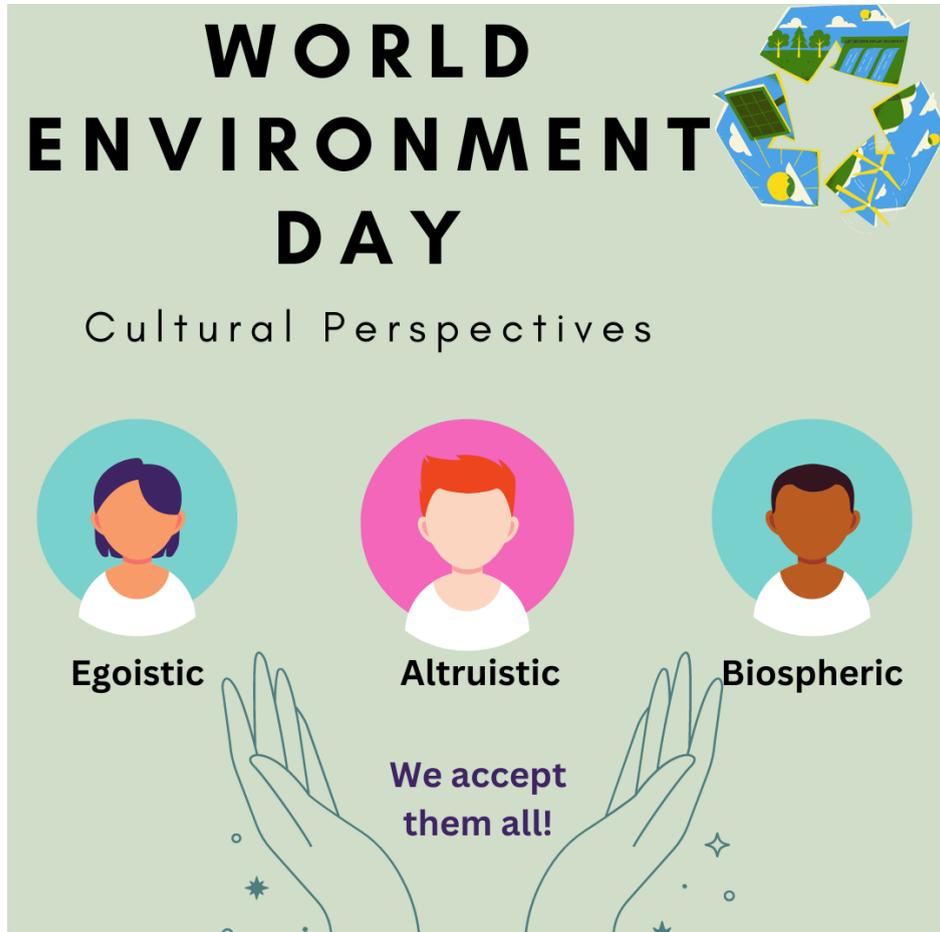# SCBE EDI Newsletter: World Environment Day

June 5th, 2023

Introduction

In the last 70 years, humans have gone from emitting 6 billion tonnes of CO2 a year to approximately 37 billion tonnes. These rising emissions only account for CO2, while other greenhouse gases contribute much more to global warming and climate change. Over the years, the topic of climate change has turned political and research in the field progressed extremely slowly due to lack of proper funding. Recently, the impact of consumer consciousness has catalysed businesses and the government into action with increased funding being provided to explore alternative sources of energy. Since the topic of environmental protection sparks debate among all, this World Environment Day, let's look into the different cultural perspectives surrounding sustainability, and how we can be tolerant of these varied perspectives.

Cultural Perspectives: Developed vs. Developing Countries

Much of the climate debate has focused around who is to be blamed rather than who needs to create the most change to drive carbon emissions down. Looking at historic data, the US and EU have contributed to over 50% of global emissions of all time, which aided in their economic progression. Further, oil producing developing countries such as Qatar, Kuwait and UAE have some of the largest per capita carbon emission in the world. Other countries such as India and China, despite having a very low per capita emission, are two of the largest emitters due to its large population, rapid economic development, and integration into global value chains (China).

Different countries and cultures face different problems and thus have different views on environmental protection. Previously conducted research suggested that the attitude and responses of the general population can broadly be classified into three main categories –

- Egoistic: These include concerns about the environment based on how it affects oneself. This could include personal health and quality of life, financial well-being, resources available for use, etc. For example, polluted air could cause respiratory issues and people are concerned about the negative impact on their own lives.

- Altruistic: This includes concerns for other people, such as family, friends, future generations, and humanity as a whole.

- Biospheric: This includes concern for all living things in the biosphere (plants, animals, ecosystems, etc).

Research suggests that developed countries tend to have a more egoistic view on environmental problems and there may be a tendency to put less effort in working towards a common goal. In collectivistic cultures however, there is a less chance for this to occur. People are more likely to engage in solutions that benefit the community rather than the individual. Following on from this theory, women may have a higher tendency to express environmental concerns than men due to their biospheric attitude.

Despite the different reasons behind environmental concern, it can be agreed that environmental protection and sustainability must be at the forefront of research as well as individual practices. Knowing this, we must learn to be tolerant of each other's way of displaying environmental awareness. Often it is seen that people are shamed for their choices–whether a couple chooses to be child-free for environmental reasons, whether someone chooses to adopt more plant-based food into their diet or even if someone refuses to buy from companies that contribute to high emissions. To be a better ally to our planet, we need to learn to keep our biases at bay and realise that ultimately, the cause is noble even if we do not understand the method ourselves.

Environmental Protection in the EU and Ireland

Sustainable development is one of the main principles of the Treaty of the European Union. This takes into consideration the well-being of humans (ex. eradication of poverty) and a healthy environment. The European Green Deal is the current strategy that focuses on economic growth in a cleaner, safer and healthier manner. The deal aims to ensure a reduction in greenhouse gas emissions by at least 55% by 2030 (European Climate Law) and no net emissions by 2050, economic growth decoupled from use of resources and to restore biodiversity as well as reduce pollution.

Some of the EU environmental strategies currently in place include –

- Circular economy – aims to maintain the value of products for as long as possible and minimises waste generation (reuse, repair, recycle and remanufacture)

- EU Biodiversity Strategy – aims to tackle biodiversity losses (including overexploitation of resources, climate change, pollution, invasive alien species, etc).

- Farm to Fork – aims to form a sustainable food system that ensures affordable access to sufficient, nutritious and safe food while maintaining a positive or neutral impact on the environment.

- Zero pollution – aims to reduce pollution at its source and achieve a set percentage of reduction by 2030 to result in a toxic-free environment.

In Ireland, the environmental protection legislations are managed by the EPA (Environmental Protection Agency). It aims to address the various issues faced by the country and eventually form a sustainable environment. The main aims include addressing climate change, protecting and restoring the natural (and healthy) environment, and facilitating a green and circular economy. The framework for EPA 2030 is summarised in the figure below, obtained from EPA Research.

Mapping EPA Research 2030 with Sectors, Environment Themes and EPA's Activities
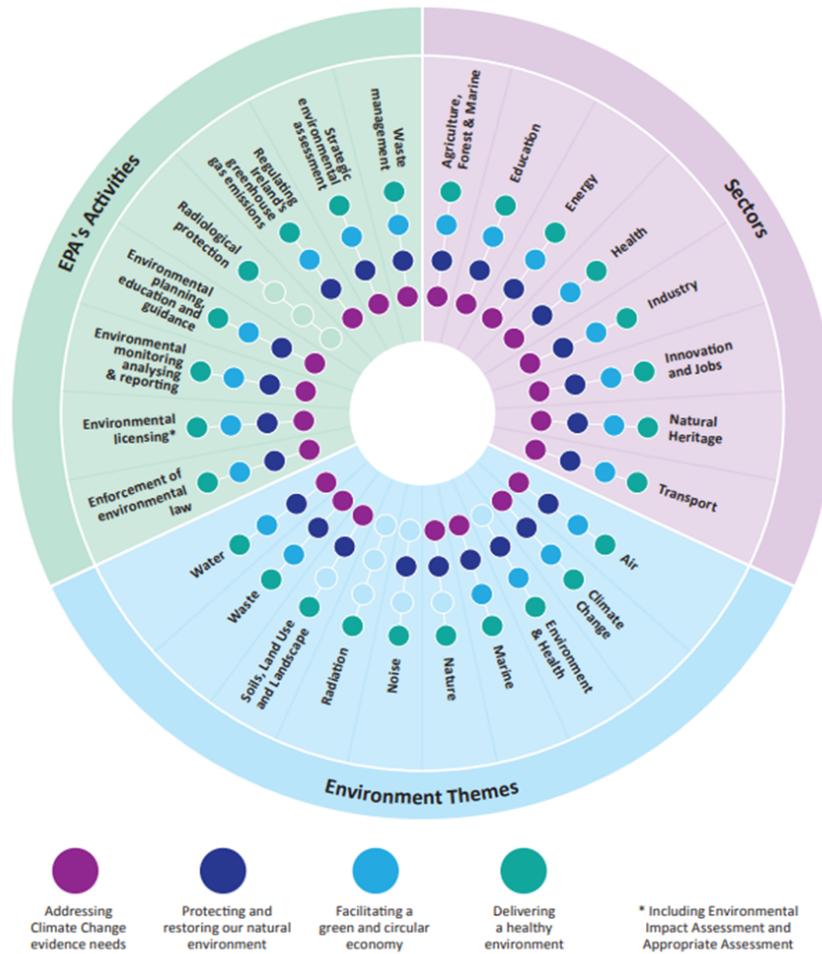
Environmental Actions Within UCD

In efforts to better understand environmental footprints and tackle the issue head on, UCD has a separate service dedicated to creating a greener campus. The UCD Green Campus initiative was formed after an exhaustive survey in 2018 which was followed by an action plan to rectify gaps in the university's sustainability goals. Through various online newsletters and surveys, UCD has increased the environmental awareness among staff and students with regards to sorting recycling and also campaigning for compostable bins across campus. Moreover, by ensuring that bus routes such as the 39A are available all round the clock for students to use, there is a possibility of reducing one's carbon footprint if they are situated on campus. When looking at research, within UCD, The Earth Institute is a collaboration between researchers from diverse disciplines and backgrounds who work towards making strides in climate research. Among SCBE, there are also academics who have put environmental research at the forefront of their careers, be it through research in renewable energy or advanced materials. You can read more about the research done in our school through the link here. If you are an undergraduate student interested in pursuing projects related to environmental research, you may submit your proposal to UCD Green Campus and contribute as a volunteer.

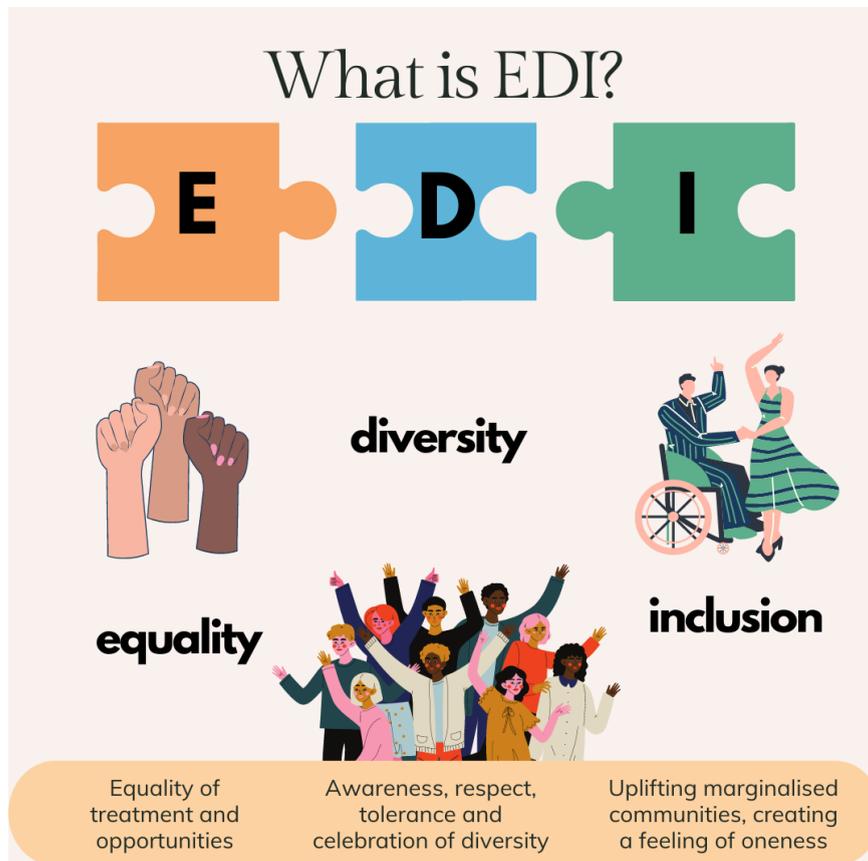## Sustainable Summer: What Can You Do Better To Improve Your Carbon Footprint?

Picture this- It's the middle of June and you have a holiday lined up for the end of the month but soon realise that either the closet is only filled with wool or the magical closet fairy has shrunk your clothes from last year (the horror!). You rush to the nearest shopping centre to pick up outfits to wear on your holiday only to realise that everyone is buying the same clothes. There is now no other option but to shop online and purchase a few extra outfits, just in case some don't fit. But alas, returning just two shirts that don't fit doesn't seem worth the hassle - so off to the cupboard it goes.

Over countless years we have heard about the 3 Rs - Reduce, Reuse and Recycle. Businesses across various industries have focused on creating better packaging and there is ample information on how to best reuse single use packaging. While opting for refills over disposable packaging is one method to better reuse items, the world is still increasing its consumption of goods. This summer, let's look at a few tips on how we can reduce our waste alongside maintaining active effort to reuse and recycle!

1. Try a clothes swap with friends: While everyone might be differently sized, borrowing accessories or a few staples that can be temporarily altered to fit might be a good option for when you're going to a place that might have a wildly different climate to Ireland.

2. Shop at a thrift store or charity shop: Although the search needs to be a bit more exhaustive, charity shops often have clothes from really high quality brands that can be reworn multiple times and still look brand new.

3. Shop local: Buying fruit and vegetables that are seasonal is not only better for the pocket, it also benefits the planet. Look out for your local farmers market and buy essential produce from here.

4. Go foraging around Wicklow and pick up some wild produce, all package free. You can either join foraging groups on Facebook and head out to learn, or explore the wilderness yourself (safely) using manuals and doing thorough research before you eat anything.

5. Pickle your fruits and vegetables: Fresh produce tends to go off a lot faster in the summer, especially with fruit flies buzzing around them. Consider pickling veggies that might go off soon, and add to your favourite salads or toasts.

While we discuss a lot about how we as individuals can solve the problem of climate, it is also important to constantly question our leaders and businesses about their practices, and

ensure that we vote with our money. 'Sustainability' and 'Eco-Friendly' are just terms that have no legal boundaries, so the next time a company advertises its products with the above labels, check and see if the claim is true or if it's just a marketing ploy.

What is EDI?

E D I

diversity

equality

inclusion

| Equality of treatment and opportunities | Awareness, respect, tolerance and celebration of diversity | Uplifting marginalised communities, creating a feeling of oneness |

What is the SCBE EDI Committee?

The Equality, Diversity and Inclusion Committee for the School of Chemical and Bioprocess Engineering (SCBE) consists of a mix of undergraduate and graduate students, postdoctoral researchers, academic, and administrative staff. The committee strives towards promoting EDI across all levels by continuously engaging with students and staff on these topics. We seek to promote social interactions and create an environment that bolsters confidence in all to discuss personal and professional issues related to EDI.

Undergraduate Representative: Adesola Ojomo-Amaka, Lauren Callaghan.

Graduate Representatives: Nethraa Kannan, Apostolos Tsopanoglou, Cristina Abascaul-Ruiz, Aswathy Balakrishnan, Ronan Kelly, Manan Manan.

Postdoctoral Representatives: We are looking forward to welcoming postdoctoral representatives. Please reach out if you are interested in joining the EDI committee.

Staff Representatives: Dr. Veronica Sofianos (Chair), Dr. Ioscani Jimenez del Val and Ms Henna Kinsella.