn More:

- Why not volunteer for the Green Campus committee or organize an event for the annual Trinity Green Week.
- If you are involved in a society or sport club why not organise a sustainability event for your members.
- Visit the Trinity GreenPages website to learn more about what you can do to improve sustainability (http://www.tcd.ie/GreenPages/).
Our Journey

A Brief History of the Sustainability Actions in Trinity College Dublin – The University of Dublin.

- 1979 – Trinity Environmental Sciences Unit created.
- 1990s – Focus on Improving Recycling of Waste on the Campus.
- 1993 – First Recorded Minutes of the College Recycling Committee (CRC).
- 2000s – Renamed College Recycling and Environment Committee (CREC).
  - 2003 – First Student Led Green Week Event Held.
  - 2007 – Drafting of University Sustainable Development Policy.
  - 2008 – Trinity Sustainable Development Policy Approved by Board.
- 2012 – CREC Renamed the Green Campus Committee (GCC) as Part of Green Flag Application.
- 2013 – Trinity Applied for and Awarded Green Flag Award for Campus Sustainability.
- 2015 – Trinity Reapplies for Green Flag Award for Campus Sustainability and GCC student led co-chair position established.
- 2016 – Trinity Publishes its First Annual Sustainability Report.

Roll of Honour

“None of us is as smart as all of us.”

Special thanks to all our contributors who make Trinity a more sustainable place to live, work, play and learn, in no particular order:

Noel McCann, David Hackett, Catherine Coxon, Aine O’Gorman, Karen Mc Cord, Monica Alcock, Ben Hartnett, John Parnell, Alex McKee, Moira O’Brien, Lynn Ruane, Kieran McNulty, Karen Dumbsky, Laurence Gill, Shane Allwright, Alan Campbell, Patrick Prendergast, Ronald Russell, Sarah McCormac, Jane Stout, Paul Mangan, Moria Bailey, Joe Borza, Pat McDonnell, Edward Tully, Philip Coffey, Daragh Hanley, Paula Murphy, Sharon Campbell, Simone Cameron-Coen, Joseph O’Gorman, Cliona Ni Shuilleabhain, Martina Mullin, Iain Cunningham, Lisa McNeilly, Oliver Kinnane, Anneka Lawson, Jennifer Maxwell, Brendan Leahy, Anne-Marie Looney, Stephen Lee, Michael Scholz, Maya Fields, Gwen Duffy, Sharon Campbell, Cathal O’Donnell, Kieron McGovern... and the many, many others that have contributed to Trinity’s journey to sustainability.

THANK YOU.

Web: www.tcd.ie/GreenPages

If you have any questions or would like to know more, feel free to contact us: sustainability@tcd.ie

Printed on 100% recycled materials.
Annex 1 - International Sustainability Campus Network (ISCN) Report

The International Sustainability Campus Network (ISCN) is a network of universities and colleges from across the world who have committed to achieving sustainable campus operations and integrating sustainability in research and teaching.

Principle 1: To demonstrate respect for nature and society, sustainability considerations should be an integral part of planning, construction, renovation, and operation of buildings on campus. A sustainable campus infrastructure is governed by respect for natural resources and social responsibility, and embraces the principle of a low carbon economy. Concrete goals embodied in individual buildings can include minimizing environmental impacts (such as energy and water consumption or waste), furthering equal access (such as nondiscrimination of the disabled), and optimizing the integration of the built and natural environments. To ensure buildings on campus can meet these goals in the long term, and in a flexible manner, useful processes include participatory planning (integrating end-users such as faculty, staff, and students) and life-cycle costing (taking into account future cost savings from sustainable construction).

<table>
<thead>
<tr>
<th>Topics</th>
<th>Goals and Initiatives</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Priority topics</strong> (with units of measurement)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Objectives and targets</strong> (for...)</td>
<td><strong>Key Initiatives</strong> (in reporting year, and /or planned for the following and beyond)</td>
<td><strong>Baseline</strong></td>
</tr>
<tr>
<td><strong>Resource use</strong></td>
<td></td>
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<tr>
<td><strong>Water Consumption (m³)</strong></td>
<td>Reduce water use by 45% by 2020 compared to 2009/2010 levels</td>
<td>On-going leak detection and water management programme. Water awareness campaign as part of annual Green Week.</td>
</tr>
<tr>
<td><strong>Energy (kWh)</strong></td>
<td>Improve energy efficiency by 33% by 2020 (public sector target) compared to 2008-2010 baseline.</td>
<td>Various energy efficiency projects on-going including better heating controls, LED lighting, energy efficient equipment and insulation retrofits.</td>
</tr>
<tr>
<td><strong>Renewables and Combined Heat and Power (kWh)</strong></td>
<td><strong>Increase renewable energy use to 14% by 2020</strong></td>
<td><strong>Use of grid electricity to facilitate grid based renewables. Onsite solar water panels.</strong></td>
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<tr>
<td><strong>Paper Reduction</strong></td>
<td><strong>Reduce paper consumption by 20% by 2020</strong></td>
<td><strong>Numerous processes going paperless including board meetings and SU meetings.</strong></td>
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</tbody>
</table>

**Waste, recycling, local emissions, and non-compliance**

| **Total waste produced (tonnes)** | **Reduce total waste by 10%** | **Binless office system rolled out further and source separate bins installed in buildings.** | **1,595 tonnes (2012 Baseline)** | **1,732 tonnes** | **1,954 tonnes** |
| **Hazardous Waste** | **Reduce total hazardous waste by 10%** | **Labcup trial rolled out to help prevent purchase of chemicals already in stock. Training on reducing contamination in hazardous waste bins.** | **42,270 kg (2012 Baseline)** | **44,977 kg** | **48,650 kg** |

**Research/IT facilities and sustainability**

| **Green Data Centre** | **Reduce Energy and GHG emissions** | **Award winning Green Data centre opened in 2014.** | **NA** | **NA** | **On-going monitoring.** |

**Users**

| **Stakeholder engagement** | **Increase visitors to green pages website** | **Annual Green week held and investigation of induction into student orientation.** | **3,000 users on green pages (2013 Baseline)** | **3,300 users.** | **1,930 users.** |

**Building design aspects**

| **Sustainable Building Standards** | **Increase campus as a living lab.** | **New building designed to BREEAM excellent standard and near zero energy buildings.** | **NA** | **NA** | **2 significant building projects in design stage. Business School and Oisin House residences.** |
| **Campus Strategic Plan** | **Green, energy efficient campus.** | **All new buildings aim to meet or exceed building energy codes.** | **NA** | **NA** | **New buildings in planning.** |
Principle 2: To ensure long-term sustainable campus development, campus-wide master planning and target-setting should include environmental and social goals. Sustainable campus development needs to rely on forward-looking planning processes that consider the campus as a whole, and not just individual buildings. These processes can include comprehensive master planning with goals for impact management (for example, limiting use of land and other natural resources and protecting ecosystems), responsible operation (for example encouraging environmentally compatible transport modes and efficiently managing urban flows), and social integration (ensuring user diversity, creating indoor and outdoor spaces for social exchange and shared learning, and supporting ease of access to commerce and services). Such integrated planning can profit from including users and neighbors, and can be strengthened by organization-wide target setting (for example greenhouse gas emission goals). Existing low-carbon lifestyles and practices within individual campuses that foster sustainability, such as easy access for pedestrians, grey water recycling and low levels of resource use and waste generation, need to be identified, expanded and disseminated widely.

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</tr>
<tr>
<td><strong>Institution-wide carbon targets and related achievements</strong></td>
<td><strong>Carbon Emissions</strong>&lt;br&gt;(tCO2e)</td>
<td><strong>Short Term:</strong> reduce carbon emissions by 2% year-on-year.&lt;br&gt;<strong>Long Term:</strong> reduce carbon emissions by 80% by 2050.</td>
</tr>
<tr>
<td><strong>Campus Development Plan</strong>&lt;br&gt;Sustainable Development</td>
<td><strong>In development.</strong></td>
<td>NA</td>
</tr>
<tr>
<td><strong>Transportation</strong></td>
<td><strong>Promote sustainable transport.</strong></td>
<td><strong>Review strategy and set objectives and targets to increase the sustainability of business travel.</strong></td>
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<tr>
<td><strong>Food</strong></td>
<td><strong>Promote sustainable food.</strong></td>
<td><strong>Student led talks on sustainable food and food waste. Support for trinity start-up FoodCloud.</strong></td>
</tr>
<tr>
<td><strong>Stakeholder engagement</strong></td>
<td><strong>Promote sustainable food.</strong></td>
<td><strong>Reduce pre-consumer and post-consumer waste.</strong></td>
</tr>
<tr>
<td><strong>Food purchase</strong></td>
<td><strong>Promote sustainable food.</strong></td>
<td><strong>Green roofs on campus at arts block, Long Room Hub and Biomedical Sciences Institute.</strong></td>
</tr>
<tr>
<td><strong>Land-use and biodiversity</strong></td>
<td><strong>Enhance campus biodiversity</strong></td>
<td><strong>Campus pollinator plan being drafted.</strong></td>
</tr>
<tr>
<td><strong>Sustainable Building Standards</strong></td>
<td><strong>Enhance campus biodiversity</strong></td>
<td><strong>Green roofs on campus at arts block, Long Room Hub and Biomedical Sciences Institute.</strong></td>
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<tr>
<td><strong>Pollinator plan</strong></td>
<td><strong>Enhance campus biodiversity</strong></td>
<td><strong>Campus pollinator plan being drafted.</strong></td>
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Principle 3: To align the organization’s core mission with sustainable development, facilities, research, and education should be linked to create a “living laboratory” for sustainability. On a sustainable campus, the built environment, operational systems, research, scholarship, and education are linked as a “living laboratory” for sustainability. Users (such as students, faculty, and staff) have access to research, teaching, and learning opportunities on connections between environmental, social, and economic issues. Campus sustainability programs have concrete goals and can bring together campus residents with external partners, such as industry, government, or organized civil society. Beyond exploring a sustainable future in general, such programs can address issues pertinent to research and higher education (such as environmental impacts of research facilities, participatory teaching, or research that transcends disciplines). Institutional commitments (such as a sustainability policy) and dedicated resources (such as a person or team in the administration focused on this task) contribute to success.

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</tr>
<tr>
<td><strong>Baseline</strong></td>
<td><strong>Performance 2014</strong></td>
<td><strong>Performance 2015</strong></td>
</tr>
<tr>
<td><strong>Topical Integration</strong></td>
<td></td>
<td></td>
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<tr>
<td>Sustainability in Courses</td>
<td>Increase sustainability focus in courses.</td>
<td>Sustainability is taught to undergraduates via the broad curriculum programme and via some course content i.e. engineering.</td>
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<tr>
<td></td>
<td></td>
<td>NA.</td>
</tr>
<tr>
<td>Sustainability Training</td>
<td>Induct all college users into Green Campus.</td>
<td>Induction for new staff and for Campus residents includes promotion of campus sustainability.</td>
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<tr>
<td></td>
<td></td>
<td>None.</td>
</tr>
<tr>
<td>Sustainability Focused Courses</td>
<td>Increase courses with sustainability education.</td>
<td>Review of all current courses and those with sustainability at their core.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NA.</td>
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<tr>
<td><strong>Social Integration</strong></td>
<td></td>
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<tr>
<td>External Organisations</td>
<td>Increase green areas.</td>
<td>Linking with the Dublin City Council Greening the City initiative.</td>
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### Green Campus Committee (GCC)

- **Increase the number of green events on campus.**
  - The GCC run the annual green week for the university with events held each day to raise sustainability awareness across the campus community.
  - 41 events held over the Green Week and year.

### Research & Education projects on Laboratory/IT facilities and sustainability

<table>
<thead>
<tr>
<th>Project Description</th>
<th>Measures</th>
<th>Results</th>
<th>Notes</th>
</tr>
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<tbody>
<tr>
<td>LabCup software – chemical management trial.</td>
<td>Facilitate living lab &amp; support sustainable start-ups.</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>LabCup was trialled in the campus to help reduce hazardous waste generation and improve safety.</td>
<td></td>
<td>1 trial in labs with campus based company trialling the software and systems for roll out.</td>
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</table>

### Commitments and resources for campus sustainability

<table>
<thead>
<tr>
<th>Area</th>
<th>Details</th>
<th>Resources</th>
<th>Notes</th>
</tr>
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<tbody>
<tr>
<td>Green Campus Committee (GCC)</td>
<td>Student involvement. The GCC is made up of staff and student volunteers (approx. 20 people) who run the annual Green Week and the University’s Green Flag programme.</td>
<td>NA</td>
<td>On-going. The GCC submitted to retain the Green Flag award for another 3 year period. The annual 2015 Green Week was held in February with dozens of events and activities for campus community.</td>
</tr>
<tr>
<td>Green Campus Coordinator</td>
<td>Running Green Flag reporting. Data collection, TCD Greenpages website updates and reporting.</td>
<td>1</td>
<td>1 green campus co-ordinator in place for part of the year.</td>
</tr>
<tr>
<td>Sustainability Task Force</td>
<td>Joining ISCN &amp; annual sustainability reporting. Initial database creation for sustainability data including energy, waste, water, transport, etc.</td>
<td>NA</td>
<td>Research into creation of TCD Sustainability Task Force is continuing with the development of its scope and composition. Due to report directly to the University’s Provost.</td>
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</table>
Annex 2 - Green Flag Campus Report

This annex will be used to provide any additional material required for the annual update to An Taisce for the Green Flag campus programme.

1. Green-Campus Committee
2. Environmental review
3. Action plan
4. Monitoring and evaluation
5. Link to learning on campus
6. Informing and involving campus and wider community
7. Green Charter