



## ECO-CODE OF SUSTAINABLE CONDUCT

### Table of Contents

CODE OF SUSTAINABLE CONDUCT .....	2
BRAINWAVES: WaterSmart .....	3
BRAINWAVES: Fair Go-Sustainable Procurement.....	5
BRAINWAVES: Litter & Waste.....	6
BRAINWAVES: Green Laboratory Activities .....	8
BRAINWAVES: Minding our Wellbeing.....	9
BRAINWAVES: Smart Power .....	11
BRAINWAVES: Knowledge Sharing .....	12
Brainwaves: Eco Code Poster .....	14





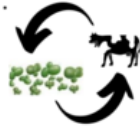
## ECO-CODE OF SUSTAINABLE CONDUCT

This Code reflects Brainwaves' commitment to sustainability. Through the project activities we aim to act responsibly and work to make a positive contribution to the environment and to the communities in which we operate. This Code sets out how we aim to structure our activities through responsible environmental practices, sustainable procurement and staff health and wellbeing. While this document is aspirational, a number of **targets** have been included to assist us monitor our performance where we consider this is measurable. The Code applies to all our employees, wherever they might operate and whatever their function. We recognize the value of education and that it can be an important driver to keeping sustainable living at the forefront of people's minds. Importantly, the Brainwaves project acts towards implementing elements of eight of the seventeen UN Sustainable Development Goals (SDGs) 2030<sup>1</sup>.

- **SDG 3:** Good Health and Wellbeing
- **SDG 4:** Quality Education
- **SDG 6:** Clean Water and Sanitation
- **SDG 9:** Industry, Innovation, and Infrastructure
- **SDG 12:** Responsible Production and Consumption
- **SDG 13:** Climate Action
- **SDG 14:** Life below Water
- **SDG 15:** Life on Land

<sup>1</sup> Available at: <https://sdgs.un.org/goals> [Accessed 11.05.2021]





## BRAINWAVES: WaterSmart

Water is a key element of our research project. One of the long-term desired impacts of Brainwaves is an overall improvement in the water quality of rivers, lakes and coastal water bodies in the Programme area through reduced nutrient loading from agricultural wastewater streams.

Shorter-term, the Brainwaves team are committed to conserving water during project activities. We will encourage our staff to consider how to use water wisely and not waste it by following water conservation best practice systems in workplaces (laboratories and offices) and households. Staff are encouraged to do more to conserve this precious natural resource and create an awareness to help actively consider their use of water in their everyday lives. Best practice follows a simple reduce, reuse, recycle system.

### Reduce:

- Reduce water consumption by monitoring tap flow in laboratory activities.
- Reduce water consumption by monitoring tap flow in our home life, such as, when brushing teeth or washing dishes. Placing water saving stickers on our sink appliances-laboratories, office, and home environments.
- Encourage staff to monitor their shower time on campus and reduce where possible. At home, we encourage looking into installing a water saving showerhead or [a green warrior!](#)
- Monitor for water leaks in the laboratory, office environment and individual households. At UCC, leaks on campus can be immediately reported to ext. 2480.<sup>2</sup> At AU, 24-hour fault reporting is available ext. 2999.
- Whenever possible (per availability, logistical and financial consideration), prioritise venues for outreach activities that have water conservation features installed<sup>3</sup>.
- Promote water efficient gardening in certain seasons, using buckets over hoses – remembering a little goes a long way!

<sup>2</sup> See <https://www.ucc.ie/en/build/environment/water/> [Accessed 11.05.2021]

<sup>3</sup> See: UCC Sustainability Strategy (2016), section 8.7.2





## Reuse & Recycle:

- Use a basin in your sink
- Reuse water by placing a bucket in the shower to water garden or use for your clothes as a pre-wash soak.
- Recycle water from old drinking glasses or bottles to water plants.
- Reuse the water you washed your fruit and vegetables to water plants.
- Use a rain barrel / basin to save runoff from your roof for watering garden.

## BRAINWAVES WaterSmart - Possible activities:

- Organise fundraiser and donate to global water charities such as Water Aid or Water.org.
- Raise awareness around the annual World Water Day<sup>4</sup> (e.g. education, promotional / awareness raising tweets, sharing tips for water conservation, etc). **Target = 1 tweet annually.**

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<sup>4</sup> <https://www.ucc.ie/en/gemscdc/news/celebrate-world-water-day-2020-with-the-gemswater-cdc.html>





## BRAINWAVES: Fair Go-Sustainable Procurement

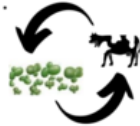
Brainwaves will endeavour to follow university sustainable procurement strategies<sup>5</sup> and consider how our purchasing decisions could impact the local and wider area. These principles aim to positively impact local and global communities through encouraging purchasing that is mindful of sustainable production and consumption. Analysing our procurement and consumption habits and actions will help us plan for a resource- and carbon-constrained future which supports our local community. Where possible we will aim to:

- Ensure environmental criteria are given sufficient weighting in the procurement of goods and services (depending on UCC / AU Agresso-approved suppliers).
- Choose environmentally preferable products that result in the minimum environmental impacts throughout its life cycle.
- Consider items with longer life and greater upgradability.
- Consider if local purchasing options are available. This criterion will be factored alongside other purchasing considerations such as value for money (VFM), availability of supplier, quality of good/service, urgency of purchase, etc.
- Procure goods with reduced packaging and increased recycling capabilities.
- Identify the lowest hazardous material content available.
- Use existing hardware (laptops, mobile phones) where practical. **Target = at least 50% of staff using existing hardware.**
- Repair equipment where necessary to avoid repurchasing.
- Where possible, prioritise catering services that use local produce, unprocessed foods, a variety of vegetarian options and offer recyclable packaging. Prioritise and promote use of reusable cups at outreach events<sup>6</sup>.

<sup>5</sup> See UCC Sustainable Strategy (2016), section 8.8 Procurement & Contracts.

<sup>6</sup> Note: The ERI use outsourced catering which is not always viable on Campus locations, as KSG catering contract must be adhered to.





## BRAINWAVES: Litter & Waste

Brainwaves' aim is to help the dairy industry better manage and find use from its waste, and the Circular Economy is the driving factor behind our research. Circular, closed-loop thinking means re-purposing and using existing materials as far as possible. Extending this concept across our project, we will identify positive ways we can improve and evolve the relationship between materials and waste. We aim to continue to be environmentally conscious citizens and improve our waste management structure by focusing on the material cycle and prevention of waste generated from our workspaces and homelife:

- Promote paperless office systems (e.g. UCC is accepting digital documents as part of wider Covid-19 response). If printing is necessary, aim to print double sided.
- If wastepaper is generated reuse as scrap paper for notetaking, etc.
- When using physical promotional outreach materials (e.g. flyers, brochures), aim for recycled paper. **Target = 100% of flyers, etc from recycled paper.**
- Use lunchboxes instead of cling film/tinfoil and promote reusable hot and cold drink bottles/cups.
- Provide speakers with jugs of filtered tap water and promote a 'bring-your-own' philosophy for re-usable water bottles by attendees within the event advertising.
- Implement sustainable chemistry practices in our laboratories that ensure safer use of solvents and prevent chemical waste.
- Separate and clean all waste and recycle including glass, metal, paper, and plastics.
- Continue to say NO to plastic bags, use reusable bags instead.
- Encourage participation in organisation-led events (see suggested activities below). **Target = 1 per staff member.**
- Donate any leftover catering foodstuffs to charities that help the homeless – At UCC Cork Penny Dinners is a well-established local example. AU is signed up to various schemes, e.g. Love Food Hate Waste<sup>7</sup>.
- As Brainwaves expects to generate a significant amount of duckweed biomass throughout the project, we aim to re-use this biomass in compost. Duckweed is suitable for this, as is it is fast-composting and high in nutrients. **Target =**

<sup>7</sup> See: <https://www.aber.ac.uk/en/hse/environment/eventsandschemes/> [Accessed 11.05.2021]



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**compost 100% of duckweed biomass generated from testing growth systems.**

- Aim to follow the principles laid down in the UCC Sustainable Strategy (section 8.6 Recycle and Waste Management<sup>8</sup>) and AU Sustainability Policy<sup>9</sup>.

## **BRAINWAVES Litter and Waste – Possible team activities:**

- Participate in organisation-led collections of textile recycling, e.g. Clothes Pod<sup>10</sup>.
- Aim to volunteer with local initiatives (such as UCC team Cork Harbour Waterkeeper, Aberystwyth Beach Buddies<sup>11</sup>) to clean and reduce waste from our local coastal, marine and fresh waterways. This could involve participating in a local beach or riverbed clean-up event. Recycle the physical items collected (plastics, paper, glass, metal cans).

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<sup>8</sup> See:

[https://www.ucc.ie/en/media/support/buildingsandstates/environment/UCCSustainabilityStrategy\\_interactive.pdf](https://www.ucc.ie/en/media/support/buildingsandstates/environment/UCCSustainabilityStrategy_interactive.pdf) [Accessed 11.05.2021]

<sup>9</sup> See: <https://www.aber.ac.uk/en/media/departmental/governance/policies/Sustainability-Policy-2020-V4.2.pdf> [Accessed 11.05.2021]

<sup>10</sup> See: <https://greencampus.ucc.ie/resources/ucc-green-campus-living-laboratory-seed-fund> [Accessed 11.05.2021]

<sup>11</sup> See: <https://www.aberystwyth.gov.uk/en/environment/tidy-aberystwyth/aberystwyth-beach-buddies> [Accessed 11.05.2021]



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## BRAINWAVES: Green Laboratory Activities

We believe that the most sustainable experiments are ones with reliable outcomes founded on solid and well-planned designs. Poor science delivers unreliable outcomes and are wasteful. Hence any experiments undertaken must have detailed plans and designs. These must be inspected and approved by the PIs as experimentally reliable, safe and environmentally sound. All laboratory activities will be undertaken in an environmentally sustainable manner wherever possible. However, overriding this at all times will be the need to adhere fully to health and safety regulations. We will therefore engage with green laboratory activities insofar as they are deemed safe and do not have adverse impacts on the validity of the science we will deliver:

- A good example of such activity is Petri dishes. These can be washed and reused if previously used for experiments where they contained non-harmful materials. However, if harmful materials were employed they will be disposed of using good laboratory practices and according to guidance for safe and environmentally sensible disposal.
- We operate a 'one-glove policy' when carrying materials between laboratories. This is to protect the user and allow safe opening and closing of doors. It ensures that any other laboratory users are not exposed to any chemicals. This is an example of a safe practice that is also sustainable as this reduces glove use between laboratories.
- We have a policy of switching equipment off when not in use to reduce energy consumption and maximise longevity. However, certain pieces of equipment including fridges and freezers must be kept on at all times. Everything placed in these must be fully labelled for safe and environmentally responsible disposal post use. They also generally use less energy if properly managed, e.g. if background room temperature is too high this increases energy consumption, hence they are always located to optimise energy use and away from heat generating items such as ovens. They also require regular servicing and defrosting to maintain function.
- An empty fridge or freezer consumes more energy than a full one. We therefore fill any void spaces with recycled water containers (milk containers) which can be taken in or out as required.







## BRAINWAVES: Minding our Wellbeing

Brainwaves staff have been primarily Work from Home since March 2020 (except for researchers who have limited, isolated building access). There have been increased psychological pressures reported by staff members since COVID-19. In addition, the team has never had the opportunity to meet in person and is deprived of the physical collegial work environment. We are conscious of the impacts this may have on team morale, wellbeing and stress levels. We will encourage healthy and active habits for our staff through the duration of the project, including the following actions:

- Go to a Green space on their breaks to connect with the natural environment and raise an awareness of the biodiversity in their areas (Tree trails and wildflower garden UCC Campus; UCC Open Arboretum project<sup>12</sup>).
- PIs will encourage staff to avail of the range of free university supports<sup>13</sup> for physical and mental health and wellbeing (e.g. Digital Gym, Take 60 Minutes, Coffee & Chat, etc.). **Target = 1 wellbeing event attended per staff member per year.**
- Taking care of our sleep: Along with nutrition and exercise, good sleep is one of the pillars of health.
- Ride or walk to work with bike sharing and/or safe walkways which will help us to reduce our carbon footprint.
- Encourage our team to have air purifying plants such as Spider plants (*chlorophytum comosum*) or Peace Lily (*spathyphyllum*) at their office spaces. Clean air is vital for health and wellbeing.
- Maintaining an open and inclusive working atmosphere whereby staff can feel comfortable approaching the PI or Project Manager with any issues.
- Accommodating staff requests where possible within work schedules, e.g. leave, childcare, family, illness, etc.

### BRAINWAVES Minding our Wellbeing – Possible team activities:

- Implement step challenges for the teams in AU and UCC. Set challenges for our team to log their steps for a day and set challenges to reach maximum step

<sup>12</sup> See:

[https://cora.ucc.ie/handle/10468/10710#:~:text=The%20University%20College%20Cork%20\(UCC,for%20teaching%20in%20recent%20times.](https://cora.ucc.ie/handle/10468/10710#:~:text=The%20University%20College%20Cork%20(UCC,for%20teaching%20in%20recent%20times.) [Accessed: 11.05.2021]

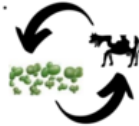
<sup>13</sup> See: <https://www.ucc.ie/en/hr/wellbeingdevelopment/wellbeing/> [Accessed: 11.05.2021]



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counts to promote outdoor and indoor physical activities, e.g. [The Marchaton Step Challenge](#).

- Take part as a team in online activities that help to foster a sense of camaraderie, e.g. Lucky Numbers.
- Take part as a team in university-wide initiatives, e.g. events during National Green Week<sup>14</sup>.

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<sup>14</sup> See: <https://greencampus.ucc.ie/ucc-green-week-2021-a-week-of-climate-action-and-sustainability/>  
[Accessed: 11.05.2021]



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## BRAINWAVES: Smart Power

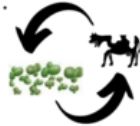
Regarding energy, the Brainwaves team will continue to take several smart steps to minimise their environmental footprint. We are working together to increase awareness of energy issues and to improve energy efficiency in our workplaces and homelife. We continue to improve our carbon impact through smart energy choices through the following actions:

- Minimise impact of travel by developing an Eco-Travel plan. **Target = 1**
- Promote Travel Plan via social channels. **Target = 1**
- Leverage videoconferencing technology as a substitute for in-person meetings. **Target = 50% of project meetings held online.**
- Use green energy app (e.g. Appliance Calculator) on phones to track energy usage in the workplace or home.
- Use timers on pieces of equipment where possible to reduce energy use, energy costs, environmental impacts, and often increase the life of the device.
- Use natural light where possible and continue to turn off lights when not in use.
- Turn off heating when not required.
- Unplug electronic devices to decrease energy usage around the office, lab or home. Using a power strip for devices can control your consumed energy.
- Monitor temperature controls, filter cleaning, defrosting and usage of all laboratory and household appliances to ensure they are running efficiently.
- In cooler months letting the sun warm your office or house during the day with blinds etc. Open and revert this in warmer months to keep office/house cooler.
- Conserve energy by adjusting the brightness setting on devices.
- Recycle old appliances with WEEE Ireland.
- Prioritise venues for events that demonstrate best practice in energy efficient design and/or integrate renewables.
- Follow energy efficiency measures and best practice in all workplaces.
- UCC Sustainable Strategy 2016 (8.7 Energy, Water and Climate Change).

### BRAINWAVES Smart Power – Possible team activities:

- Partake in annual Earth Hour: take an hour to switch off your lights in solidarity with people worldwide. **Target = 1.**





## BRAINWAVES: Knowledge Sharing

We are committed to communicating our research through numerous resources to promote environmental awareness and learn new ways of adapting together in these unprecedented times. Today, as we face global environmental problems, such as rising CO<sub>2</sub> emissions, plastic pollution, deforestation, biodiversity loss and water pollution we require behavioural changes on both a micro and macro scale to ensure a habitable world for future generations.

By raising awareness of these environmental issues to colleagues, family and the wider community, we can educate and begin to offer solutions to problems that threaten our physical environment. Education can be an important driver to keeping sustainable living at the forefront of people's minds. Naturalist, Sir David Attenborough reminds us that "No one will protect what they don't care about; and no one will care about what they have never experienced." Thus, the more knowledge you have about a subject, such as water pollution, the more likely you are to care about it and make informed decisions. We will promote environmental awareness by:

- Displaying copies of our Eco Code poster. **Target = 3**, digitally on the project website and physically in a prominent location in the workplace at both UCC and AU. 2 posters (bilingual English and Welsh versions) will be displayed at AU.
- Launch the Eco Code with promotional activity on social media. **Target = 1 tweet.**
- Promote regular environmental awareness topics such as water pollution on our social media outlets and project newsletters: We aim to engage with 'International Day of...' initiatives via our Twitter account, through tweets, retweets and quote tweets. **Target = 1 per month.**
- Create email bulletins to share with Brainwaves staff and wider mailing list on effective ways we can all help the environment, reduce our carbon footprint and save our planet for future generations. **Target = 1 per academic semester.**
- Create a space (Cyber or Physical) where staff can share their personal sustainability accomplishments once a month. **Target = 1**

**BRAINWAVES Knowledge Sharing** – Possible team activities:

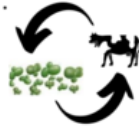


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- Share recipes for eating sustainably within our local regions: promote local growers, farmers' markets, local action groups<sup>15</sup>, etc. Aberystwyth Food Hub<sup>16</sup> is an on-line version of the Farmers' Market set up at the start of the pandemic.
- Participate in communal projects (UCC communal Garden; Cork Harbour Waterkeeper).

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<sup>15</sup> See: <http://corkfoodpolicycouncil.com/> [Accessed 11.05.2021]

<sup>16</sup> See: <https://openfoodnetwork.org.uk/aberystwyth-food-hub/shop> [Accessed 11.05.2021]



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## BRAINWAVES: Eco Code Poster

- Condensed visual summary of this document, focusing on workplace actions
- English version to be displayed at UCC
- English and Welsh versions to be displayed at AU
- Digital copies (English and Welsh) to be displayed on website
- Twitter activity to promote the poster
- Poster size: A3



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