

The Carbon Footprint of ATU: ATU Sligo Campus Pilot Study



Ollscoil
Teicneolaíochta
an Atlantaigh

Atlantic
Technological
University



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Why is this Research Important to ATU ?

EU Corporate Sustainability Reporting Directive (CSRD)

- Mandatory disclosure of organisation’s environmental and social impacts
- Measure, monitor and report emissions

EU Strategy for Universities

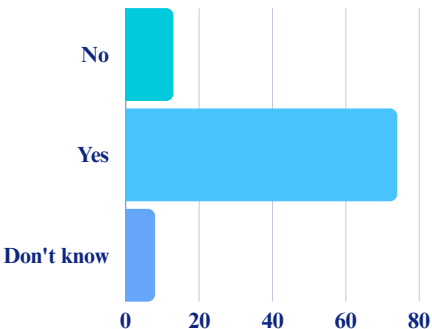
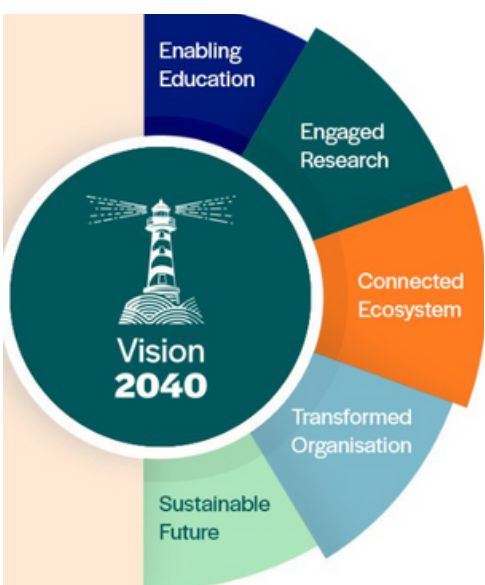
- Drive innovation and research to address climate change
- Leading by example by reducing their environmental impact
- Prepare a skilled workforce for sustainability-focused industries

EU GREEN Alliance Funded Research Survey

- 95 universities from Ireland, Spain, Portugal, Romania and France
- Survey results identified that 78% of EU university educators would like to be upskilled in decarbonisation practices



Would you or your colleague(s) like training on decarbonisation practices?



Alignment with ATU Strategic Plan Objectives

Enabling Education

- Equipping students with skills to meet industry needs

Engaging Research with Impact

- Empowering climate-focused research

Highly Connected Ecosystem

- Fostering academic and cultural collaboration

Organisation Transformation

- Establishing a unified mechanism to measure and track emissions across all campuses, advancing towards Net-Zero goals

Sustainable Future

- Integrating sustainability into curriculum development

Methodology: Pilot Study

ATU Sligo Campus

- 2022 (calendar year)
- Full-time equivalent staff and students

Benchmarking:

- Method adapted from leading Irish institutions (Galway (UG), Dublin (DCU), and Cork (UCC))

Implications

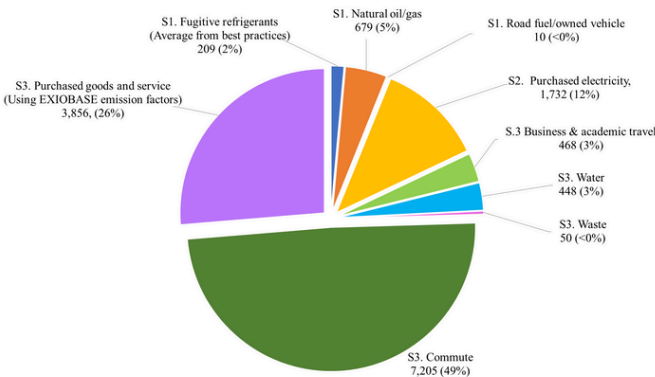
- Water leak detected
- Construction/electronics upgraded

Limitations

- Significant data gaps
- Underestimated emissions in areas
- Absence of financial resources
- Time constraints

System Boundaries to Measure Emissions				
Scope	Source	Tool used (emission factors)	Data source	Limitations
Scope 1	Natural ga & oil	SEAI (CO ₂)	Finance & Estates	N/A
	Road fuel (owned vehicles)			Data gaps
	Fugitive refrigerants	DCU average (CO ₂ e)	-	No data available
Scope 2	Purchased electricity	SEAI (CO ₂)	Finance & Estates	N/A
Scope 3	Waste	UK DEFRA Conversion factors (CO ₂ e)	Finance & Estates/ATU Sligo campus Smarter Travel Survey	Data gaps
	Water			N/A
	Staff & students commute			Data gaps
	Business & academic travel	UK DEFRA Conversion factors (CO ₂ e) STORY@ATU (CO ₂ e)	Finance & Estates	Data gaps
	Purchased goods & services	EXIOBASE (CO ₂ e)		Data gaps

Carbon Footprint of ATU Sligo Campus (14,655 tCO₂e in 2022)



Carbon Footprint of ATU Sligo Campus

- Total emissions: 14,655 tCO₂e in 2022
- Benchmarking: Compared against other Irish universities
- Lack of standardised reporting frameworks

Emission source	ATU Sligo Campus (2022) (tCO ₂ e) (Persons full-time equivalent)	UG (2021) (tCO ₂ e) (Persons full-time equivalent)	UG (2019) (tCO ₂ e) (Persons full-time equivalent)	DCU (2021) (tCO ₂ e) (Persons full-time equivalent)	UCC (2021) (tCO ₂ e) (Persons full-time equivalent)
Scope 1	898 ^[1]	2,772	3,783	4,427	7,669
Scope 2	1,732	4,067	5,594	5,684	15,381
Scope 3	12,025 ^[1]	53,062	44,019 ^[1]	37,519	8,437 ^[1]
Total emissions	14,655	60,227	53,396	47,630	31,486
Emissions per person/ year	1.23	2.8	2.6	3	1.5
Emissions per student/ year	1.31	3.23	2.95	3.413	1.7
Emissions per 4 year degree	5.2	12.9	11.8	13.65	6.8

^[1] Data limitations

Key Steps for ATU to Lead in Sustainability

1. Sustainability budget allocation
2. Replicate study for each campus
3. Form a diverse sustainability team
4. Recruit a sustainability officer
5. Recruit a specialist in sustainability data analyst
6. Enhance data collection and reporting
7. Develop a climate action plan
8. Invest in tools and infrastructure
9. Seek certification and collaboration

Implementation Timeline

Short term
0-1 year

Establish budget, form sustainability team, recruit personnel, purchase EXIOBASE license, seek certification

Medium term
1-3 years

Implement sustainability initiatives, refine data collection, conduct annual assessments

Long term
3+ years

Achieve emission reductions, expand partnerships, integrate sustainability deeply into institutional culture



Storyatu.ie
Sustainable Tourism and Visitor Experience Lab



MISHE
Mathematical Modelling and Intelligent Systems for Health and Environment