Atlantic Technological University

Climate Action Roadmap

May 2025

Version 1.2

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1.0	Version 1.0 with amendments: • Table 3 amended to include Heads of Function Roles and Responsibilities • Appendix B added - Public Sector Climate Action: 2023 Updates Minister DECC 29 June 2023 • Climate Action Plan 2023 referenced in Introduction	1.1
1.1	Version 1.1 with amendments: • All sections - General updates to reflect 2024 climate action mandate revisions • 2.4 & 2.5 Updates on progress to meet targets at each campus • 4.1 Energy & Environmental Management Systems and Accreditation • Progress updates to Action tables and section 6.0 – additional information	1.2

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Glossary

ATU	Atlantic Technological University
BEC	Better Energy Community Scheme
CAP	Climate Action Plan
DEC	Display Energy Cert
EDI	Equality, Diversity, and Inclusion
EEDPP	Energy Efficiency and Decarbonisation Pathfinder Programme
EPO	Energy Performance Officer
EV	Electric Vehicle
GHG	Green House Gases
GPP	Green Public Procurement
GtT	Gap to Target
kWh	Kilowatt hour
$kgCO_2$	Kilograms of Carbon Dioxide
LCA	Life Cycle Analysis
LCC	Performing Life Cycle Costing
M&R	Monitor and Reporting
N-TUTORR	National Technological University Transformation for Resilience and Recovery.
OPW	Office of Public Works
PSMR	Public Sector Monitoring and Reporting
SDG	Sustainable Development Goals
SEAI	Sustainable Energy Authority of Ireland
tCO_2	Tonnes of Carbon Dioxide
TFI	Transport for Ireland
UDL	Universal Design for Learning

Definitions

ISO 50001	EN ISO 50001:2018 is the international standard for energy management.
Green Public Procurement (GPP)	Green Public Procurement (GPP) (or Sustainable Procurement) is a process where public authorities seek to source goods, services or works with a reduced environmental impact.
Sustainable Energy Authority of Ireland (SEAI)	The SEAI is Ireland's national sustainable energy authority and works with householders, businesses, communities, and government to create a cleaner energy future.
Climate Action Plans 2021 and 2023 (CAP21+CAP23, CAP 24)	CAP21 + CAP23 provides a detailed plan for taking action to achieve a 51% reduction in overall. Greenhouse gas emissions by 2030 and setting Ireland on a path to reach net-zero emissions by no later than 2050, as committed to in the Programme for Government and set out in the Climate Act 2021.
Decarbonisation	Decarbonisation is the removal or reduction of carbon dioxide inputs from human activity into the atmosphere which is important for limiting global warming. The main levers for decarbonisation are the development of renewable energies, switching fuels and the improvement of energy efficiency.
Gap to Target model (GTT model)	The gap-to-target model (GtT model) is a spreadsheet model for use by public bodies to evaluate their energy efficiency (EE) performance and energy-related greenhouse gas (GHG) emissions over time, using data and methodologies from SEAI's Public Sector Monitoring & Reporting (PSMR) system
Energy Efficiency	Energy efficiency is a reduction in the energy used to do the same task. Retrofitting options can be used to reduce energy usage. These may include switching to LED lighting and energy efficient appliances or upgrading insulation. Energy efficiency has a variety of benefits including reducing GHG emissions, reducing demand for energy imports, and lowering energy costs.
Display Energy Certificate (DEC)	A Display Energy Certificate (DEC) shows the energy performance of a building based on actual energy consumption recorded over the last 12 months. It compares the actual energy use against the energy use for a benchmark building of the same type. Similar to a domestic Building Energy Rating (BER), DECs are displayed on a scale from A to G, with an A rating being the most efficient and a G rating being the least efficient.

1. Introduction

The Atlantic Technological University (ATU) was officially launched on 1 April 2022, with the merger of the Galway-Mayo, Sligo, and Letterkenny Institutes of Technology into one entity. ATU serves over 21,000 students and is one of the largest multi-campus universities in Ireland, with nine campuses, multiple research centres and iHubs. The University is supported by 2,250 staff, delivering practice-oriented study and research.

Ireland's Climate Action Plans 2021 (CAP21) and 2023 (CAP23) and now CAP 24 stipulate that the public sector will lead by example in delivering on Ireland's decarbonisation commitments.

The ATU Climate Action Roadmap demonstrates how the University aims to implement the Climate Action Mandate and meet its 2030 targets and ensuring compliance to the relevant legal obligations as identified in key legislative and policy obligations.

Target 1 Decarbonisation - to reduce greenhouse gas (GHG) emissions from energy by 51% compared to a 2016-2018 (average) baseline.

Target 2 Energy Efficiency - to improve energy efficiency by 50% by 2030 compared to our 2009 baseline.

ATUs total energy spend is approximately €2.4m spend, just above the spend threshold and is considered a large public body for building stock planning purposes.

These targets focus on emissions from electricity and from fossil fuels used for heating and hot water. ATU, while consuming under 50 Gwh of energy per annum, is defined as a large public sector body for building stock planning purposes.

ATU collectively is showing a 54% gap to target in emissions by 2030. This roadmap and delivery on the 2030 targets is highly dependent on building fabric and plant investment with approximately €73m identified in projects. In the absence of large scale investment, significant efforts will need to be applied to operational optimisation of existing building heating and electrical systems.

Compliance to the Climate action mandate is completed via the SEAI M&R system. Up until 2024 each legacy campus has reported separately via M&R. ATU will report as a collective body from 2025 onwards.

2. Our Targets

2.1 Energy and GHG Targets:

ATU is committed to meeting the following national targets in relation to energy use reduction. These following targets are in place:

- Reduce GHG emissions by 51% in 2030.
- Increase the improvement in energy efficiency in the public sector from the 33% target in 2020 to 50% by 2030.
- Update Climate Action Roadmaps annually within 6 months of the publication of the updated Public Sector Climate Action plan.

Table 1 below shows the individual and total Gap-to-target (GtT) for ATU campuses to 2030 targets.

Campus Region	GWH (2023)	CO2 (baseline)	CO2 (2023)	CO2 Target (2030)	CO2 Gap to target	Gap to target %
Galway/Mayo	10	2,896,123	2,311,451	939,414	1,372,037	59%
Sligo	5	2,266,371	1,424,325	730,375	693,950	49%
Donegal	4	1,418,611	919,651	469,874	449,777	49%
Total ATU	19.0	6,581,105	4,655,427	2,139,663	2,515,764	54%

Table 1.0 ATU Campuses Energy (kwh) and carbon emissions (kgCO2), GtT summary 2023

ATU comprises excess of 40 buildings with over 19 Gwh of energy use and 149,000 sqm of floor area across the 9 campuses. The proportion of carbon attributable to each of Galway-Mayo, Sligo and Donegal is split approximately 44:35:21 %, this is somewhat aligned to the area split at 42:35:23 %.

Primary efforts to close the 53% GtT shall be focused on older building stock with higher CO_2 emissions and energy consumption in particular Galway-Mayo of which some are now 170 years old.

2.2 Emission Savings

The SEAI Gap to Target (GtT) tool allows for modelling of the impact of a range of initiatives on carbon and energy performance. Examples of initiatives include building fabric retrofits, heating, lighting and ventilation upgrades, replacement of fossil fuels with renewable energy technologies such as heat pumps, biomass fuel and associated district heating networks. The tool also models the impact of proposed additional buildings.

Emission savings modelled by GtT tool take account of SEAI carbon conversion of electrical use of 77%. This is in line with the Government target to decarbonise the electrical grid to 70% by 2030. Targets for reduction of electrical carbon emissions consider these reductions, therefore additional electrical load forecast requires a reduction in the absolute electrical usage to compensate.

2.3 Achieving the carbon emissions and energy reduction by 2030

The following table 2 outlines the key investments and strategic approach required to deliver the 2030 targets.

	Action	Who	When	Resources (Capital)	Resources (Other)
	Strategic Planning				
2.3A	**Operation**: Review of space utilisation and opening hours to minimise energy demand.	President and UPT	Biannual	Cost savings	Supported by B&E and Timetabling
2.3B	**Sustainable Travel Plan:** Develop a plan to minimise carbon generated by international and domestic business travel across our geographically diverse university.	President and UPT	Ongoing	Cost savings	Supported by B&E and Finance Smarter Travel mark team (NTA)
2.3C	**Capital**: Rigorously interrogate the need for additional buildings and rented premises in capacity planning.	President and UPT	Annually	Zero	Supported by B&E and Timetabling
2.3D	**Capital:** Prioritise refurbishment of existing buildings over new to minimise embodied carbon	B&E	Ongoing / Capital project pipeline	Cost Savings EEDPP	Supported by President and UPT Potential external consultancy
2.3.E	Annual update of climate roadmap	President and UPT	Yearly Q1	n/a	Supported by B&E
	Building decarbonisation plans – see tables below				
2.3F	Donegal - Projects awaiting funding (EEDPP supported) - Identified Upgrades to meet GtT **Total**	B&E	2025-30	€6.9m €3.1m **€10m**	Additional ATU B&E Internal Project Manager/Coordinator Resources – proportional to capital funding
2.3G	Sligo - Identified Upgrades to meet GtT **Total**	B&E	2025-30	**€8.3m**	

	Action	Who	When	Resources (Capital)	Resources (Other)
2.3H	Galway - Mayo - Projects commenced or in planning including EEDPP 2023-2024 grant approved - Identified Upgrades to meet GtT Total	B&E	2025-30	€7.3m €47m **€54.3m**	
	Energy Management				
2.3I	Donegal	B&E	Ongoing	€130k p/a	Adequate operational and minor works budget to update fittings, plant, equipment, and controls to continue to enhance energy performance and management.
2.3J	Sligo	B&E	Ongoing	€170k p/a	
2.3K	Galway - Mayo	B&E	Ongoing	€200k p/a	

Table 2.0 Achieving the carbon emissions reduction targets – Actions (2023 estimated costs)

The status in relation to energy carbon emissions is expanded further in section 2.4 for each of the three regional campuses.

2.4   Emissions analysis – Gap-to-Target (GtT)

2.4.1 ATU Galway-Mayo Campuses

Carbon Reduction

Energy and carbon emissions are reported for the Galway Dublin road, Wellpark, Connemara and Mayo Campuses. Energy consumption and associated carbon have reduced significantly since the 2006-2008 baseline with electricity accounting for almost 45% of the carbon generated as illustrated in Fig. 1.0 below.
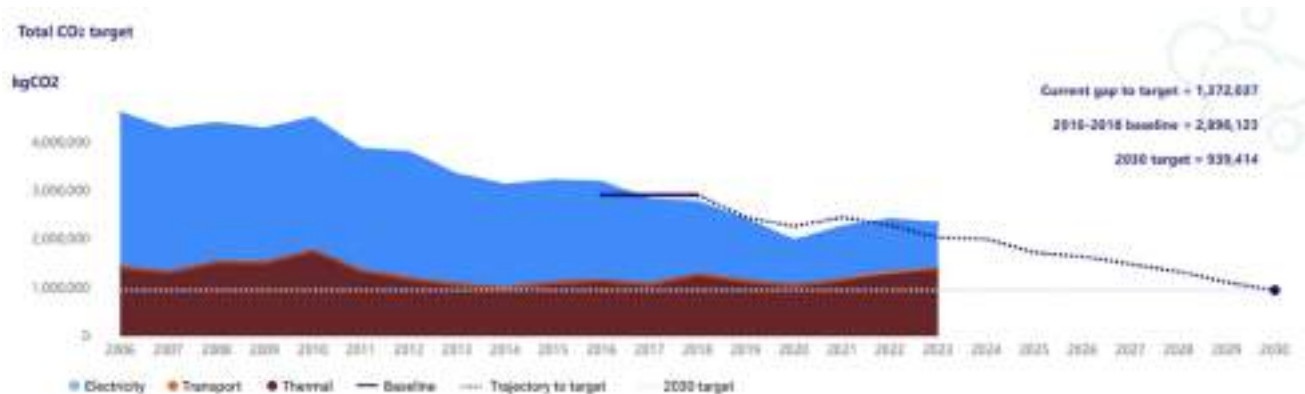

Figure 1.0 : Galway-Mayo 2023 CO2 Emissions

ATU Galway-Mayo reports on energy use by buildings which range in age from 1 to 170 years old.

Campus Name		
	kgCO$_2$ 2022	**%**
Galway Dublin Rd Campus	1,358,025	66.2
Galway Wellpark Campus	211,863	10.3
Galway Connemara Campus	121,282	5.9
Mayo Campus	358,839	17.5
Total	**2,050,010**	

Table 3.0 Galway Mayo CO$_2$ by Campus

In the main these campuses are under the direct control of ATU. The exception being, the ATU Connemara Campus, control of which sits under Connemara West (Letterfrack). Assessment of energy use for this campus considers reductions in line with ATU planning.

ATU Galway Mayo also has a campus in Mountbellew, reporting of energy use for this campus is a responsibility of Mountbellew campus directly.

Additional Building Projects & Emission Growth

The following projects for ATU Galway are assessed in determining future CO$_2$ additions. All new projects are to be constructed to NZEB, and all CO2 calculated assuming electrical and thermal energy.

New buildings will assist in lowering the overall energy efficiency of buildings, however, to meet absolute reductions based on 2016-2018 targets, reductions in carbon use will be required within existing ATU building stock to compensate.

Project Name	kWh	Completion	CO_2 kg year of Completion	CO_2 kg 2030
IHub Extension		2021	10,814	7,855
All Core Gym	19,037	2021	6,236	1,864
ATU Galway Mayo STEM	440,000	2025	84,145	43,084
ATU Galway Mayo Sports	224,000	2026	35,634	21,934
ATU Galway Mayo Wellpark modular buildings	40,000	2024	9,550	3,917
ATU Galway Mayo Dublin Rd modular buildings	56,000	2024	13,370	5,484
ATU Galway Mayo TSSPF	320,000	2027	42,908	31,334
Total 2030				115,472

Table 4.0 ATU Galway Mayo Additional Buildings Planned CO_2 Output

The status of ATU Galway-Mayo emissions and projections using projects currently in planning to 2030 is shown in Table 5.0 for Non-Electrical sources.

	Description	Reduction	Increase	Balance
		kgCO$_2$	kgCO$_2$	kgCO$_2$
1	2016-2018 baseline (non-electric)			1,159,488
2	Thermal Increase Associated with IHUB extension		6,594	
3	Correction for Transport Reported Oil Use		48,607	0
4	Increase in Thermal Use 2018-2022		91,361	
5	Balance as at 2022 Thermal			1,257,443
6	Balance as at 2022 Transport			48,607
7	Correction for Transport Reported Oil Use	48,607		
8	5 % Energy Management Reduction	60,591		
9	Wellpark EEDPP Project	39,580		
10	Dublin Road EEDP Project	81,896		
11	Dublin Road 509	13,513		
12	Dublin Road Boiler Upgrade	102,370		
	Total Thermal			959,494
	Total Transport			0
	2030 non-electricity target (51% reduction on baseline)			568,149
	Reductions still to be established Energy Management Improvement 2023-2030			391,345

	Note Selection of projects required to achieve target			

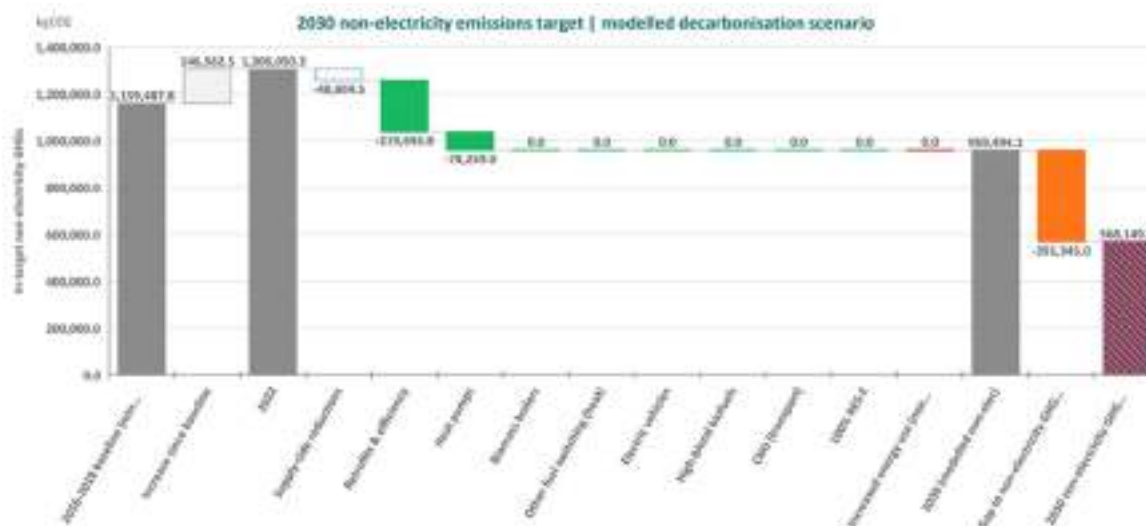*Table 5.0 ATU Galway – Non-Electric Measures Planned to 2030*

Fig 2.0 ATU Galway Mayo Non Electric Planned and Gap to Target

The status of ATU Galway-Mayo emissions and projections using projects currently in planning is shown in below in table 6 for all Non-Electric and Electric.

	Description	Reduction	Increase	Balance
		kgCO$_2$	kgCO$_2$	kgCO$_2$
1	**2016-2018 baseline (total)**			2,896,124
2	**Additional Building Pre 2023**		17,050	
3	**Increase non-electric**	493,209		
4	**Reduction Electricity**			
5	**Balance as of 2022**			2,387,820
6	**Additional Building**		105,753	
7	**Energy Management**	114,316		
8	**Lighting Upgrades 2023**	11,138		
9	**Continual Lighting Upgrades to 2030**	55,690		
10	**Wellpark EEDPP**	43,781		
11	**Dublin Road EEDPP**	90,908		
12	**509**	13,513		
13	**Supply Side Reductions**	799,808		
14	**Correction for Electric Diesel Generator Supply**		7,215	
15	**Total**			1,371,634
16	**Total Transport**			0
17	**2030 target (51% reduction on baseline)**			960,147
18	**Reductions still to be established**			**411,484**

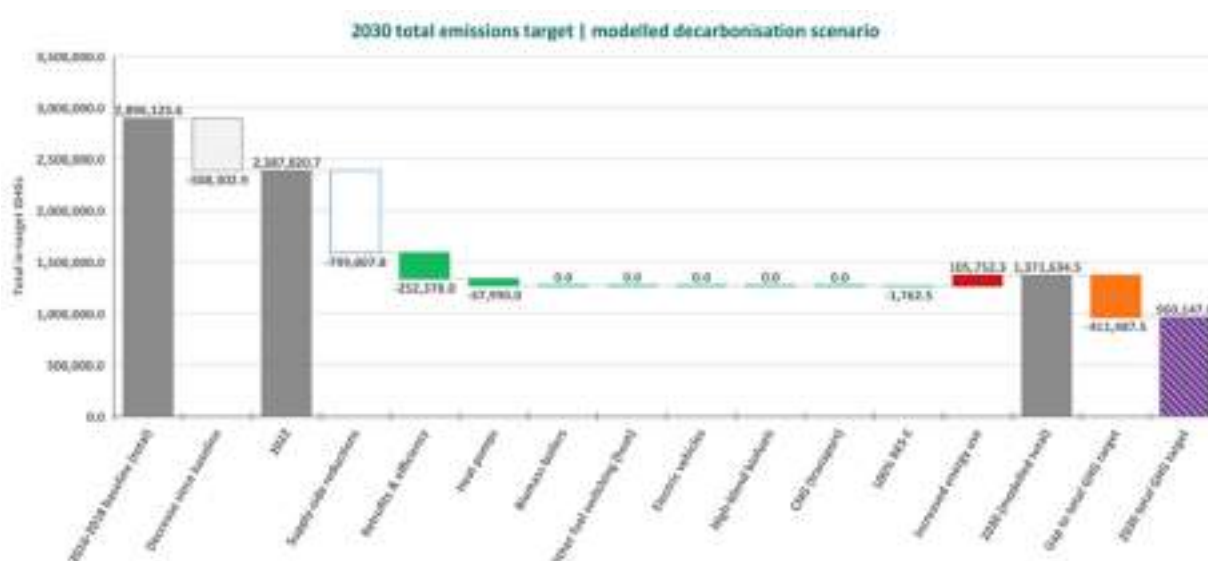*Table 6.0 Non-Electric and Electric emissions and projections*

FIG 3.0 ATU Galway Mayo total emissions gap to target

The following table 7.0 outlines the current and future costs to deliver on proposed projects.

ATU Galway Mayo Campus Current Measures Planned/in progress					
Decarbonisation Programme to 2030 (51% Required Reduction)					
Building	**Building Area m²**	**Non-Electricity kgCO₂**	**Total kgCO₂**	**Project Cost €m**	**Programme Year**
Boiler Upgrade	20,000	102,371	128,577	625,000	Complete
Lighting Upgrades	All		66,827	192,000	2023-2028
Wellpark EEDPP	2106	39,580	43,781	4,187,234	Complete
Dublin Road EEDPP	5100	81,896	90,908	6,901,682	2025-2027
509 Project	600	13,512	13,512	900,000	Complete
	Totals	**237,359**	**343,605**	**€13m**	

Table 7.0 Costings for Planned Measures (2023 estimated costs)

To meet the Gap to target of 411,487 Kg CO2 identified above options regarding possible future projects are under review including:
- District Heating & Renewable Electricity
- Letterfrack Biomass
- Completion of Wellpark EEDPP to full campus
- Similar Wellpark EEDPP to Mayo Campus
- Thermal Upgrade to Dublin Rd Campus

Improvements are considered over 2025 to 2029. Discussions are ongoing with SEAI and District Heating providers to determine possible savings from District Heating and renewable PV electricity to meet the 2030 emissions target.

Detailed below in table 8.0 are potential improvements to campuses other than Dublin Rd, this shows complete retrofit to Mayo and Wellpark similar to Wellpark EEDPP for 2024. A biomass thermal upgrade for Letterfrack is also considered. With these measures there is still a gap to target required to be met by Dublin Rd. As above realisation of District Heating will close this gap in meeting thermal.

ATU Galway Mayo Campuses					
Decarbonisation Programme to 2030 (51% Reduction)					
Building / Project	Building Area m^2	Non-Elec kgCO$_2$	Total kgCO$_2$	Project Cost €m	Programme Year
District Heating-all areas both Galway campuses	25,000	391,342	391,342	€3.75	MP for 2028
Biomass Letterfrack	6000	63,328	63,328	€0.75	MP For 2028
UPGRADES Dublin Road, Phase 2	15000	81670	81670	€22.0	MP for 26-30
EEDPP 2 to Wellpark	4,000	78,455	90,076	€8.5	MP for 2025-2030
EEDPP Mayo	10,000	151,486	179,660	€12.0	MP for 2025-2030
Sub-Totals		**770,602**	**810,397**	**€47.0**	
Thermal upgrades Dublin Road Phase 1 – 2a	5100	28670	8670	€7.3	Approved 23- for 24-26
Previous and current projects eedpp1-wp+509ca+led lighting etc	3000	237,359	343,605	€5.7	Complete
Totals		**1,007,961**	**1,154,002**	**€60.0**	

Table 8.0 Decarbonisation Programme to 2030 Proposed Retrofit Projects *(2023 estimated costs))*

2.4.2 ATU SLIGO CAMPUS

Energy and carbon emissions are reported for Sligo and St.Agelas Campuses. ATU Sligo Carbon Reduction has reduced significantly since the 2006-2008 baseline. As illustrated in Fig. 4 below the total CO2 emissions are on target for 2030.
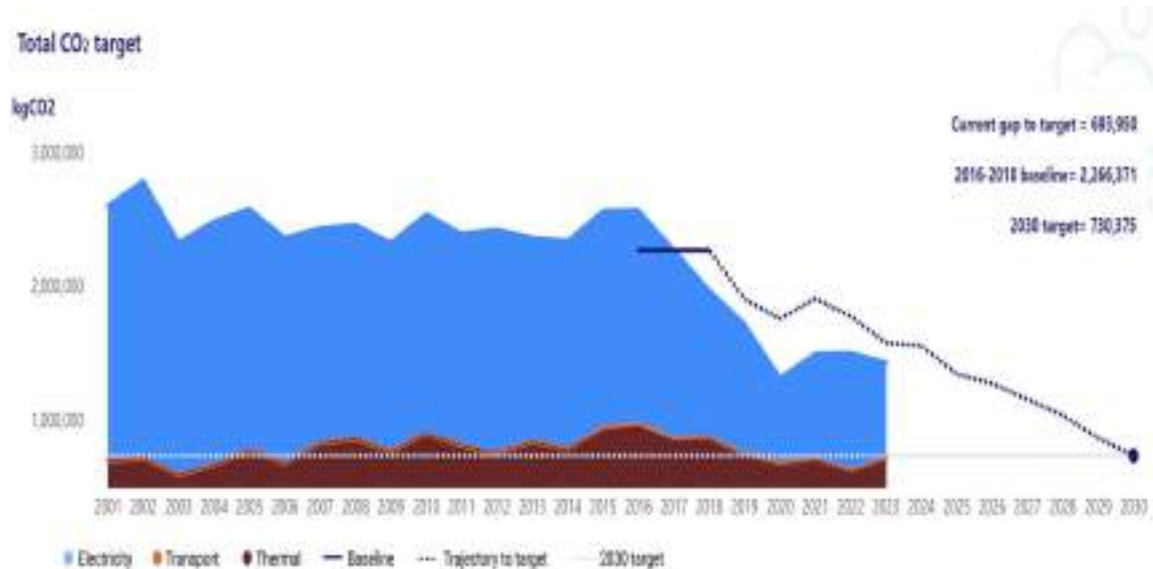

Fig. 4: ATU Sligo Carbon Emissions baseline to 2023 (SEAI Annual Report 2023)

ATU Sligo CO2 2016-2018 baseline is 2,266,371 kgCO2. Gap-to-Target modelling identifies a total greenhouse gas (GHG) target of 730,375 kgCO2.

The status of ATU Sligo Non-Electric emissions and projected carbon reductions arising from projects currently in process and pending funding are illustrated in table 9.0. If all projects are executed it is expected that there will be a shortfall of 250,088 kgCO2 to baseline.

	Description	Reduction	Increase	Balance
		kgCO2	kgCO2	kgCO2
1	Balance end 2024			707,226
2	Net increase associated with extension to Block (L)/E01		52404	
3	Supply side changes		70220	
4	Retrofits and efficiency	57,926		
5	Heat pumps	84,823		
7	Total			687,800
8	2030 non-electricity target (51% reduction on baseline)			437,712
9	Reductions still to be established (17-18)			250,088

Table 9.0: ATU Sligo – Non-Electric Measures Planned to 2030

Block G and Block P included in Gap to Target model came online Jan 2025 but further projects reducing fossil fuel usage are required to close the 179,445KgCO2 gap and the approx. 250,000KgCO2 fossil fuel gap.

ATU Sligo - total cumulative GHG (both Non-Electric and Electric) carbon emissions and projected carbon reductions arising from projects currently in planning and pending funding are

illustrated in Table 10. Proposed projects to 2030 will result in a balance of 911,311 kg CO2 with a gap to target of 179,624 kgCO2.

	Description	Reduction	Increase	Balance
		kgCO2	kgCO2	kgCO2
1	**2016-2018 baseline (total)**			2,266,371
2	Refurbishment Blks (C) & (D) and conversion to LPG; completed 2017	46,965		
3	Refurbishment Block (K) and conversion to LPG; completed 2020	33,424		
4	Controls and BMS improvements; baseline to 2022 + minor mods	147,729		
5	Correction for late PEM Oil delivery	48,303	0	
6	Other reductions supply side and electrical improvements	493,209	0	
7	**Balance as of 2022**			1,496,704
8	Net increase associated with extension to Block (L)		38729	
9	Increase associated with extension (E01)		72,665	
10	PV for Block L, E01(2	2,350		
11	Other reductions supply side	203,521		
12	**Balance as of 2023**			1,424,325
13	Retrofits and efficiency block G and P	104,811.3		
14	Heat Pumps	74,724		
15	100% RES-E	13,455		
16	Increased energy use		85,828	
17	Supply Side Reductions	405,851		
18	**Total**			911,311
19	**2030 total CHG reduction target (51% reduction on baseline)**			731,687
20	Reductions still to be established (15-16)			**179,624**

Table 10 ATU Sligo Total (Electric and Non-Electric) Measures Planned to 2030

The waterfall diagram at Fig. 5.0 illustrates the baseline 2,266,371 kgCO2, the reduction as a result of projects completed to date, the impact of supply side reductions, retrofit projects and energy efficiency measures and increased energy use due to additional buildings.
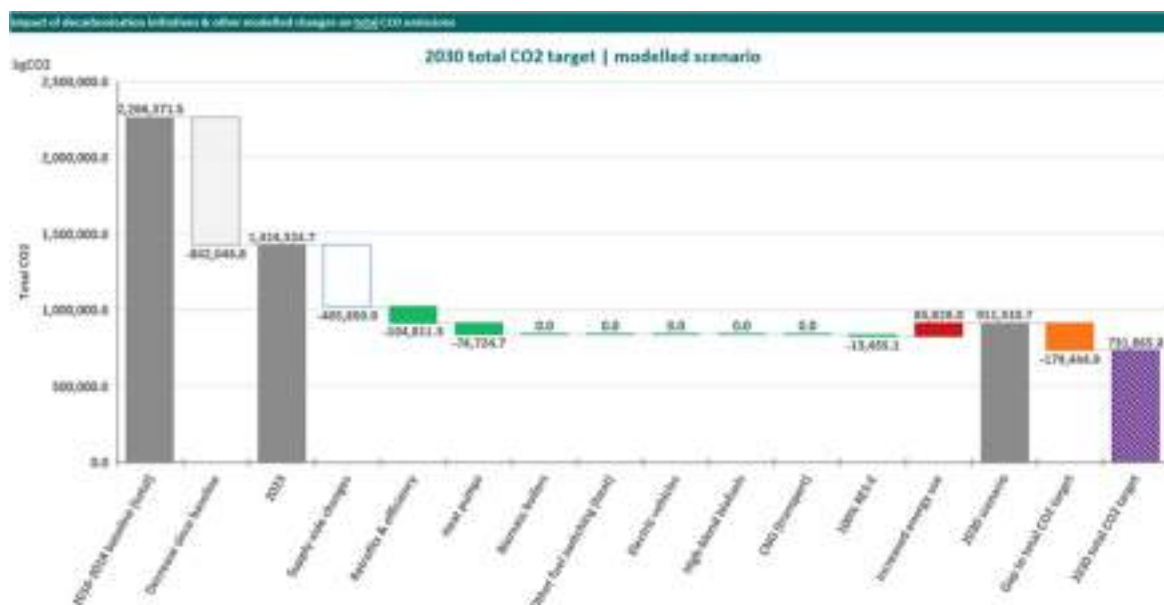
Fig. 5.0 ATU Sligo – Total Impact of total (Electric and Non-Electric) Measures Planned to 2030

Table 11.0 below demonstrates further projects that could be implemented to exceed the the GtT of 179,624 kgCO2.

ATU Sligo Campus						
Decarbonisation Programme to 2030 (51% Required Reduction)						
Block	**Building**	**Building Area M2**	**Non-Electricity kgCO2**	**Total kgCO2**	**Project Cost €m**	**Programme Year**
G	Business Innovation Centre	3,048	60,994	82,039	€3.5m	Complete
P	Knocknarea Arena	2,414	53,951	65,348	€2.55m	Complete
H	*Student Centre*	*2,186*	*40,000*	*55,000*	*€1.8m*	*2026*
M	*Applied Technology Building*	*2,740*	*60,000*	*68,000*	*€3.4m*	*2027*
F	*Technology Centre*	*2,836*	*55,000*	*70,000*	*€3.1m*	*2029*
		Totals	**269,945**	**337,000**	**€14.35**	
NB Costs Current Day 2023						

Table 11.0: Decarbonisation Programme to 2030 Proposed Retrofit Projects

The student and Technology centres are not currently included in the Gap to Target model but would significantly address the remaining gap of 250 tonnes non-electric CO_2 and exceed the total gap of 179 tonnes.

2.4.3 ATU DONEGAL CAMPUSES

ATU Donegal has reported energy use through the SEAI PSMR since 2010. Energy consumption and associated carbon have reduced significantly since the 2006-2008 baseline with electricity accounting for almost 50% of the carbon generated. Energy and carbon emissions are reported for the Letterkenny and Killybegs campuses.
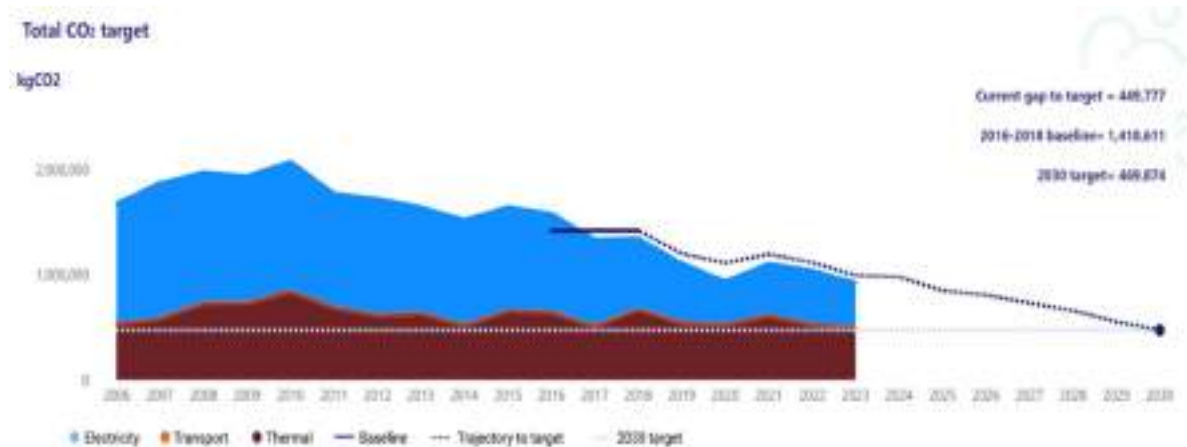

Fig. 5.0: ATU Donegal Carbon Emissions baseline to 2023

As illustrated at Figure 5.0, GtT modelling identified a total greenhouse gas (GHG) target of 469,874 kgCO2 kgCO2 which includes 295,914 kgCO2 non-electric target.

ATU Donegal Non-Electric emissions and projected carbon reductions arising from projects currently in planning and pending funding are illustrated in Table 12 below along with the baseline 603,907 kgCO2 and 118,893 kgCO2 savings arising from projects already complete, leaving a balance at 2023 being 485,013 kgCO2.

The completed measures to 2023 and further projects to 2030, if funded, will reduce the balance to 387,045 kgCO2 with a futher gap to target of by 91,131 kgCO2 to be completed.

	Description	Reduction	Increase	Balance
		kgCO2	kgCO2	kgCO2
1	**2016-2018 baseline (TOTAL GHG)**			**603,907**
2	**Projects Completed (2018-2022)**	118,893		
3	**Balance at 2023**			**485,013**
4	**Supply side correction (HDD correction) warm year)**		46,104	
5	**2030 No project Scenario (before anything being done)**			**531,118**

6	**Reductions of planned Retrofits + Efficiency Projects (pending funding)**			
7	**EEDPP2024-25 Phase 2b & Nursing Block Medium Fabric Upgrade and Biomass Heat, Letterkenny (2025)**	36,087		
8	**Library + Phase 2A Roof / Plantrooms Retrofit, Letterkenny (2027)**	4,749		
9	**TOTAL Reductions of planned Retrofits + Efficiency Projects (pending funding)**	40,837		
10	**Biomass boilers load shift (from Gasoil + LPG)**	103,235		
11	**Total Reductions (Subject to Funding and Supply Side Reductions)**			**387,045**
12	**2030 non-electricity target (51% reduction on baseline)**			**295,914**
13	**Reductions still to be established**			**91,131**

Table 12 ATU Donegal – Non-Electric Measures Planned to 2030

ATU Donegal Total GHG (both Non-Electric and Electric) carbon emissions and projected carbon reductions arising from projects currently in planning and pending funding are illustrated in table 16 along with the baseline 1,418,611 kgCO2 and 498,960 kgCO2 savings arising from projects already complete.

Completed projects and planned measures to 2023, results in a balance of 919,651 kgCO2. Proposed future projects between 2024 and 2030 (table 12.0), if funded, will result in further savings of 58,173 kgCO2 leaving a balance of 515,798 kg CO2. However, the construction of additional buildings during the same period, will increase carbon emissions by 70,178 kgCO2 to 585,976 kg CO2.

	Description	Reduction	Increase	Balance
		kgCO2	kgCO2	kgCO2
1	**2016-2018 baseline (TOTAL GHG)**			**1,418,611**
2	**Projects Completed (2018-2022)**	**498,960**		
3	**Balance at 2023**			**919,651**
4	Supply side changes (Grid reductions)	242,445		
5	**Reductions of planned Retrofits + Efficiency Projects (pending funding)**			
6	EEDPP2024-25 Phase 2b & Nursing Block Medium Fabric Upgrade and Biomass Heat, Letterkenny (2025)	45,578		
7	Library + Phase 2A Roof / Plantrooms Retrofit, Letterkenny (2027)	8,188		
8	LED Car Park Lighting Upgrade, Main Campus (2024)	3,821		
9	LED Car Park Lighting Upgrade, Main Campus 21no (2024)	585		
10	**TOTAL Reductions of planned Retrofits + Efficiency Projects (pending funding)**	**58,173**		

	Description	Reduction	Increase	Balance
11	Biomass boilers load shift (from Gasoil + LPG)	103,235		**515,798**
12	**Increased Energy Use - Planned Additional Buildings to 2030 (Subject to Funding)**			
13	PPP Building - New Library and General Education Extension Block B3, Letterkenny (2027)		28,047	
14	Office Accommodation Building, Letterkenny, 1,400m2		3,903	
15	Ocean Innovation Centre, Killybegs, 840m2		4,628	
16	Sports Pavilion + Site Factor 1.5, Knocknamona		11,960	
17	Block H (Nursing), Letterkenny		10,455	
18	Veterinary Medicine Facility, Letterkenny		11,184	
19	**TOTAL Increased energy use - Planned Additional Buildings to 2030 (Subject to Funding)**		70,178	
20	**Balance 2030 (Subject to Funding and Supply-side Reductions) - with additional buildings**			**585,976**
21	**2030 Total GHG target (51% reduction on baseline)**			**470,447**
22	**Reductions Still to be Established (Subject to Funding and Supply Side Reductions)**			**115,528**

Table 12.0 ATU Donegal Total (Electric and Non-Electric) Measures Planned to 2030

The waterfall diagram at Fig. 6.0 illustrates the baseline 1,418,611 kgCO2, the reduction as a result of projects completed to date, the impact of supply side reductions, retrofit projects and energy efficiency measures and increased energy use due to additional buildings.
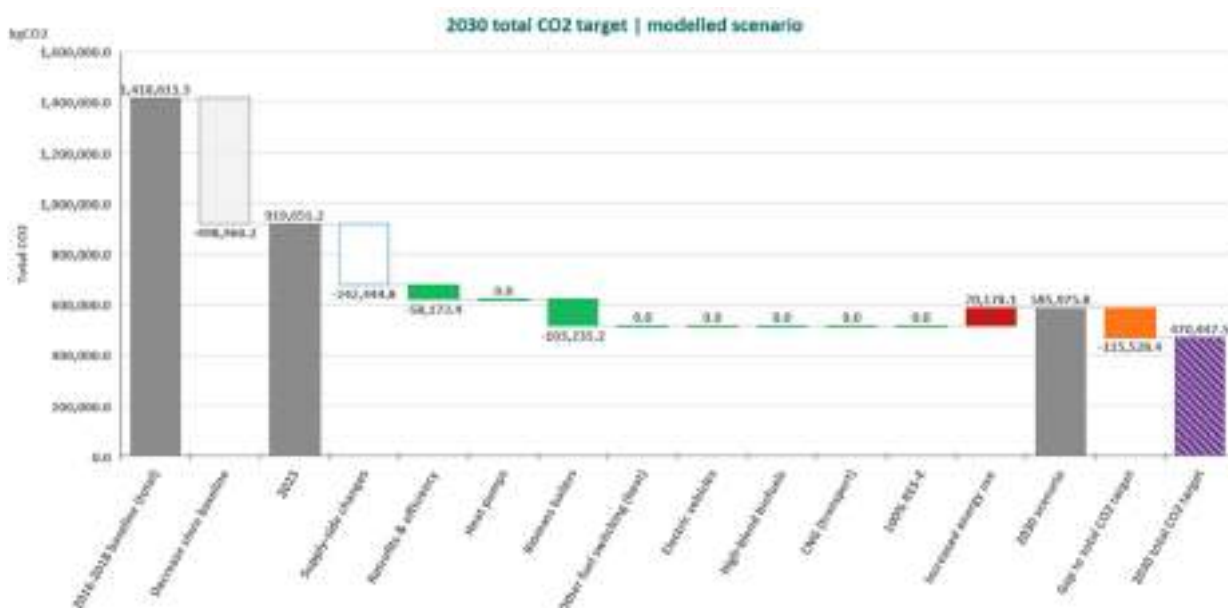

Fig. 6.0: ATU Donegal – Total Impact of total (Electric and Non-Electric) Measures Planned to 2030

It is proposed to undertake the projects at Table 13.0 below to achieve the 2030 targets outlined above. The most significant project will be the proposed medium retrofit of the Phase 2b and Nursing block on the Letterkenny campus, and the extension of the biomass district heating network to serve the block. An application made February 2023 to HEA under the EEDPP 2023-2024 funding call was unsuccessful and not shortlisted under HEA criteria.

The retrofit of the Library and Phase 2a roof/plantrooms retrofit is proposed to be undertaken concurrently with the repurposing of the existing Library building post completion of the PPP building. Funding has not yet been approved. These projects must proceed if ATU Donegal is to achieve it's 2030 emissions targets.

The greater use of fossil fuel than expected was largely due to plant problems arising during the first year of biomass usage. It is envisaged the operation of the biomass over fossil fuel is maximised to its full potential.

ATU Donegal Campus					
Decarbonisation Programme to 2030 (51% Required Reduction)					
Building	**Building Area M2**	**Non-Electricity kgCO2**	**Total kgCO2**	**Project Cost €m**	**Programme Year**
Phase 2b & Nursing Block Medium Fabric Upgrade and Biomass Heat, Letterkenny	7,432	36,087	45,578	6.90	2028
Library + Phase 2A Roof / Plantrooms Retrofit, Letterkenny	1,574	4,749	8,188	1.46	2028
Totals to 2030	9,006	40,836	53,766	8.46	
Other measures contributing towards 2050 target			8,731	1.54	2024-2029
Total			**88,111**	**10.0**	
Costs Current Day 2023					

Table 13.0: Decarbonisation Programme to 2030 Proposed Retrofit Projects

2.5   Achieving 50% energy efficiency target by 2030

2.5.1 Energy Metrics

ATU Galway-Mayo and Sligo use floor area (m2) Energy use per m2 as an Energy Performance Indicator (EnPI). Galway is 166 kwh/m2 and Sligo 159 kwh/m2 respectively (50 kwh/m2) normalised).

ATU Galway-Mayo reduced energy by 28.4% from the 2006-2008 baseline to 2023 as illustrated in glidepath example below. These savings are currently behind the glidepath targets.
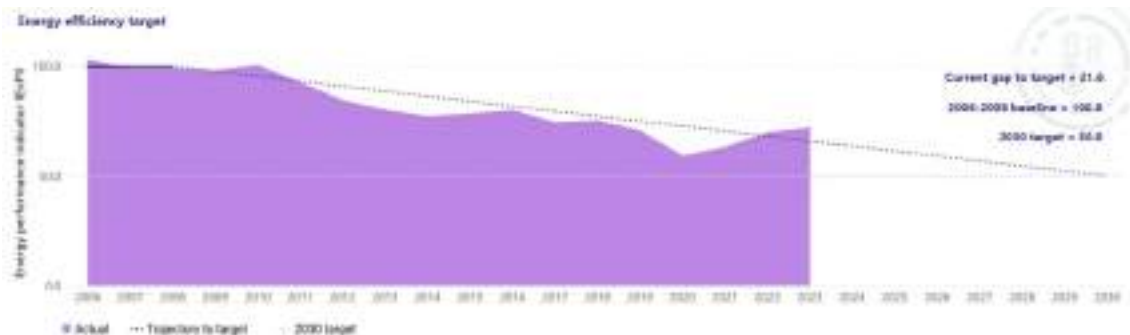

Fig. 7.0: Galway-Mayo Glidepath Targets Energy Savings to 2022 Glidepath (SEAI Annual Report 2022) &2023 unpublished SEAI data

ATU Sligo reduced energy by 52% from initiation to 2023. These savings exceed the 50% 2030 target and will contribute towards the 2050 target.

ATU Donegal Energy Performance Indicator (EnPI) is full-time equivalent (FTE) students. Energy use per FTE student reduced by 56.2% from the 2006-2008 baseline to 2022. These savings exceed the 50% 2030 target and will contribute towards the 2050 target.

All metrics will be aligned to kwh/m2 following merging of M&R reporting in 2025.

Any growth in energy use is reported through the M&R reporting templates and includes projected floor area increases per regional campus in line with the ATU capital project pipeline.

Display Energy Certificates (DECs) are updated annually and are displayed at building entrances. Energy savings as described above are reflected in incremental year-on-year improvements in DECs.

2.5.2 Significant energy Users (SEUs)
The following figure 8.0 demonstrates the significant energy users by building for all ATU building stock.
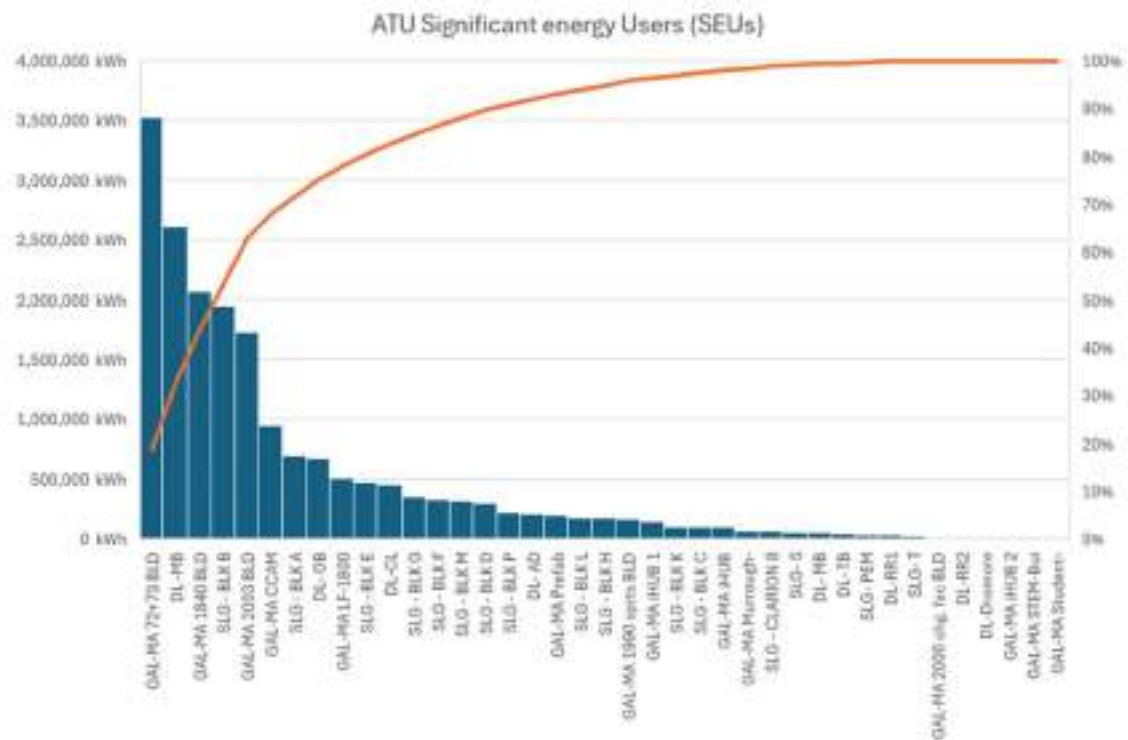
Figure 8.0: Significant energy users by ATU buildings

This clearly demonstrates the poor energy performance of a number of old buildings in the Galway regional campus and a need to progress funding of projects on these buildings.

Each building can be expressed using an Energy performance indicator (EPI) kwh/m2 (Figure 9.0). An indicative target of 162.5 kwh/m2 for ATU is shown to demonstrate ongoing performance of individual buildings *(Data from 2021 HEA space survey & 2023 building stock plans).* Again demonstrating a number of older building stock requiring attention.
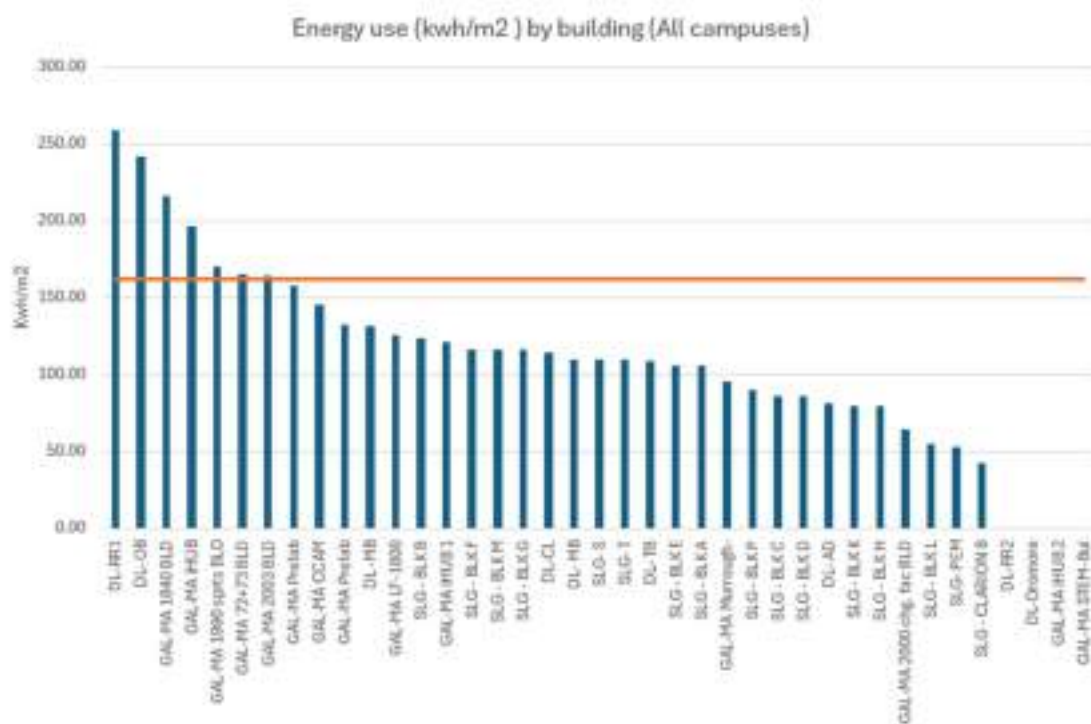

Fig. 9.0: ATU Significant energy users Energy performance indicator (kwh/m2)

3.   Our People

ATU is committed to establishing climate action leadership and governance structures, nurturing staff engagement and providing appropriate ongoing training.

3.1   Leadership and Governance for Climate Action

ATU is now in the process of appointing the senior management team (SMT) following ministerial approval.

3.1.1 Nominated Climate and Sustainability Champion

The President has nominated a Climate and Sustainability Champion for ATU as part of the university management structure.

3.1.3 Leadership and Governance – Actions

The Climate Action Mandate requires that leadership and governance structures for climate action are set up (table 14.0), and that staff are engaged with climate action and have appropriate training.

	Action	Who	When	Resources
3.1 A	Designate a Climate and Sustainability Champion to lead sustainability at director level.	President	Complete	Henry McGarvey
3.1 B	Appoint an Energy Performance Officer (EPO) at Senior Management Level (Could be same person and Sustainability Champion)	President	Complete	Henry McGarvey
3.1 C	Include specific sustainability responsibilities for all UPT members (Fundamental to cultural change).	President	Complete	Existing

	Action	Who	When	Resources
3.1 D	Devise and adopt sustainability policy	President and UPT	2025	Input from B&E, IT Services, Procurement and relevant school and functional leads. Following appointment of responsible person
3.1 E	Assess additional resource needs to deliver CAP.	President/UPT/Heads of Function	2025	All Heads of Function to identify resource needs Appointment of B&E Head of sustainability
3.2E	Appointment of B&E head of Facilities and sustainability	Climate and Sustainability Champion	Complete	
3.2F	Create Green Teams	Climate and Sustainability Champion	2025	

Table 14 Leadership and Governance Actions

3.1.4 ATU Organisational Chart (In progress)

The following organisation chart outlines the interactions between the Champion and the University planning team, key staff and contributing stakeholders.

ATU recognises that the building and estates (B&E) team are key to delivering on the CAP targets with the majority of energy streams under the management of B&E teams.
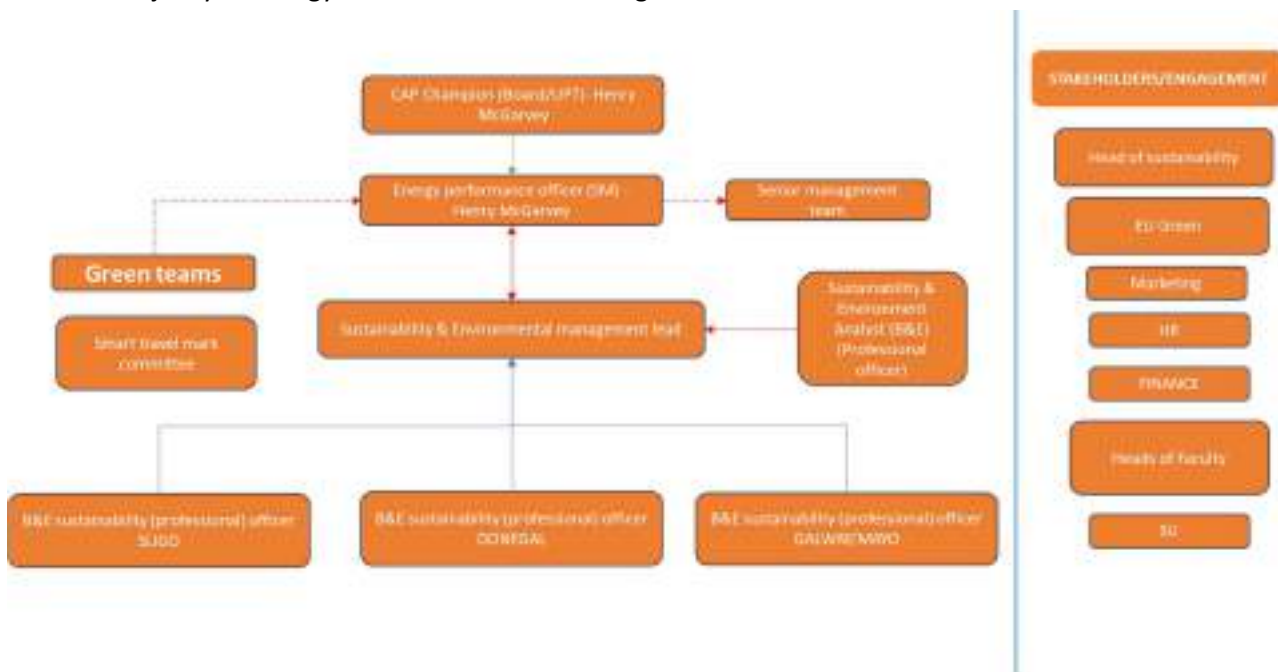

Fig 10.0: ATU CAP Organisational chart (In process)

3.1.4 Building and Estates Campus Decarbonisation and Environmental Sustainability Resource Needs

The Estates management teams are strongly committed to continuous improvement in energy management and performance. Savings have been achieved through the implementation of a range of energy saving measures including energy retrofits, lighting, heating and ventilation plant upgrades, improved controls, and energy management.

The B&E teams has also improved awareness of staff and students through the implementation of energy awareness raising programmes such as the OPW Optimising Power at Work, Energy Awareness Days, Energy teams etc.

The following additional resources (table 15.0) are identified to develop the capacity of the ATU Buildings and Estates (B&E) team to ensure delivery of the University's climate action roadmap and sustainable development goals (SDGs).

Location	Resource	When
ATU	**B&E Sustainability and Environmental Management Lead:** Responsible for ensuring that the University's buildings and estates are environmentally sustainable through the development of B&E sustainability strategy, climate action roadmaps, policies etc. and coordination of campus-based sustainability officers to ensure that the university's	Q2 2025

	operations are environmentally friendly in terms of energy conservation, waste management, and sustainable procurement. The B&E Sustainability and Environmental Management Lead and sustainability team will work closely with the operations and capital development teams to ensure sustainability goals are met. **B&E Sustainability and Energy Analyst (Professional Officer):** Responsible for ensuring the provision of high-quality analytics to underpin the work of the B&E team and the University's approach to utility and carbon management. Analysis of diverse energy data to identify trends and energy and carbon saving opportunities and support in the delivery of activities that will improve building energy performance.	
Donegal Campus	**B&E Sustainability Officer (Professional Officer)** to implement B&E sustainability initiatives/projects and interface with ATU committees/teams - EU Green, Green Campus Committee, Transport Committee, Biodiversity Committee, Green Labs and external networks/stakeholders e.g. An Taisce, Tidy Towns, TFI Smarter Travel Campus, EAUC etc.	**TBC**
Sligo Campus	**B&E Sustainability Officer (Professional Officer)** to implement B&E sustainability initiatives/projects and interface with ATU committees/teams - EU Green, Green Campus Committee, Transport Committee, Biodiversity Committee, Green Labs, and external networks/stakeholders e.g. An Taisce, Tidy Towns, TFI Smarter Travel Campus, EAUC etc.	**TBC**
Galway-Mayo Campus	**B&E Sustainability Officer (Professional Officer)** to implement B&E sustainability initiatives/projects and interface with ATU committees/teams - EU Green, Green Campus Committee, Transport Committee, Biodiversity Committee, Green Labs, and external networks/stakeholders e.g. An Taisce, Tidy Towns, TFI Smarter Travel Campus, EAUC etc.	**TBC**

Table 15.0 Additional Resources to develop capacity of the ATU Buildings and Estates (B&E)

3.1.5 Roles and Responsibilities

Delivery of this Climate Action Roadmap requires the collective efforts of all ATU staff and students whose roles and responsibilities are set out in table 16.0 below.

Roles	Responsibilities
President	• Leading a culture of sustainability throughout the organisation and providing the structure and resources necessary to deliver the climate action mandate. • Ensuring that a Climate Action Strategy is developed and included in the University Strategic Plan • Nominating a member of the Management Board as the Climate and Sustainability Champion with responsibility for implementing and reporting on the climate action mandate. • Nominating an Energy Performance Officer (EPO) at Director level to ensure a specific focus on achieving energy targets. • Establishing and resourcing 'Green Teams', reporting to senior management to become integrated drivers of sustainability with an ongoing remit. Membership to include e.g., Sustainability Manager, EPO, Estates Manager, IT Manager, Student Representative, at minimum and Procurement and HR functions and others as relevant.
Climate & Sustainability Champion	• Ensuring that the Gap-to-Target Model & Climate Action Roadmaps are completed and updated. • Approving the universities climate action strategy. • Communicating the importance of climate action. • Ensuring achievement of public sector targets applicable to the University. • Reporting to the UPT on performance against targets. • Organising staff workshops (at least annually) to engage on climate issues, including a focus on decreasing the organisation's carbon footprint. • Reporting on greenhouse gas emissions and progress towards targets in the annual report.
Energy Performance Officer (may also be the Climate and Sustainability Champion)	• Decision making with respect to facilities, corporate budgets, and procurement i.e., ensuring sufficient resources are in place to achieve climate action targets. • Approval of annual project plans. • Allocation of project funding. • Reporting to the Climate & Sustainability Champion on performance against targets.
VP for Corporate Services with responsibility for Finance	• Ensuring financial resourcing for delivery of the University's climate action mandate including decarbonisation of buildings.

Roles	Responsibilities
VP for Governance and HR	• In conjunction with the HR Manager and Resource Review Committee, ensuring the necessary human resources are in place to deliver the climate action mandate.
VP with responsibility for Buildings & Estates and IT Services	• Ensuring delivery modes for new build projects allow the University to maximise its control on the design process for sustainability. • Ensuring the Buildings & Estates and IT Management teams are adequately resourced to deliver the climate action mandate.
EU Green Team Lead	• The alliance comprises of nine European universities whose aim is to be a gateway to sustainability. • Communicate the benefits that EU Green can bring to students and staff. • Support integration of sustainability in ATU strategy, and in educational and research programmes. • Encourage mobilities of our ATU staff to EU GREEN universities to job shadow and share practices. • Connect researchers and to foster research mobilities and joint research programmes. • Link people/teams/partners across the nine campuses, including students, staff but also enterprise, agency, and social networks. • Working with fellow EU Green co-ordinators to actively encourage and support staff and students to connect on joint educational activities, ranging in scale from shared assignments to joint master's programmes. • Co-ordinate the development of innovation and engagement networks bringing positive benefits to the ATU partnership. • The EU Green alliance gives ATU a platform for all campuses to work together towards the common goal of sustainability. • Work with external enterprise, social and environmental partners to develop solutions that allow communities and environments to thrive.
Head of Centre for Sustainability (Galway-Mayo)	• Demonstrate leadership in education for sustainability by embedding sustainability, the SDGs, and climate action more holistically across the curriculum to ensure sustainability and climate literacy are recognized as key graduate competences across all disciplines. • Promote and foster a sustainable and circular 'living labs' approach across each campus to demonstrate best practice in operations, development, and management. • Support and nurture a dynamic and inclusive community of practice to harness the synergies and learning opportunities that exist between teaching and learning activities, campus management and operation, community engagement and research to unlock the latent potential of ATU to bring about whole institutional change with sustainability as an emergent core principle. • Encourage and support transdisciplinary research and innovation in sustainability, the SDGs, climate action and the circular economy, which will inform curriculum design and development, campus operation and management, community engagement (both internal and external) and cultural transformations.

Roles	Responsibilities
	• Support and encourage the transition towards a 'Climate Action University', which will demonstrate a genuine and transparent commitment to sustainability, the SDGs, climate action and the circular economy through our own actions and values.
Heads of Function	• Demonstrate climate action leadership within functional area through planning and decision-making which places climate action at its core. • Driving behavioural change throughout the functional area to reduce carbon through positive action. • Incorporate appropriate climate action and sustainability training (technical and behavioural) into learning and development strategies for staff. • Monitor departmental travel related carbon emissions. • Adaptation of activities to reduce carbon emissions. • Planning activities to align with core operational hours. • Ensuring tender specifications incorporate Green Public Procurement guidance by EPA/OGP, and others. • Review paper-based processes and evaluate the possibilities for digitisation so that it becomes the default approach. • Incorporate sustainability modules in academic programmes (academic heads only).

Roles	Responsibilities
Buildings & Estates Team including Capital and Operations Teams, B&E Sustainability and Environmental Management Lead, B&E Sustainability and Energy Analyst and B&E Sustainability Officers	• Preparing Gap-to-Target model in conjunction with SEAI Partnership Support Manager (PSM). • Undertaking energy audits every four years and preparing SI 426 2014 Energy Reports and associated Register of Opportunities for energy saving and decarbonisation projects. • Developing and proposing building decarbonisation projects. • Preparing funding applications through EEDPP, BEC or other funding programmes and opportunities. • Project coordination and management of building decarbonisation retrofit projects. • Project coordination and management of new build and refurbishment projects to ensure at minimum compliance with Building Regulations Part L (NZEB). • Specification of energy using products from the Triple E register. • Goods and services specification to incorporate EPA/OGP Green Procurement and other relevant guidance. • Replacement of plant and equipment with more energy efficient alternatives. • Energy management, monitoring and control, including automated controls, to optimise energy performance. • Reporting energy consumption, renewable energy, performance metrics and energy saving projects via SEAI Public Sector Monitoring and Reporting (PSMR) portal for Annual Report on Public Sector Energy Efficiency Performance. • Installation of Electric Vehicle charging points. • Creation of bicycle friendly campuses. • Displaying up to date annual DEC certificates. • Purchasing only zero emissions vehicles for Estates functions. • In conjunction with Green Teams, engaging with and raising awareness of students and staff of their role in energy conservation. • Chairing Energy Teams with cross university representation, including contracted service providers, to target energy reduction measures and ensure continuous improvement. • B&E input to Climate Action Roadmap and Climate Action Strategy development and updates. • Ensuring all staff with a role in energy management are trained as appropriate through Energy Map, Carbon Basics, Energy Efficient Design etc. • Networking with communities of practice to maintain up to date knowledge and share information/experience e.g., Energy Link, Energy Show, SEAI annual conference, Environmental Association of Universities and Colleges (EAUC), Buildings and Estates Mangers network etc. • Reporting on energy performance and sustainability matters to EPO and Sustainability Champion. • Managing water to minimise waste and maximise use of grey water. • Managing the estate to promote biodiversity. • Support initiatives to promote waste minimisation, recycling, and segregation at source. • Undertaking Heads of Function roles above.

Roles	Responsibilities
IT Management Team	• Participation on Energy Team and Green Teams • Ensuring IT networks are designed and operated to optimise energy efficiency e.g., operation of soft shut down of IT systems to minimise parasitical out of hours usage, implementation of 'cloud first' approach to data storage • Ensuring equipment default settings pre-set to minimise energy consumption. • Specification of new and replacement IT equipment from the Triple E register where relevant and incorporation of EPA/OGP Green Procurement guidance • Engaging in University Green Teams and Energy Teams • Undertaking Heads of Function roles above.
Student Services Officer	• Coordination and promotion of Healthy Campus initiatives such as Marchathon, Cycle to Work scheme etc. • Assisting with student engagement. • Participation on Green Teams. • Undertaking Heads of Function roles above.
Procurement Manager	• Providing EPA/OGP Green Public Procurement guidance and training to internal stakeholders engaging with the procurement department. • Incorporating Green Public Procurement award criteria in tendering. • Reporting on Green Public Procurement initiatives to EPA and others. • Undertaking Heads of Function roles above.
Finance Manager	• Complete SEAI Business Travel templates for inclusion in annual Public Sector reports. • Review paper-based processes and promote digitisation as the default approach. • Undertaking Heads of Function roles above.
International Officer	• Monitoring international travel related carbon emissions. • Adaptation of activities to reduce carbon emissions. • Undertaking Heads of Function roles above.
HR Manager	• Building Climate Action responsibilities into job descriptions. • Reviewing paper-based processes and promote digitisation as the default approach. • Supporting staff training in climate action responsibilities. • In conjunction with the VP for Governance and HR, ensuring the necessary human resources are in place to deliver the climate action mandate. • Undertaking Heads of Function roles above.

Roles	Responsibilities
Marketing Manager	• Promoting the University through its Climate Action credentials. • Reducing disposables, plastics etc. used in promotional events. • Undertaking Heads of Function roles above.
Staff	• Switching off lighting and equipment when not in use. • Co-operation with waste minimisation and recycling/segregation initiatives. • Reporting malfunctions and other issues e.g., continuously running taps. • Participation on Energy Teams and Green Teams. • Taking public transport or car sharing where possible. • Investing in reusable water bottles/cups and avoiding the use of drinking straws.
Students	• Switching off lighting and equipment when not in use. • Co-operation with waste minimisation and segregation and recycling initiatives. • Reporting malfunctions and other issues e.g., continuously running taps. • Participation on Energy Teams and Green Teams. • Use laptops to take notes. • Taking public transport or car sharing where possible. • Investing in reusable water bottles/cups and avoiding the use of drinking straws. • Getting involved in Green Teams, Healthy Campus, and other initiatives.
Students Union President/Officers	• Engaging in Green Teams • Promoting Green Campus, Healthy Campus, and other sustainability related societies • Ensuring tender specifications incorporate Green Public Procurement guidance by EPA/OGP, and other relevant guidance. • Leading/mobilising student body to engage in energy reduction programmes, and other climate action initiatives and engagements. • Participation in climate action and sustainability training.

Table 16.0:   ATU Climate Action Roles and Responsibilities

3.1.6 Strategic planning for sustainability

The ATU Strategic Plan (2024-2028) has sustainability and climate action as one of five core strategic 'guiding lights'. The next step will be to produce a dedicated ATU Sustainability and Climate Action Strategy. Core to this will be undertaking a benchmarking and mapping process to seek AASHE-STAR accreditation (https://stars.aashe.org/).

This will utilize two current projects, the National Technological University Transformation for Recovery and Resilience (NTUTORR) programme, and the European Universities Alliance for Sustainability: Responsible Growth, Inclusive Education, and Environment project to frame the engagement process.

See further detail on development of the ATU Strategic Plan in Appendix A – Strategy Development

3.2   Engaging and Training Staff

Engaging our people – Actions table 17

	Action	Who	When	Status
3.2 A	Compile list of roles and potential responsibilities (This is in preparation for staff engagement)	President, Climate champion-Sustainability lead, Support Team	Q3/2023	Complete
3.2 B	Staff engagement plan with at least annual staff engagement workshops, focussed specifically and initially on energy related emissions, and over time on wider climate issues and reducing organisational carbon footprint.	Climate champion-Sustainability lead, Support Team	Q2/2024	Ongoing, 2024 training complete
3.3 C	Engagement specifics and delivery awareness, engagement, improving climate literacy and driving positive climate action – see under	Climate champion and Support Team using external resources as needs be. Heads of function and Senior Manager inputs	Q2/2024	Started
3.2 D	Roll out sustainability campaigns/ initiatives /events Informal campaigns	CC, Support Team, Heads of function, Senior Manager inputs	Annual	Engage with Green teams

	Action	Who	When	Status
3.2 E	Climate Action Leadership Training Plan – mandatory - see Appendix B Letter with guidance from DECC Minister to Government Departments regarding public sector requirements under CAP 23.	President, Climate champion- Sustainability lead,	Q3/2024	Complete

Table 17.0 Engaging our people – Actions

3.2.2 Engaging Our People, Citizens, and Stakeholders

As part of Ireland's Climate Action Plan 2023, it has been identified that human activity has been a significant cause of global warming.

Human activity has contributed to carbon dioxide and other greenhouse gas emissions over multiple decades and without a reduction in these gases global warming will be greater than 2° above preindustrial levels which could result in mass movement of people across the globe, could lead to food shortages and life-threatening environments, as well as rising sea levels, extreme weather events, pressure on food and water resources, general geo instability, displacement of populations and therefore it is critical that humans become engaged to carry out actions which will result in a reduction in carbon dioxide and greenhouse gas emissions over the coming years consistent with Ireland's plan to achieve 51% reduction in emissions over the nine-year period between 2021 and 2030, and following to reduce the remaining emissions to achieve the net zero by 2050.

3.2.3 Engaging Stakeholders

The most productive way to achieve these targets is through engagement with constituents i.e. citizens and communities. In ATU's case engagement with staff colleagues and students who use our facilities i.e., ATU 'stakeholders/citizens'.

Through constructive engagement with stakeholders across ATU behavioural change for the better will be achieved which is critical to achieving the objectives required in reducing the human impact on climate.

3.2.4 Objective of Engagement

ATU will work collectively and cohesively to contribute to a reduction in greenhouse gas emissions, and to educate current and future generations of ATU citizens/stakeholders on the criticality of behavioural change to reduce carbon dioxide and greenhouse gas emissions.

3.2.5 Following Ireland's Climate Action Plan in Our Engagement

Ireland's climate action plan has identified a series of steps to achieve behavioural change (Fig: 11.0), as we know, behavioural change won't happen on its own or overnight and involves cultural shifts and a change of ingrained behaviour which takes place over a period.
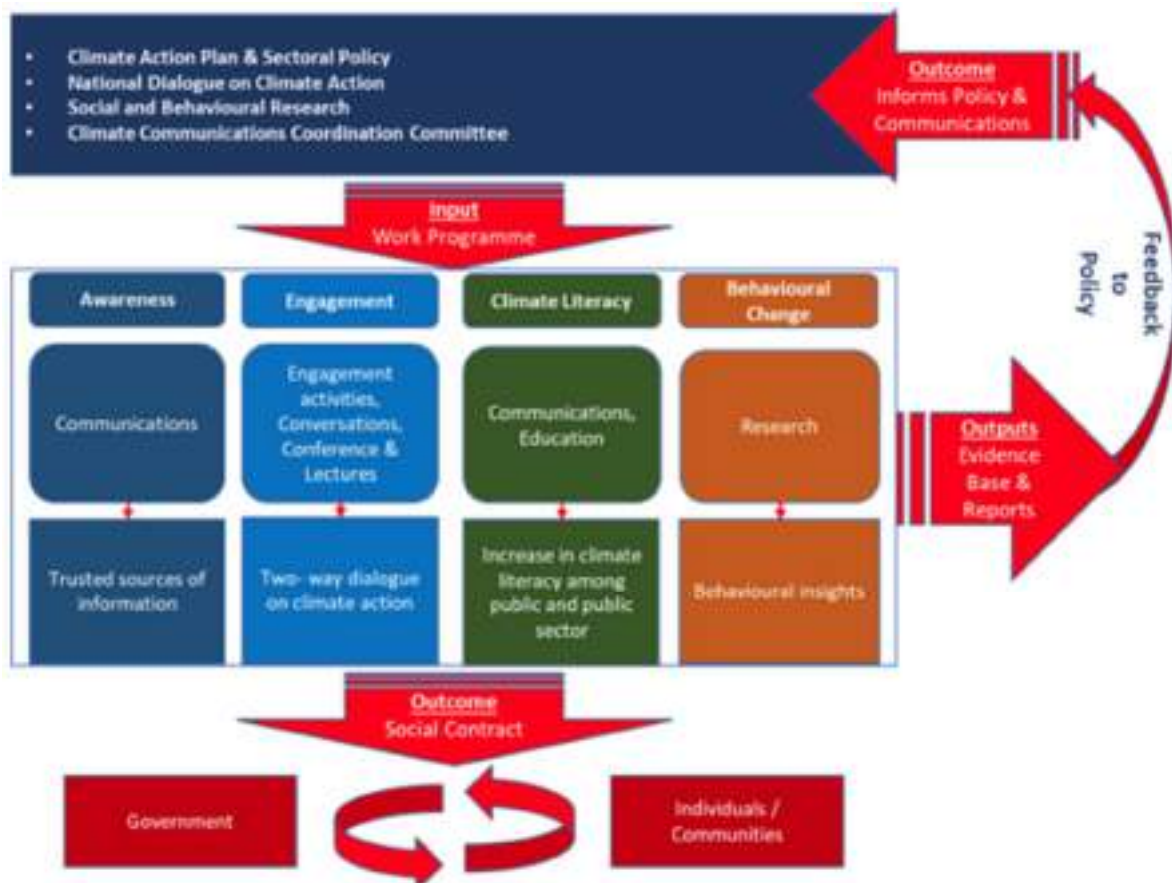
Fig 11.0: Programme of Engagement and Public Participation in Climate Action Plan and Sectoral Policy (Climate Action Plan 2023)

ATU understands that the first step in achieving this is to raise awareness, the second step is to engage ATU citizens in the objective of reducing GHG using CO_2 and the third step is to educate and improve knowledge around climate challenges leading to the fourth step of positive behavioural change which contributes to the desired outcome of reduce greenhouse gas emissions.

In pursuing its objectives ATU will follow the template established by government and policymakers to engage with key stakeholders/ citizens through a series of steps.

Step one being the rollout of an information campaign to raise awareness.

Step two involves engaging stakeholders in taking steps themselves to reduce greenhouse gas emissions: Objective is to reach the broadest range of people practicable across ATU with the support of service providers, organising and hosting easy to attend events, information campaigns, awareness campaigns, promoting networking capacity building and empowering stakeholders/ citizens to make the necessary positive changes in their day-to-day behaviours to contribute to a reduction in greenhouse gas emissions and in doing so addressing climate action challenges.

Following the rollout of its initial awareness campaign the engagement campaign ATU will then build upon this by delivering a climate literacy campaign to all stakeholders.

Climate literacy being defined in Ireland's climate action plan as one's understanding of one's influence on climate and climate influence on individuals, communities, society, and the globe.

Through engaging our people our aim is to make all ATU stakeholders as climate literate as practicable so that each understands

- the basic principles of the Earth's climate system,
- knows how to self-educate and access reliable information in relation to the Earth's climate system,
- can communicate and navigate climate issues in a meaningful and productive manner,
- Becoming climate literate stakeholders who are enabled to make informed and responsible choices regarding their own actions and behaviours how those actions can affect climate.
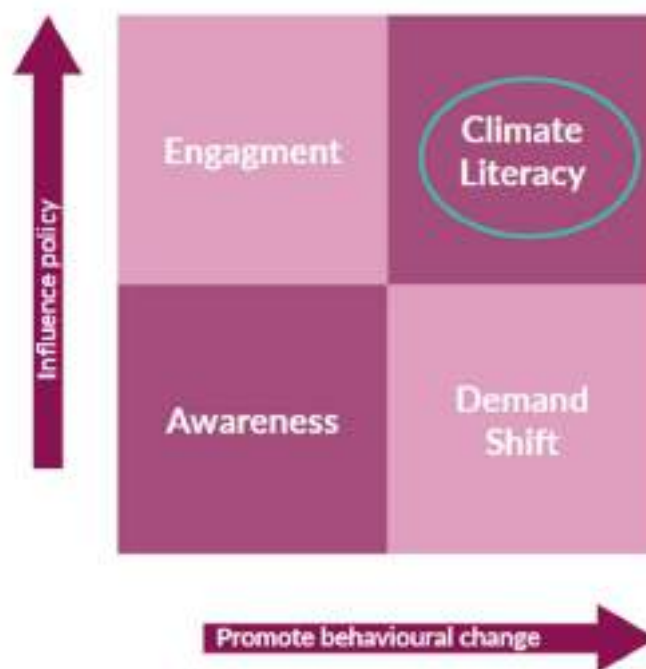
Fig 12.0 Climate Literacy Model (Climate Action Plan 2023)

3.2.3 Specific Engagement and Delivery Actions

In terms of production of greenhouse gas, the public sector plays a small part in terms of overall production but has a significant role to play in setting best example, state-of-the-art practice and in establishing elevated levels of climate awareness, climate engagement and climate literacy to drive behavioural change across Irish society.

3.2.4 Objective – Engage all Stakeholders Annually

As part of engagement ATU sets out a plan annual staff engagement   via educational workshops around raising awareness on climate action, engaging ATU stakeholders on climate action and improving climate literacy across all with the objective of changing human behaviour in ATU and beyond.

To improve climate literacy ATU will provide informal easily accessible, supported educational modules available to all stakeholders which will be designed to assist in embedding climate action into one's everyday life and one's decision making daily.

ATU will use the services of external service providers to assist in designing and delivering this to raise the level of climate literacy across all stakeholders.

ATU understands that to enable attendance at such events they must be delivered in a manner that is flexible, that understands and works around the busy schedules of many of ATU stakeholders to facilitate engagement in these information and education sessions, thus the objective is to deliver these in a manner whereby workload output is not negatively affected.

3.2.5 Modules Suitable for All Stakeholders

As part of our climate action roadmap ATU will provide accessible modules relating to energy awareness to be rolled out, made available to and accessible by all stakeholders.
A second module around a basic understanding of climate action will also be delivered and rolled out or made available to all stakeholders.

3.2.6 Engagement of Specific Stakeholders

ATU also understands that there are several key individuals and teams across ATU who can have a larger impact on climate than others and therefore training programmes should be tailored specifically for the Climate and Sustainability Champion who sits at UPT level, and the Buildings and Estates, IT Services, Procurement and other key teams.

As part of its engagement ATU commits to delivering these awareness and training campaigns on a flexible basis both during the working day before the working day and after the working day to enable flexible access by ATU stakeholders to online content project-based and self-based learning to raise awareness and drive behavioural change.

3.2.7 3RD Level Education Delivery

In engaging our stakeholders/citizens ATU will place a module or part of a module on every 3RD level course that relates directly to climate action and how human behaviour can be changed to constructively address climate action challenges.

4.   Our way of working

ATU will provide the following in the annual report:

- GHG Emissions
- Implementation of the Mandate
- Sustainability activities
- Compliance to Circular 1/2020

ATU uses the SEAI Public Sector M&R System to report annually on implementation of the individual mandate requirements using a "comply and explain" approach.

4.1   Energy & Environmental Management Systems and Accreditation

The following table 18.0 details actions relating to management systems and accreditation.

ATUs total energy spend is currently below the €2m spend threshold but is considered a large public body for building stock planning purposes. ATU currently completes annual energy audits to S.I 426 of 2014.

	Action	Who	When	Resources
4.1 A	Carry out SEAI Advanced Diagnostic to assess status of energy management	SEAI	Annual SEAI audit to S.I 426 of 2014)	SEAI Rep for 1 day/regional campus
4.1 B	Consider and implement recommendations for assessment	Estates, Senior Manager	Q4/2023 - Q2/2024	TBD
4.1 C	Requirement for ISO 50001 has been assessed and the collective energy spend for ATU is above the €2m spend threshold. ATU will commence assessment of ISO 50001 implementation	B&E	Q1 2026	Head of Facilities and Sustainability
4.1 D	Additional actions to address 2024 mandate items above	UPT/B&E	2025	N/A

Table 18 Energy & environmental management systems and accreditation – Actions

ATU Mayo, Connemara and Sligo campuses have all achieved Green Flags in Waste, Biodiversity, Transport, and Energy.

4.2   Green Public Procurement

The Universities procurement procedures are in line with GPP guidance of which, details are held on the ATU procurement Portal including:
- GPP – Guidance for the Irish public sector
- GPP Strategy & Action Plan 2024-2027
- OGP Opportunities and approaches for Sustainable Public procurement 2023

Green public procurement is now integrated within procurement procedures. Tender appraisal has a minimum sustainability criterion on which to evaluate tender scores.
Green public procurement actions are outlined in table 19.0 below.

	Action	Who	When	Resources
4.2 A	Follow all guidelines/Training regarding Green Public Procurement	Procurement, All budget holders	Ongoing	completed 2025
4.2 B	Adoption of Circular 20/2019 including; other relevant specific actions such as recording data on GPP implementation	UPT supported by Procurement and B&E	Ongoing	N/A
4.2 C	Perform Life Cycle Costing (LCC) and Life Cycle Analysis (LCA)	Procurement, All budget holders	As required	Existing
4.3D	No fossil fuel heating after 2023 in new buildings/large retrofits	B&E	Immediate	N/A

Table 19.0: Green Public Procurement - Actions

4.3 Low carbon construction

Table 20 Low carbon construction methods actions are detailed below.

	Action	Who	When	Resources
4.3 A	Incorporate Best Practice Guidelines in future design briefs where appropriate	B&E	Ongoing	Additional design cost. Internal training.
4.3 B	Include Energy Efficient Design (EED) (following IS399 principles)	B&E	Ongoing	
4.3 C	Engage EED Facilitators in all capital projects	B&E	Ongoing	Budget for EED in projects, Budget for Design Team EED Engagement
4.3D	Prioritise refurbishment of existing buildings over new to minimise embodied carbon	B&E	Space Utilisation/ Master planning	Supported by President and UPT/Capital planning

Table 20.0: Low carbon construction methods actions

4.4 Resource use

Table 21 resource use actions are detailed below.

	Resource	Action	Who	When	Resources
4.4 A	Paper	Use recycled paper	UPT and all departments	Complete	All
4.4 B	Paper	Devise plans to measure and monitor paper consumption Set a baseline	UPT and all departments	2025	Green teams
4.4 C	Paper	Implement digitisation of existing records	UPT and all departments	2026	Green teams
4.4 D	Paper	Implement digitisation of ongoing processes	UPT and all departments	2025	Green teams
4.4 E	Water	Track water use and set out plans for reducing water use, Set a baseline. Provide drinking water refill points	B&E and Academic Faculties	2025	B&E
4.4 F	Water	Implement plans for reduction of water use	B&E and Academic Faculties	2025	Green teams Uisce Éireann Water Stewardship Programme
4.4 G	Waste	Track and segregate into min. 3 waste streams (general waste, recyclables, organic waste). Include for food waste segregation. Support producer responsibility initiatives in waste collection and recycling	B&E and Academic Faculties.	2025	Green teams Re-Turn
4.4 H	Waste	Seek opportunities to prevent food waste including events and conferences. Where procuring food and catering services reference the GPP criteria on Food and Catering Services. Use EPA Protocol/pathway	B&E and Academic Faculties	Ongoing/In Procurement process	Incumbent catering teams
4.4I	Single use	Eliminate single use disposable cups, plates and cutlery. Progress removal of single use from events	B&E and Academic Faculties	Ongoing	Green Team, B&E
4.4 I	Waste	Procure and roll out waste recycling stations to replace bins and reduce waste generated. E.g. Re-turn	B&E and Academic Faculties	Q2 2024	Operations budget, WEEE, Waste contracts, Re-turn, Green teams

Table 21 Resource use – Actions

Our Buildings and Vehicles

5.1 ATU Buildings and Vehicles Action Plan

The following table 22.0 identifies the actions to deliver on our building and vehicles inline with the 2024 CAP.

	Action	Who	When	Resources
5.1 A	Promoting Active Travel with progress to Smarter Travel Mark	B&E	Ongoing Smarter travel survey ongoing	Smarter travel mark co-ordinator/ Green teams/B&E
5.1 B	Reduce parking congruent with Local area plans were applicable	B&E	Ongoing	Mobility management plans Cycle facilities Updated Website transport information
5.1 C	Post Display Energy Certificates (DECs)	B&E	DEC Updates ongoing annually	Consultant to provide certificates
5. 1 D	Mobility management plans (All) Support local area initiatives (greenways) and local link services (bus)	B&E	Ongoing/Part of all current & future development to encourage sustainable travel	Consultants to complete report Funding to support sustainability
5.1 E	Reporting of business travel in required format	B&E supported by Finance	March annually	Finance to provide data to B&E to complete SEAI PSMR annual reports
5.1 F	Maintain Building Stock Plan. Develop KPIs to determine upgrades to NZEB	B&E	annually	
5.1 G	Progress towards retrofitting of at least one building – All campuses	B&E	2000 sqm of the Galway Wellpark campus internal retrofit Dec 2024 complete Sligo - Blocks G&P full retrofit complete	ATU B&E
5.1H	Procure (purchase or lease) only zero-emissions vehicles from the end of 2022	B&E, Faculties	2022 Onwards	

Table 22 Our Buildings and Vehicles - Actions

5. Additional information

6.1 Water conservation, sustainable travel and Biodiversity

ATU campuses have demonstrated efforts in sustainable travel, water conservation and Biodiversity in various ways across each campus. The following have been implemented at various stages of each campus development:

- Cycling facilities – shelters, bike racks
- Electric Vehicle charging points
- Water conservation – Leak identification, Water stewardship, rainwater harvesting
- Public bus stops
- Wilding of parts of campus, incorporated into grounds maintenance
- Plant diversification, Pollination and Native tree planting
- Support to conservation projects
- Invasive Alien Species (IAS) removal
- Re-turn points for plastics
- Waste battery collection
- Removal of disposable delph, cutlery and cups (cup-to-go)
- Public greenway consultations with County councils

Other activities in 2024 have included the introduction of plastic bottle & vape return points. In the area of Biodiversity there has been a Green flag award in Sligo and native hedge row and tree planting across all campuses. Under smarter travel ATU has just completed a campus wide travel survey. A collaborative initiative, eMobility eHub offering electric cars, e-bikes and e-cargo bikes for the public was launched in Galway city. A current pilot project involves the Sustainability Tracking, Assessment & Rating System (STARS) which will be used to measure and report sustainability performance.

Establishment of the Green teams will seek to create a knowledge sharing and best practice approach to enhance the campuses and deliver a co-ordinated approach to resource management and sustainability.

The following actions in table 23.0 have been identified as additional support to the delivery of the ATU Climate action roadmap

	Action	Who	When	Resources
6.1 A	Healthy Campus initiative	Student Services	TBC	Already staffed by Student Services
6.1 B	Green Campus Teams	Green Team on each campus	2025	Voluntary membership – need formal allocation for coordination
6.1 C	Transport Committee to support mobility management plan integration	University wide committee	Ongoing	Voluntary membership – need formal allocation for coordination
6.1D	EU Green Team	WG1-9	Ongoing	Lead appointed. Recruit admin currently
6.1E	Centre for Sustainability	Head of Centre for Sustainability (Galway Mayo)	Ongoing	Role currently secconded to HEA
6.1F	Biodiversity Committee	Galway Mayo only	Ongoing	Voluntary membership
6.1G	Irish Green Labs - participation in programme	Science & Research	Ongoing	
6.1H	Environmental Association of Universities and Colleges (EAUC) - networking	Galway-Mayo and Donegal	Ongoing	B&E Manager Donegal
6.1I	Review how Green Teams could better cooperate	VP for Sustainability	Q3	Develop terms of reference, vision, goals

Table 23.0: Additional actions

Appendix A – Strategy Development

[Open Minds, Bright Futures - ATU Strategic Plan 2024 to 2028](#)

ATU will utilize two existing projects, the National Technological University Transformation for Recovery and Resilience (N-TUTORR) programme, and the European Universities Alliance for Sustainability: Responsible Growth, Inclusive Education, and Environment project to frame the engagement process. The NTUTORR programme is designed to transform learning, teaching, and assessment across the TU sector by focusing on transforming the student experience and developing the capabilities of all staff to address a sustainable pedagogical and learning environment with particular and critical focus on digital transformation, the Sustainable Development Goals (SDGs) and equality, diversity, and inclusion (EDI). The European Universities Alliance for Sustainability: Responsible Growth, Inclusive Education, and Environment project (EU Green Alliance) is a collaboration between 9 universities (University of Gavle, Worclaw University of Environmental and Life Sciences, University of Oradea, Otto Von Guericke University Magdeburg, University of Angers, University of Parma, University of Extremadura, University of Evora, and ATU). The project aims to scale up and promote sustainability encompassing the economic, societal, cultural and environmental dimensions of the term and their impact on one another across all four of our core missions: education for sustainability and global citizenship, sustainability research clusters (emerging paradigms for health and well-being; agriculture, food, and environment sustainability; engineering and technology for sustainable development; sustainable tourism for cultural and natural heritage; education sciences for sustainable development; and challenges in ecosystem biodiversity and function), innovation and entrepreneurship aligned to listed research clusters, and service to society. It brings together nine mid-sized universities from across Europe, each focused on a particular set of sustainability-related practices. Some key deliverables from both projects will support the Climate Action Roadmap training requirement in the following ways:

- A curriculum SDG mapping exercise (commencing January 2024) (EU Green).
- A staff and student questionnaire climate action knowledge, attitudes, behaviour and needs analysis survey (commencing January 2024) (EU Green).
- A coordinated staff development, training, and support programme (commencing January 2024) (EU Green and N-TUTORR).
- The development of a Graduate Attributes Framework for Sustainability and the SDGs.
- The Establishment of an Academy of Education for Sustainability, Leadership and Employability (N-TUTORR).
- Establishment of an N-TUTORR Education for Sustainability Community of Practice across the Technological University Sector.
- The appointment of N-TUTORR 'Sustainable Higher Education Academic Staff Champions', commencing Sept. 2023.
- The allocation of funding to support a 'Students-as-Partners in Innovation Fellowship Programme', commencing Sept. 2023.
- The Development of an EU Green Alliance Educational Strategy.
- The establishment of an EU Green Alliance Pedagogical Development Programme.
- The creation of an EU Green Alliance Minor Award in Sustainability.

Prior to the formation of the ATU, the ATU Galway-Mayo Centre for Sustainability explored opportunities related to the idea of ATU as a 'Climate Action University' through a series of workshops with staff and students (Figure 2 and 3).

Figure 2 ATU as a Climate Action University Workshop 1

Figure 3: ATU as a Climate Action University Workshop 2

The ATU Galway-Mayo Centre for Sustainability has also been leading a Sustainability Literacy to Leadership project over the past 4 years that aims to provide clear learning pathways for both staff and students. The Centre has led the design and development of a Digital Badge on 'Introducing Education

for Sustainability' in collaboration with UCC, DCU, and TU Dublin. This 6-week online introductory course is in direct response to the 2nd National Strategy on Education for Sustainable Development and is funded by the National Forum for the Enhancement of Teaching and Learning in Higher Education. It also has a 2-week add-on to enable participants to become facilitators in subsequent rollouts of the course in their own universities. For the offering in February 2023, we had 155 applicants for 30 places. https://opencourses.ie/opencourse/education-for-sustainability/

The ATU Galway-Mayo Centre for Sustainability in collaboration with the Department of Creative Education in the ATU School of Design and Creative Arts facilitate a Level 9 10-credit online Certificate on Education for Sustainability. This focuses on the 5C's framework of curriculum, campus, community, collaborative research, and culture. In 2023, this module was offered twice (February and September) across the TU sector (through the N-TUTORR project).

As part of the programme review process in 2021/2022 across the ATU Galway-Mayo campus, the ATU Galway-Mayo Centre for Sustainability in collaboration with the ATU Galway-Mayo Teaching and Learning Office, and the ATU Galway-Mayo Careers Office facilitated a series of staff workshops to inform a review of programmes through the lens of assessment, employability, and sustainability using the framework outlined in Figure 4.
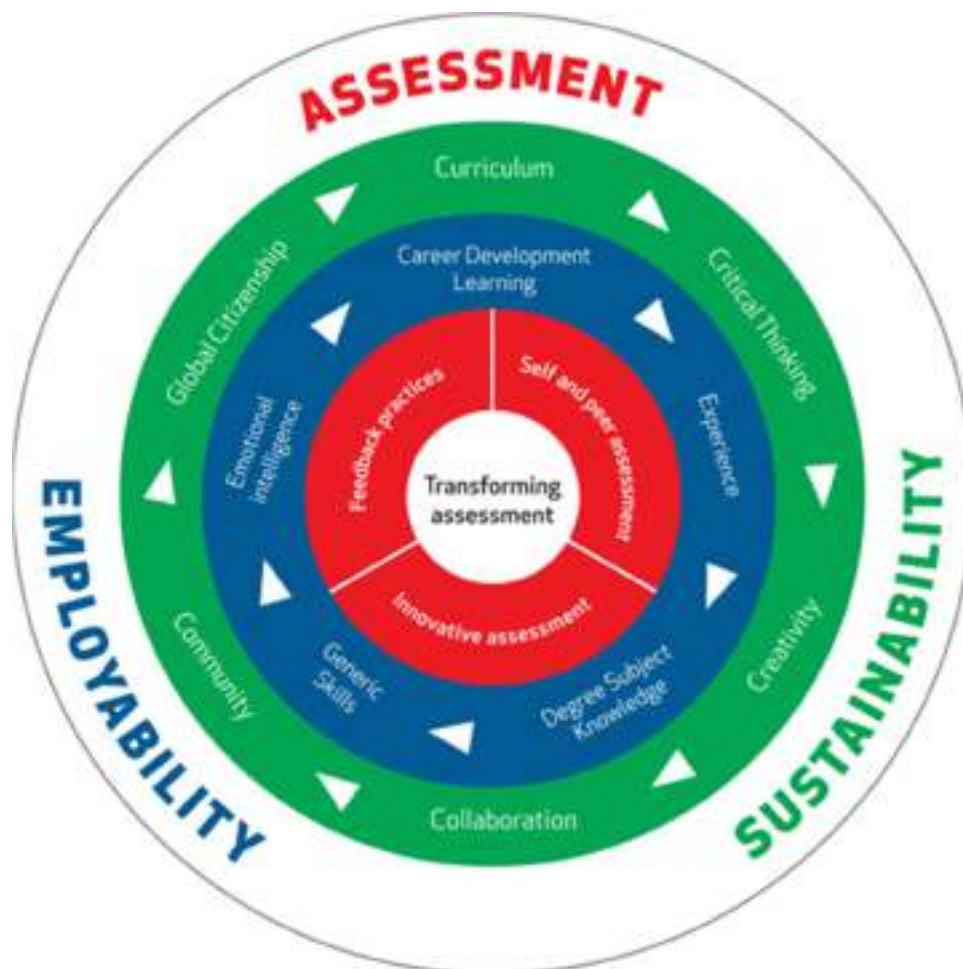
Figure 4: ATU Galway-Mayo Programme Review Framework 2021/2022

ATU is also a member of the Environmental Association for University and Colleges (EAUC), the International Sustainable Campus Network (ISCN), and the Association for the Advancement of Sustainability in Higher Education (AASHE). As part of the 'Sustainability Literacy to Leadership' project, led by the ATU Galway-Mayo Centre for Sustainability, staff will be offered the opportunity to participate

in the EAUC Emerging Leaders Programme, commencing in October 2023 (https://www.eauc.org.uk/emerging_leaders_programme). This will align with the proposed N-TUTORR and EU Green Alliance initiatives previously listed.

ATU Galway-Mayo won the 2021 ISCN Honorary Member Award for the 'Facilitating Sustainability Literacy to Leadership Pathways for Staff and Students' project (https://international-sustainable-campus-network.org/awards/2021-award-winners/)

ATU has signed up to the SDG Accord (https://www.sdgaccord.org/), which is a commitment to report on progress and share experiences and learning across higher education, both nationally and internationally. ATU also signed up to the Race to Zero campaign, which is a global call to rally leadership and action across the education sector globally (https://www.educationracetozero.org/home). ATU has recently applied to become a member of the Sustainable Development Solutions Network (https://www.unsdsn.org/), who recently launched the Irish chapter led by UCC and QUB (https://www.sdsnireland.org/).

ATU is collaborating on developing a Higher Education Senior Management Training Framework that would be adaptable to specific university contexts. ATU is also exploring existing offerings such as the EAUC Carbon Literacy training, which can be adapted specifically to an ATU context (see UCC example below), the EAUC Leadership Lab (see below), and the Climate Action Certificate developed by the Association of Energy Engineers, and others offered by the SEAI i.e., Carbon and Energy Basics, that are already listed in this document.
https://www.ucc.ie/en/sustainability-climate-action/carbon-literacy/#ucc-carbon-literacy-training-course
https://www.eauc.org.uk/carbon_literacy_training
https://www.eauc.org.uk/next_generation_sustainability_leadership_progr

Work Package 8 of the EU Green Alliance project focuses on building a truly sustainable campus. ATU is currently exploring the potential in developing a dedicated Green Campus Digital Badge that would focus on reducing the organisational carbon footprint and align with the National Green Campus Programme run by An Taisce.

The ATU Galway-Mayo Centre for Sustainability is currently collaborating on a range of funded projects (in addition to NTUTORR and the EU Green Alliance), that will all inform the ongoing evolution of the Climate Action Roadmap:
- National Circular Built Environment Roadmap and Playbook in collaboration with the Irish Green Building Council (IGBC), TU Dublin, and the University of Galway, which is funded by the EPA.
- Limerick 2030 Lighthouse Circular Demonstration Project in collaboration with Limerick 2030, IGBC, and the Southern Waste Region, which is funded by the EPA.
- The Build Digital Project in collaboration with TU Dublin, MTU, UCD and SETU, which is funded by the Department of Public Expenditure and Reform.
- Net Zero Cities Galway Project in collaboration with Galway City Council, University of Galway, Northern and Western Regional Assembly, and the Galway Energy Cooperative funded by the EU Net Zero Cities Pilot Cities Programme.
- 'Radical Sustainability Lab' in collaboration with ATU Galway-Mayo Teaching and Learning Office, funded by the National Forum for the Enhancement of Teaching and Learning in Higher Education.
- The Digital Academy for a Sustainable Built Environment (DASBE) project, funded by the Human Capital Initiative Pillar 3.
- SEAI Pathfinder Project on the Galway City Wellpark Road Campus.
- The ATU Sligo led 'Power to Change' project funded by the Community Climate Action Programme.

Some examples of projects led by the ATU Sligo Contract Research Unit and ATU Donegal include:

- The INTERREG NWE RED WoLF project, which aims to demonstrate how local small-scale renewable energy generation and energy storage, optimised throughout Europe's energy system, with innovative ICT, could provide a solution to mitigate climate change. The RED WoLF technology will be installed in 100 homes in Ireland, UK and France to test this new innovative system. Each pilot site will be equipped with Solar Photo Voltaic (PV) panels and a Hybrid Storage System (HSS), which merges a battery and storage heaters. The HSS will store the electricity generated by the Solar PV as well from excess renewable energy from the electricity grid.

- The INTERREG Europe AgroRES project, which aims to develop measures that encourage the production and use of renewable energy in the agricultural and rural sector.

- The INTERREG NPA Symbioma project, which aims to develop technology innovations and business models for valorisation of industrial waste biomass in sparsely located enterprises.

- The Local Energy Agencies in Peripheral regions (LEAP) project will create multiple local social enterprise 'integrated home renovation services' in the North and West of Ireland.

- The 'Retrofit Ready' project, funded by the Community Climate Action Programme will embed direct support for communities to prepare for and engage in local retrofitting projects for homes and community building, through a 'Learning by Doing' workflow.

- The CEANGAL (Community Based Decentralised Renewable Energy Systems and Supporting Structures for Improving Electricity Access in Low-Income Countries) project is a collaboration with Malawi University of Business and Applied Sciences. The project is funded by the Irish Research Council (IRC) and Department of Foreign Affairs.

- The SDS4HEI project, led by ATU Donegal and funded by the EU is focusing on embedding the SDGs as a core component in HEI institutional visions, missions, value statements, strategic plans, organizational culture, research, teaching, and campus practices while also encouraging the design of sustainability into the fabric of educational fields, focusing on entrepreneurship but also in STEM and the arts.