



Integration of SDGs in

- Institutional governance/strategic level
- SDGs in research
- SDGs in campus operations
- SDGs in curriculum development
- SDGs in student engagement activities
- SDGs into community activities
- SDGs at a whole-institution level

Focus on

- Goal 1 - No poverty
- Goal 2 - Zero hunger
- Goal 3 - Good health and wellbeing
- Goal 4 - Quality education
- Goal 5 - Gender equality
- Goal 6 - Clean water and sanitation
- Goal 7 - Affordable and clean energy
- Goal 8 - Decent work and economic growth
- Goal 9 - Industry, innovation and infrastructure
- Goal 10 - Reduced inequalities
- Goal 11 - Sustainable cities and communities
- Goal 12 - Responsible consumption and production
- Goal 13 - Climate action
- Goal 14 - Life below water
- Goal 15 - Life on land
- Goal 16 - Peace, justice and strong institutions
- Goal 17 - Partnerships for the goals

SDG Accord Reporting 2021 CASE STUDY

My Green Labs

On learning that *labs were using up to ten times more energy than other spaces on campus and that lab scientists can generate as much as 1,000 kg of lab plastic waste per year*, Dr Una FitzGerald founded a 'Galway Green Labs' initiative at NUI Galway, leading the CÚRAM Lab (the SFI-funded Centre for Research on Medical Devices) to be the first in Europe certified as 'Green' by 'My Green Lab'. Lab practices were assessed under 10 categories: energy, cold storage, fume hoods, water, autoclaves, purchasing, waste reduction, recycling, green chemistry and hazardous materials, community.

Click <https://vimeo.com/375847945> to access short movie documenting this achievement. This experience revealed a lack of awareness amongst lab-associated staff of the impact that lab practices, behaviours and attitudes were having on the environment. To address this, Dr FitzGerald developed the 'Green Lab Principles and Practice' 5-ECTS graduate module, introducing students to atmosphere & climate, global warming, the psychology and sociology of climate change, climate change communication, sustainability principles and metrics, the SDGs and SDG rankings, environmental ethics, leadership and governance, biodiversity and ecosystems, the chemistry and manufacture of plastics, the circular economy, green lab practices and how to implement them. Since January 2020, 53 students have taken the online module, with some participating from universities in England, Scotland, Germany and Denmark. Lab-based students have since set up or participated in lab greening programmes.

Allison Paradise, founder of 'My Green Labs' and CEO (2013-2020), said:

"I met Una in 2019, and by 2020 she had become one the leading world experts in lab sustainability. Una's work in Ireland has not only transformed the culture of labs in Ireland, but she has also inspired labs throughout the world to become more sustainable. She is innovative in her thinking, having designed the world's first lab sustainability course."



Certification of the CÚRAM lab at NUIG as 'Green'.

CEO of My Green Lab presenting certificate to Dr Una FitzGerald, on November 7th, 2019. Green Team members from CÚRAM, the Science Foundation Ireland-funded Centre for Research on Medical Devices, are, from back row, left: Dr Jill McMahon, Senior Researcher, PhD students Enrico Bagnoli, Alex Trotier and Gilian Murphy, Graphic designer Maciej Doczyk, PhD student Eugenia Pugliese, and Experimental Officers Dr Oliver Carroll and Dr Olena Kudina.

Conclusions:

1. The green labs initiative at NUIG has led to the establishment of an Irish Green Labs Network. This is under development and it has grown from the Sustainable Energy Authority of Ireland's working group for public sector labs.
2. The Irish Green Labs Network is helping to spread the message of the need for lab greening and to share learning materials that were developed for our 5-credit module.
3. A green labs module can be a steppingstone to wider climate action within the community of scientists and students' own local communities.
4. With an estimated minimum 20,500 institutions worldwide, that are engaged in lab-based activities (Urbina et al, 2015), supporting lab workers in adopting sustainable practices will have far-reaching impacts.

Recommendations

Institutions should offer a module such as the one described here, to lab-associated staff. This will highlight the importance lab sustainability in meeting the SDG goals.

Where feasible, we recommend that assessment of the module be based in part on the setting up of a green team within a lab. Creating the conditions for pursuing green lab certification can also be incentivised as part of the module e.g., completing the baseline assessment (see <https://www.mygreenlab.org/green-lab-certification.html> for more details).