

2026 Energy Review



OLLSCOIL NA GAILLIMHÉ

UNIVERSITY OF GALWAY

Prepared by
University of Galway's Energy Team
September 2026



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Executive Summary

This Energy Review is being carried out to comply with the requirements of the ISO5001: 2018 Energy Management System (EnMS) standard, clause is 6.3. The main purpose of this energy review is to analyse University of Galway's energy usage and consumption based on measurement and other data i.e. the identification of current types of energy use, the evaluation of past and present energy usage and the analysis and identification of the Significant Energy Users (SEUs). For each SEU, the relevant variables and current energy performance is determined and the person(s) doing work under our control, who have an influence, or effect, on each of the SEUs, have been identified. Additionally, opportunities for improving the energy performance of the University of Galway's SEUs are outlined and prioritised. Furthermore, the estimated future energy usage and consumption is documented.

Buildings that are included within the scope of the University of Galway's ISO50001 EnMS have been reviewed and are listed in our Energy Manual and Dashboard. There are fifty-eight buildings included that have a total internal floor area of 155,090 m². The overall treated unit floor areas of the University are 213,720 m². The main risks are in relation to the geo political uncertainties and extreme changes to our climate.

Internal audits of the ISO50001 EnMS have been carried out during 2025-26 and there were no non-conformances found. It is a testament to the hard work and dedication of the University of Galway's Buildings & Estates Team, that the college's energy performance has continued to improve (see also Figure 4).

The management team measure electrical and thermal energy performance using key performance indicators; kWh (e)¹ and kWh (th)² per metre squared of treated floor area per annum. These are termed Energy Performance Indicators, or EnPIs, and are being used to set targets for enhanced energy performance improvement plans. These metrics are used to monitor the performance of each of the SEU buildings, on a weekly/ monthly basis and are actively discussed during our monthly energy review meetings.

University of Galway operate a formal EnMS which is compliant with the requirements of ISO50001: 2018; Energy Management Systems Standard. The Energy Review is carried out once every 2-years and in response to major changes in facilities, equipment, systems, or energy using processes. Some minor changes have been made this year, to keep this document up-to-date. Normally the Energy Review is carried out during August/September/October, and compiled, reviewed, and reported during October/November, each year and to align with the surveillance audit which is planned to take place on 6th & 7th October this year.

The methods and criteria used to develop each of our Energy Reviews are outlined and the results are documented and retained/ maintained as records under our Document Control Procedure.

¹ kWh (e) relates to electricity related usage – the average unit price per kWh(e) used is €0.25c

² kWh (th) relates to gas usage – the average unit price per kWh(gas) used is €0.11c



1. Analyse Energy Use & Consumption

1.1 Current Types of Energy

The types of energy being used at University of Galway are outlined on table 1, with further details outlined on Appendix F. In the main, the campus uses imported electrical and gas to sustain its operations. It also uses a number of renewable energies such as solar photovoltaic systems, heat pumps, biomass boiler and solar thermal. Over the past few years, the college has continued to roll out the installation of solar photovoltaic electrical energy generation systems and these are proving very worthwhile. The campus building's energy consumption during 2024 is set out in Table 1 and summarised in Figures 1, 2 and 3.

Table 1: Annual Energy Consumption, Energy Costs & CO2 Emissions (t)

Fuel	2025		
	Quantity [kWh]	Spend (Est.)	CO2 * Emissions [kg.]
Electricity Imports	14,715,488	€3,826,027	2,910,724
Electricity Generated on-site from PV	438,280	-€109,570	-86,692
Gas Imports	9,244,280	€739,542	1,875,664
LPG	459,126	€60,742	105,278
Gasoil - Kerosene & Heating	25,758	€2,827	6,488
LFO	10,786	€1,184	2,717
Wood pellets	1,056,000	€62,208	0
Solar Thermal	75,000	-€7,500	-18,893
Road Diesel	12,070	€1,340	3,185
Biofuel -HVO	153,820	€15,920	0
Total	26,190,608	€4,708,607	4,901,339

*Referenced SEAI website on 15th September 2026– see also Appendix G

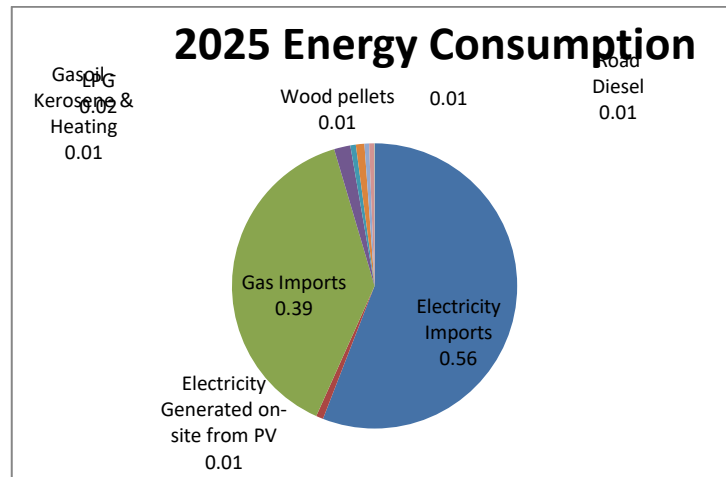


Figure 1: 2025 Breakdown of Energy Consumption (kWh)

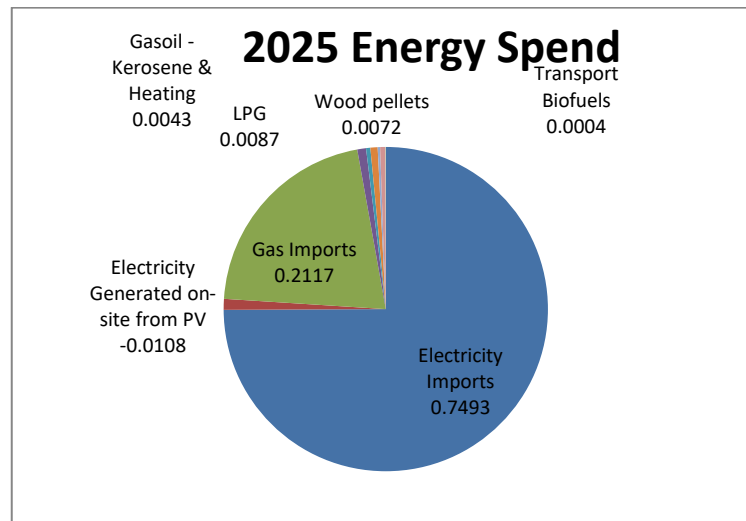


Figure 2: 2025 Breakdown of Energy Spend

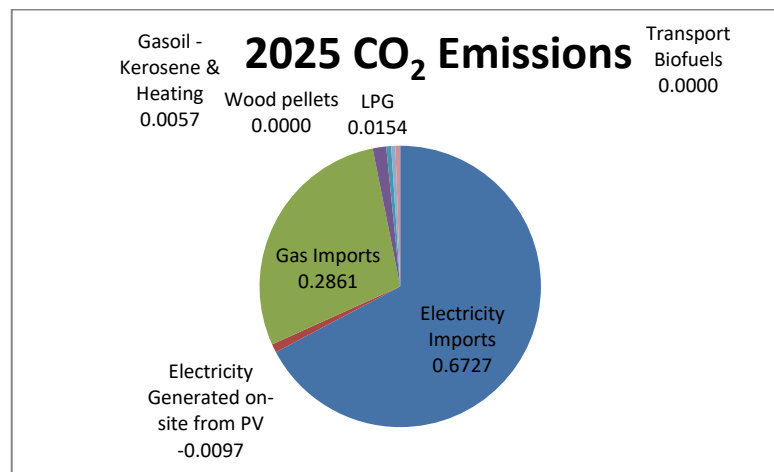


Figure 3: 2025 Breakdown of Energy Related CO₂ Emissions

1.2 Evaluation of past & present energy use & consumption

An evaluation of the past and present energy use and consumption was carried out using the SEAI's M&R System. This is the national profile database of all public sector organisations. It is 'independently assessed' using a stringent quality assurance system and uses electricity and natural gas data, accessed from the national Meter Point Registration Operators. The M&R System is heavily referenced as it demonstrates that we are being independent in our assessment criteria. An annual highlight of our energy performance from 2006 to 2025, inclusive, is outlined on Figure 4, below.

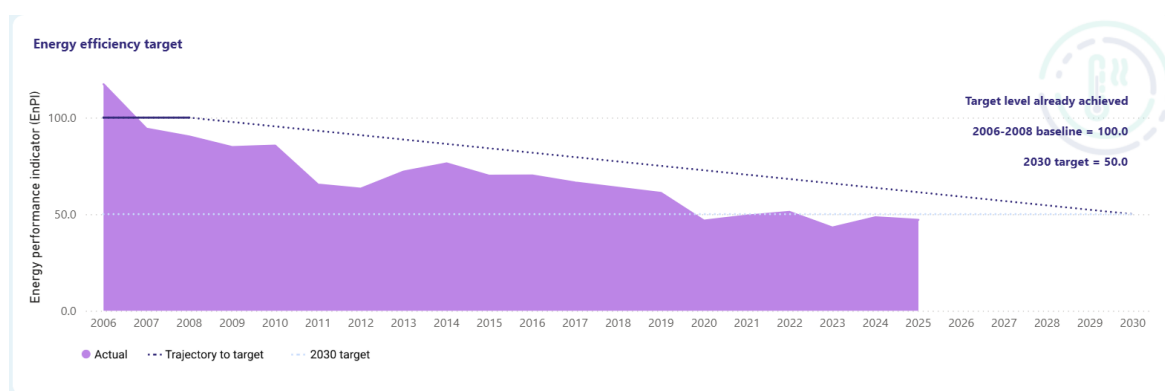


Figure 4: University of Galway's actual energy performance Source SEAI's M&R System – accessed on 15th September 2026

Additionally, the energy performance of each of our buildings is being monitored daily and reported monthly. The Energy Team reviews the performance of each of our significant energy using buildings; using monthly cumulative electrical energy usage data and compares that to the cumulative electrical energy usage for the equivalent month, from the previous year. This is carried out to react to any untoward changes, in a timely fashion. A proactive approach allows us to micro-manage each of our building's energy performance so that monthly and annual objectives and targets are continuously met.

Additionally, the annual SEAI M&R Report is being used to review our past and present energy performance (as per figure 4). Our energy performance has steadily improved, and the downward trend has resulted in a 52.9% overall improvement in our energy performance, since our baseline year, which is 2006. The energy performance indicator used is kWh/TUFA (Treated Unit Floor Area). Since the first iteration of the National Climate Action Plan, the M&R has been updated to reflect annual carbon emissions related performance. This in turn encourages public sector organisations to take more active carbon efficient measures, such as removing fossil fuel related heating and transport systems and installing heat pump, HVO-hydrogenated vegetable oil, electric vehicle and photovoltaic systems.

A copy of the annual SEAI M&R Report is sent directly to our President, by SEAI, every year.



2. Identification and analysis of our Significant Energy Users

2.1 Significant Energy Users

The main energy consumers are summarised in Table 2 below. This table is based on the electrical & thermal energy usage per building. The data is taken from the University of Galway's Building Energy Management System (BMS) <https://bms.universityofgalway.ie/login>. It is used to prioritise opportunities and support cost accounting exercises. The Arts Science Building includes the Main Concourse, Chemistry/ Bio-Chemistry and Physics. A graphical summary of the thermal and electrical energy used at each of the top 10 buildings is represented on Figure 5.

This table confirms that the Bio Science Research and Human Biology Buildings, are intensive energy users. Both buildings are serviced with exact temperature and ventilation settings. Additionally, some areas are fully treated, with exact heating, cooling & humidity controls and house 'live' research laboratories. Both buildings are/have undergone extensive upgrades over the past year. The Bio Science Building has been retrofitted with new 'state of the art' steam traps and Human Biology will be fitted with new chillers by the end of this year. These are examples of projects being undertaken at these significant energy using buildings, that will have positive impacts on their energy performance. Furthermore, energy awareness is being raised at both buildings e.g. Green Labs at Bio Science and active scheduling programmes at the HBB.

Additionally, we have conducted a degree day regression analysis. There is a continued increase in the correlation between ambient and thermal demand, which is very pleasing. This is discussed in more detail in Section 2.2.2.

Table 2: Summary of top ten significant energy using buildings



	Name of Building	Ele (kWh) 2025	Gas (kWh) 2025	Total - kWh	M.2.
1	Bio-Medical Sciences	2,382,115	2,959,427	5,341,542	8,212
2	Arts Science Buildings	1,200,359	3,152,397	4,352,756	31,312
3	Human Biology Building	1,729,045	1,178,083	2,907,128	8,000
4	Engineering Building	1,123,733	831,241	1,954,974	14,145
5	Áras Hardiman Building	809,692	346,162	1,155,854	9,415
6	Arts Millennium Building	351,604	484,955	836,559	8,054
7	Áras de Brún, Anatomy & Terrapin	388,987	325,082	714,069	2,425
8	Áras na Mac Léinn	596,028	130,017	726,045	4,307
9	J.E. Cairns - School of Business	319,099	234,696	553,795	3,255
10	Martin Ryan Institute	302,665	235,067	537,732	7,213

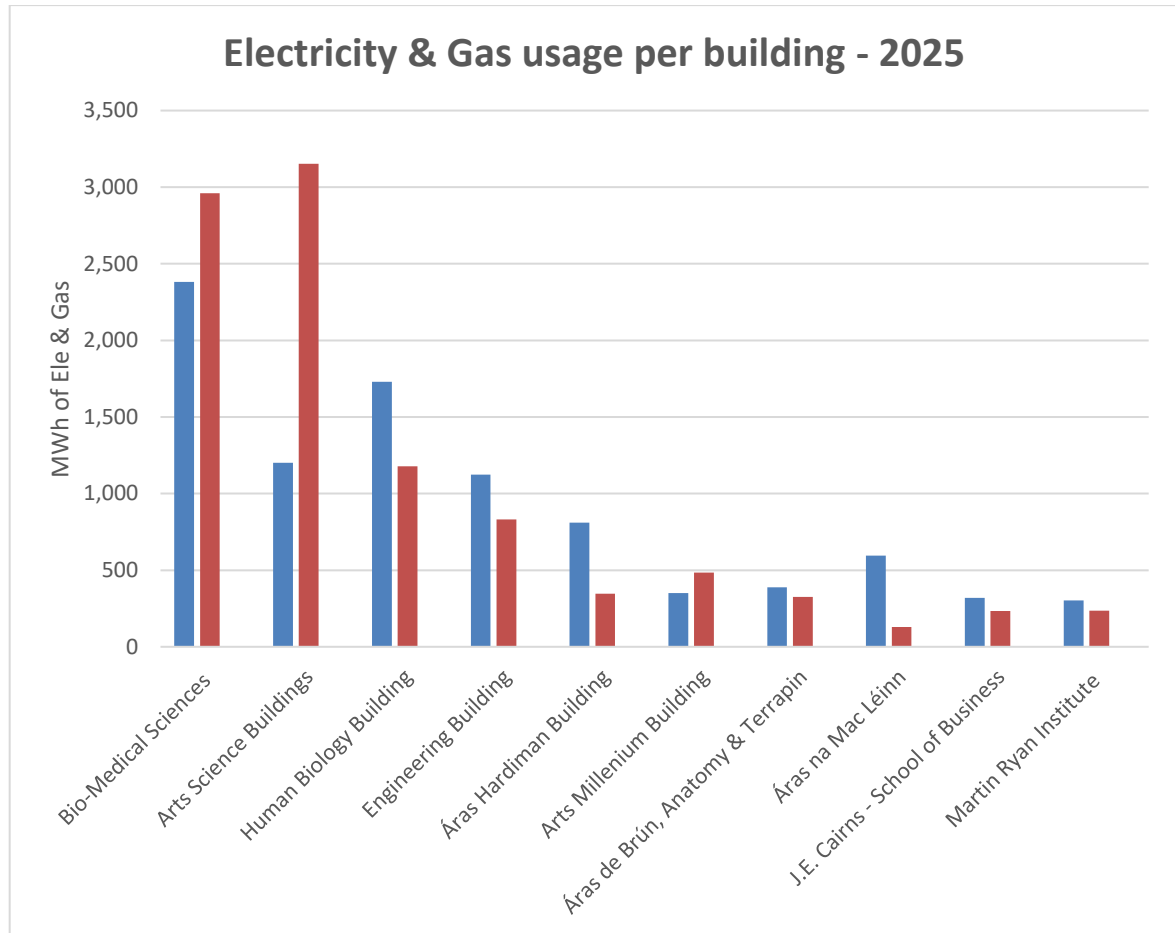


Figure 5: University of Galway's SEU Buildings

2.2 Relevant Variables

2.2.1 Baseline

The energy baseline used is the kWh (e) and kWh (th) per m² of treated floor area. The baseline year is 2006 and University of Galway's progress since then is plotted on Figure 4. Our energy performance during 2006 was 392.9 kWh per m² of treated floor area. During 2025 that figure fell to 172.96 kWh per m². This demonstrates a significant improvement of 55.9% lower than the baseline. The University of Galway has reached the target set for all public sector organisations, which is to achieve a 50% improvement, by 2030.

As expected, the Climate Action Plan targets a 51% improvement in carbon³ emissions performance compared to the baseline year; for all public sector organisations. In preparation for the transition to Carbon and Green House Gas Emissions – GHGs, we are monitoring our CO₂ emissions every year, since 2006. We have placed more emphasis on this aspect since 2014 and are delighted to report

³ Carbon dioxide is abbreviated to carbon and is denoted by CO₂

that our primary emissions are on the wane, since then. See also Appendix D - Yearly CO₂ emissions.

Finally, there is a requirement to monitor travel related carbon emissions associated with our operations and a database is being compiled to capture and populate all travel related carbon emissions. This is an onerous task and will take some time to develop and mature. It is expected that during next year's M&R return cycle our college will have enough data to accurately report travel related carbon emissions. This aspect is the responsibility of the Director of Sustainability.

2.2.2 Other Relevant Variables

There are a number of other relevant variables such as number of students and staff (and researchers), number of conferences, number of projects completed (including new or renovated buildings) and degree days⁴. Degree days and regression analysis exercises are being undertaken. The calculated regression or R value during the period from 2020 to 2025 was 0.845 (Strong Positive Relationship between gas usage and outside ambient temperatures). The R value during 2019 to 2023 was 0.675 which demonstrates that the college has improved the efficiency of gas usage, over the past few years.

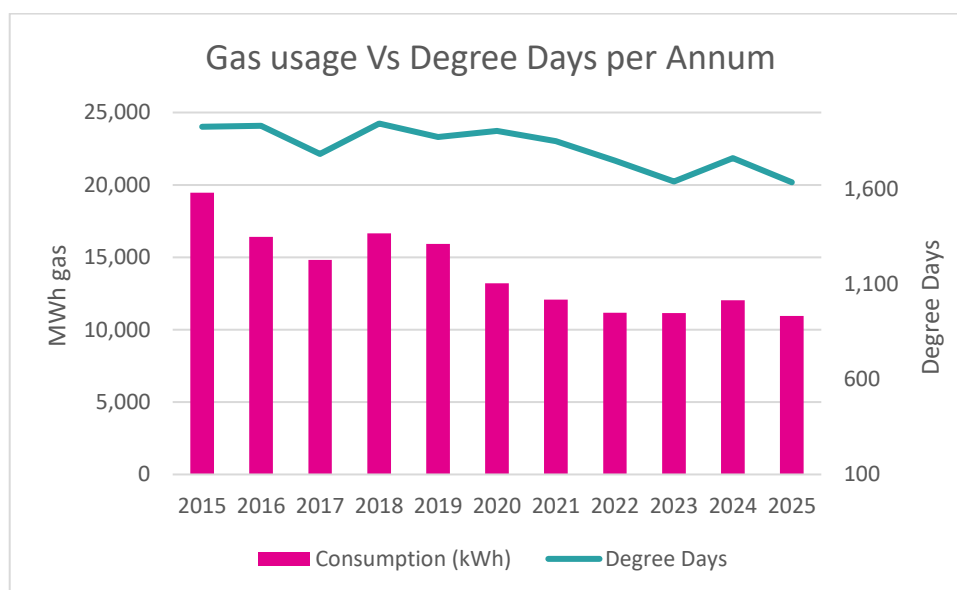


Figure 6: Degree Day Analysis

As part of the Green Flag initiative, we began reporting a carbon and energy per student related key performance metric, and this proved to be a very successful tool in engaging with students. We will continue this initiative during 2025-6 as this has enabled our students to become more conscious of their impact on energy and carbon usage at our university. During 2025, the weight of carbon dioxide emitted per student dropped from 286 kg to 280 kg, which is hugely positive. Figure 7 plots the kg of CO₂ per student during the period from 2006 to present. It also

⁴ Degree days are a simplified representation of outside air-temperature data. "Heating degree days", or "HDD", are a measure of how much (in degrees), and for how long (in days), outside air temperature is lower than a specific "base temperature" (or "balance point"), which in our case is 15.5 degC C. Source www.degree-days.net



predicts the future weight of carbon emitted per student and that trajectory is set to fall. Additionally, as student number increase, the carbon performance per student will improve. Carbon performance metrics are becoming more prevalent as this approach compliments the move towards a more sustainable campus.

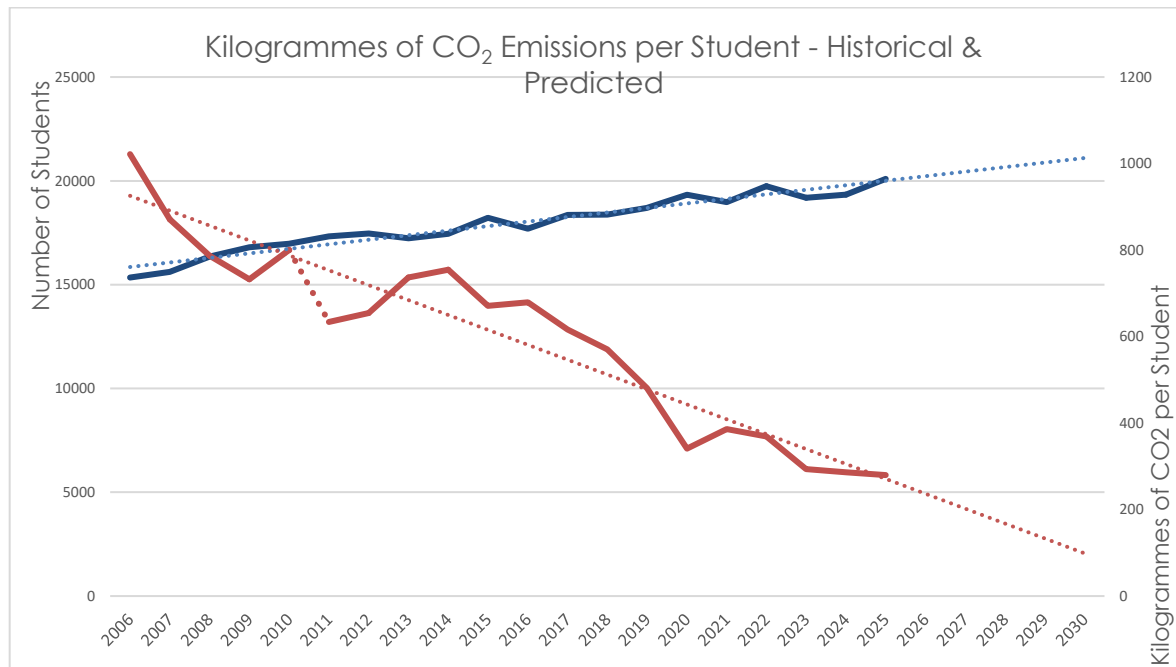


Figure 7: Kilogrammes of CO₂ per Student (2006-2025...2030)

2.2.3 Legal & Other Requirements

Legal and other requirements are being evaluated on an ongoing basis. Since Q1 of 2017, University of Galway has subscribed to an external register of energy legislation and staff has undergone training in its use, and the requirements of ISO50001: 2018 Clause 9.1.2.

The main pieces of legislation and other requirements that apply to the university on an ongoing basis are: -

- S.I. 426 of 2014 – European Union (Energy Efficiency) Regulations – that place responsibilities on public sector organisations to take an exemplar role in relation to energy efficiency and energy management.
- S.I. 292 & 183 of 2019, S.I. 243 of 2012, S.I. 872 of 2005 – European Union (Energy Performance of Buildings) Regulations 2005, 2012, 2019
- Revised Energy Performance of Buildings Directive entered into force on 28th May 2024 and will be transposed into Irish law by 29th May 2026.
- Climate Action Plan – 2025 and previous Climate Action Plans and National Energy Efficiency Action Plans
- Building Regulations 2021: Technical Guidance Document L – Buildings other than Dwellings Published on 7th December 2020 and updated on 12th August 2021.



Finally, the Buildings and Estates team operate a comprehensive 'Statement of fundamentals' that is integrated into the college's purchasing procedure. This document obliges all interested parties to undertake life cycle assessments so that all new and refurbished plant, equipment, and projects undertaken include energy efficiency measures during the design, procurement, installation, and commissioning phases.

2.3 Current energy performance

The management team measure its electrical and thermal energy performances using key performance indicators; kWh (e) and kWh (th) per metre squared of treated floor area per annum. These are termed Energy Performance Indicators, or EnPIs, and are being used to set targets for enhanced energy performance improvement plans. Table 3, as below, gives an outline of the kWh usage of both electricity and thermal energy per m.2. of treated floor area per annum. This table demonstrates that our annual energy performance has improved over the past 4-years. It went up slightly during 2022, as the college returned to more 'normal' operations. Electrical and thermal energy related energy performance indicators (EnPIs) are also used to demonstrate compliance with and achievement of Public Sector 2030 targets, the use of EnPIs may be developed further to include performance monitoring of each of its significant energy users such as the chillers, IT equipment, catering, lighting and boilers.

Table 3: 2006-24 Energy performance indicators

Year	Energy Performance Indicator (EnPI)	
2025	kWh (e & th) /m2	172.96
2024	kWh (e & th) /m2	173.9
2023	kWh (e & th) /m2	177.33
2022	kWh (e & th) /m2	198.00
2021	kWh (e & th) /m2	189.98 ⁵
2020	kWh (e & th) /m2	180.25
2019	kWh (e & th) /m2	237.06
2018	kWh (e & th) /m2	249.42
2017	kWh (e & th) /m2	259.85
2016	kWh (e & th) /m2	274.81
2015	kWh (e & th) /m2	274.20
2014	kWh (e & th) /m2	299.76
2013	kWh (e & th) /m2	283.71
2012	kWh (e & th) /m2	248.77
2011	kWh (e & th) /m2	256.77
2010	kWh (e & th) /m2	336.32
2009	kWh (e & th) /m2	334.55
2008	kWh (e & th) /m2	356.04
2007	kWh (e & th) /m2	371.86
2006	kWh (e & th) /m2	392.9

EnPIs (kWh (e)/m2 of treated floor area) are being used to monitor the energy performance of each building and those are reported and discussed during monthly energy review meetings. During 2024, performance has improved by 12.2% compared to 2022, and this is to be lauded.

The reasons why the performance has improved or worsened are noted and follow-on actions are agreed. Those are then documented and followed up on during the next few days and reviewed again during the next scheduled energy monthly meeting. In this manner, the EnPI data is being used as a springboard for enhanced energy efficiency. University of Galway are using EnPIs as an essential tool for developing an effective EnMS and are also using those as a method to demonstrate that it is achieving its targets for improvement.

Finally, we also use Display Energy Certificates (DECs) to report each publicly used building, to report the operational performance, in kilograms of CO₂ per m² of treated floor area. The DECs are a performance rating and demonstrate that we are compliant with the requirements of the European Union (Energy Efficiency) Regulations and the Irish Statutory Instrument; S.I. 426 of 2014. Copies of the ten most recent DECs are outlined on Appendix B.

⁵ During 2020 & 2021 there was a significant drop largely due to the pandemic and not reflective of a 'normal' year.



2.4 The identification of person(s) that affect our SEUs.

The persons that affect the energy performance of our SEUs are identified and outlined on Table 3: Periodic & Operational Tasks/Roles in our Energy Manual. These include the details of each role and the person or title of the person who has overall responsibility for carrying out the duties and associated tasks. Seán Farrell, who is Head of Building Services has overarching responsibility for the operational control of our SEUs. Seán has a team of electrical and mechanic personnel and several preferred contractors, and he manages these personnel so that each of our SEU buildings are controlled and operated to strict performance specifications. Additionally, there are a few buildings that are managed by external companies. Seán Farrell and Noel Rogers have overarching responsibility for the performance of these buildings.

3. Determining & Prioritising Opportunities for Improvement

3.1 Recent/Existing Energy Saving Initiatives

University of Galway's Energy Team is doing great work in developing and using their ISO 50001: 2018 compliant energy management system, to achieve targets and objectives, and to demonstrate compliance with its legal obligations. The Energy Team comprises of Denis O'Connor (Director of Real Estate & Energy Performance Officer), Seán Farrell (Head of Building Services), Anthony Nevin (Mechanical Supervisor), Kenneth O'Toole (Electrical Supervisor), Lorraine Rushe (Environmental, Health & Safety Manager), Karl Byrne (Building Management Systems' Consultant) and John Harrington (Energy Management Systems' Consultant). Occasionally, other interested parties are invited to attend and to present to the EnMS Team. In general, the Energy Team meet once a month to undertake a review of the EnMS and to review each of the significant energy using building's monthly energy performance data.

Seán has continued to lead the ISO50001 Energy Management System and represents top management. He has continually demonstrated his commitment to supporting the EnMS and is focused on delivering an effective system; by defining, implementing, and maintaining the University of Galway's Energy Policy. He is pivotal in the management of the system elements and in providing the resources⁶ needed to maintain and improve the EnMS and resulting energy performance, on a continual basis.

Lorraine Rushe has continued to develop the legal and other requirements aspect using the external legal registrar, known as Red it On line. That registrar updates and advises University of Galway on their Energy, Environmental, Health and Safety related legal obligations. The work carried out by Lorraine has ensured that University of Galway is fully compliant with the Legal and other requirements outlined in Section 9.1.2 of the standard.

Seán Farrell has led the way in terms of implementing energy efficiency projects throughout the year. He has developed the project to add resilience into the South Campus Medium Voltage System by managing the installation and commissioning

⁶ Resources include human resources, specialised skills, technology, and financial resources.



of new cabling systems and new ESB sub-station. Other projects include the continued installation of LED lighting and upgrading oil and gas boilers to heat pump equivalents. Furthermore, the Energy Team has continued to decarbonise the University of Galway's campus and generated 397.5 MWh during 2025, year to date. Another notable aspect of this year's B&E related workload related to the considerable damage caused by Storm Eowyn during January 2025. The college underwent an extensive repair programme and a significant portion of the B&E budget and manpower resources went into a reactive maintenance regime for the immediate months, following the storm. New flue systems were fitted at the Orben and Bailey Allen Buildings, Blocks D&E had a number of external split units damaged and subsequently replaced and remedial work had to be undertaken to repair damaged photovoltaic panels; mainly on the Arts Science Building.

Karl Byrne has responsibility for developing and managing the Monthly Building Performance Metering and Reporting System. He presents the results to the energy team once a month and follows up on any metering related action(s) and updates the reports and corrective actions accordingly.

John Harrington has supported the team throughout and has carried out the 2024-5 Internal Audit Programme of the EnMS system. Additionally, he planned and documented the internal audit schedule for 2025-6 which is outlined on our EnMS Dashboard. John will continue to report any observations and/or non-conformances using the Internal Audit Report Feedback Forms. John will be responsible for following through, and closing out, actions required arising from those observations/ non-conformances, as applicable.

University of Galway's main objective is to reduce electricity and thermal related energy consumption and to improve the overall energy performance of its buildings. During 2024, we demonstrated energy savings of 57.4% lower than the baseline year (2006) and this is documented on the Sustainable Energy Authority of Ireland's M&R System. It provides independent proof that University of Galway's Energy Performance is continuously improving.

We have factored in risks associated with security of energy supplies and escalating energy costs caused by recent uncertainties in the international markets and mitigation factors are being managed on a monthly basis, by aligning our procurement strategies with the national procurement frameworks.

The Energy Team are developing further energy efficiency projects and new builds. We are using nZEB – nearly zero energy building techniques and technologies on the new library buildings. Additionally, we are using the results from the Áras de Brun deep retrofit project to roll out similar projects, on similar buildings, into the future. The Energy Team and indeed all of the Building & Estates Department continues to identify potential boiler-house upgrade projects, LED lighting replacement projects, Set-back HVAC opportunities (e.g. using interlocked HVAC-occupancy sensors e.g. at the Cairns Building) and pumps/ motors replaced with modern energy efficient equivalents. The boiler house upgrades include fuel switching and installing hydrogenated vegetable oil – HVO boiler systems on boiler systems at # 10 Newcastle Road, and 3 other properties on Distillery Road. It also is continuing to 'roll out' renewable energy projects such as the installation of large scale geothermal, photovoltaic, solar hot water and biomass boiler systems and power



plant upgrades and the combination of results will lead to the decarbonisation of the University of Galway campus by 2030.

A list of completed projects are outlined in the next section, 3.2 ~Energy Management Action Plan.

By taking an energy management system's approach to reducing energy costs and usage, University of Galway continually improve its energy performance and, in so doing, reduces its environmental burden.

One further point worth noting is that the Annual Public Sector Conference was held at the University of Galway on May 15th, 2025. It is a complement that the SEAI – Sustainable Energy Authority of Ireland choose to host this conference at University of Galway. It is the first time that the conference has been held outside of Dublin. See also Appendix D.

3.2 Energy Management Action Plan

Not that this section was not updated in September 2026 and relates to 2025 only.

A number of opportunities for energy savings have been carried out over the past year. €1.428 Million has been spent on these projects and the combined annual savings are €166k. The most significant projects include the Medium Voltage MV electricity distribution system upgrade project, the continued roll out of energy efficient boiler house upgrades, the ongoing replacement of florescent light fittings (with LED equivalents) and upgrades to the Building Management System with resulting improvements to air treatment controls and efficiencies. Additionally, the Buildings and Estates team continue to roll out photovoltaic electricity generation projects and during 2025 we generated almost 400 MWh of electricity on site.

Similarly, an ongoing list of opportunities for improvement and potential projects; for the current period, 2024-5, are outlined in the Register of Opportunities (ROO). The values quoted for energy savings are reasonable estimates and calculations, and any assumptions made, are carried out on the right-hand side of the ROO sheet.

One of the highlight action plans relates to the University of Galway 2030 Zero Carbon Action Plan. The University is formulating a fully costed action plan to transition to a zero-carbon campus in the next decade. It includes the installation of a district heating network, heat pump related thermal energy sources, occupancy controls, and other key actions relate to upgrading numerous fume cupboards; and retrofitting energy efficient motors, sensors, and hoods/doors/screens, carrying out behavioural change campaigns to improve the energy efficiency of laboratories and reviewing the buildings fabric with the view to improving U-values and the thermal mass of buildings.

The Register of Opportunities - ROO is an active document with twenty-six opportunities in the 'Seeking Funding Category,' twenty-one opportunities have been recently approved, one hundred and nine have been completed. The ROO is colour coded for ease of use. Table 5 below contains a summary of the potential projects and their expected savings. This table forms the basis for achieving energy



efficient targets. Targets are reviewed during Annual Management Review Meetings.

Table 5: Summary of the 2025-6 energy efficient projects; either seeking approval, approved, or completed, and their respective kWh (t), kWh (e), Kilogrammes of CO2 and Cost Savings and the average payback periods.

See the ISO50001 Dashboard on SharePoint

Table 6, gives an outline of the opportunities for energy efficiency improvements and are categorised as Seeking Funding, Approved, Completed or Approved/Ongoing. These are colour coded in light brown, light green and dark green, respectively. The following tables should be read in conjunction with the Master ROO as per the Dashboard 2026 Rev. 1.

We are also using the Gap to Target tool to monitor our carbon emissions performance. Since the baseline years, which are the average of 2016-18, for overall emissions, we have cut fossil fuel related emissions by over 35%, which is a fantastic achievement. Overall, we have reduced our emissions by 3,911 Tonnes since the baseline. Our target is to reduce our emissions by a further 3,407 Tonnes by 2030. A copy of the SEAI's glidepath graph is outlined on Appendix E and explains the trajectory and 2030 targets, in a graphical format.



Table 6: Opportunities for Energy Savings and Action Plan (2025/6)

See the ISO50001 Dashboard on SharePoint

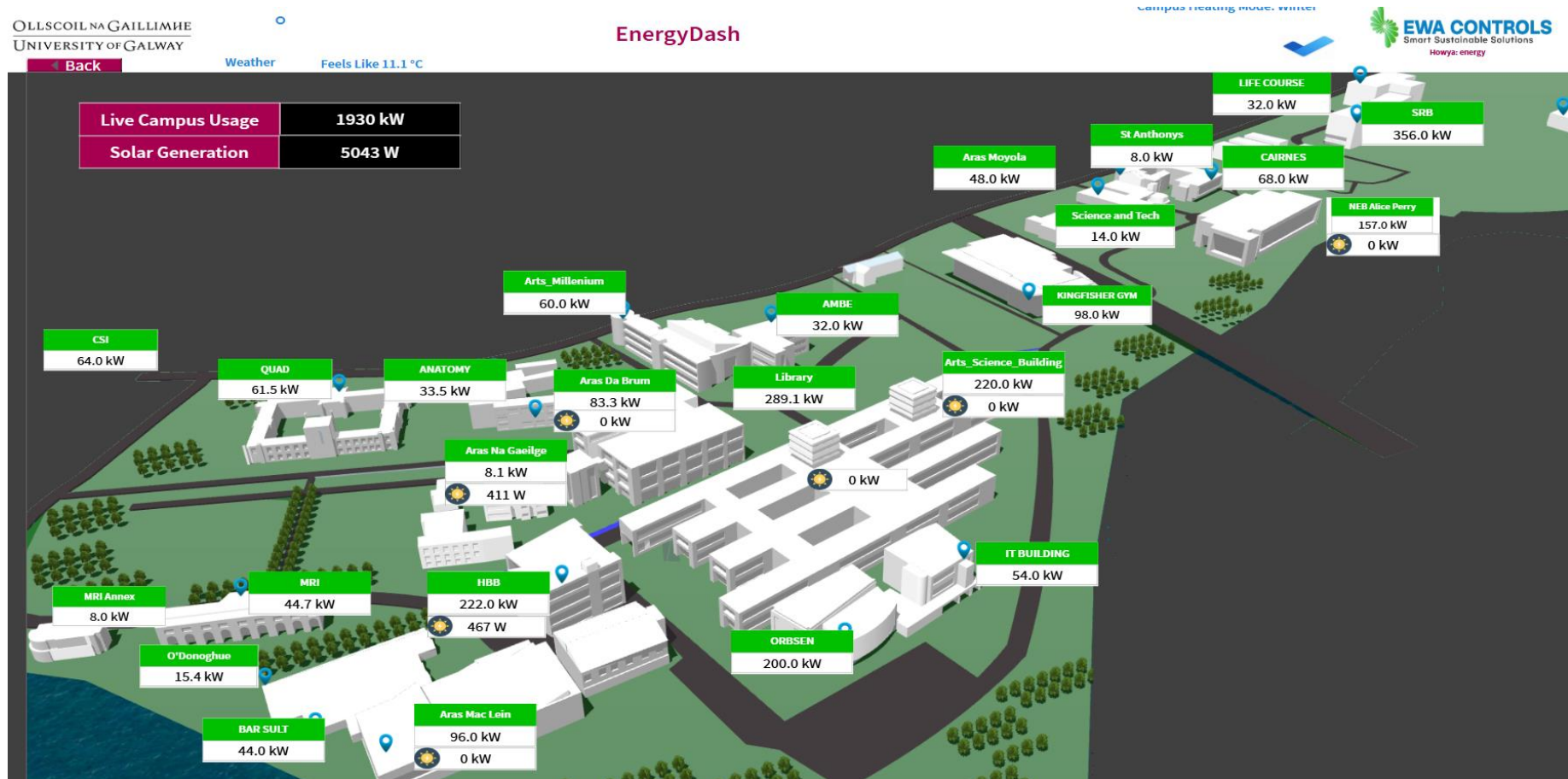
4. Estimate of University of Galway's future energy consumption

An estimate of University of Galway's future energy usage and consumption has been carried out. 10 years, historical data, was used to carry out these estimates. As predicted the energy usage and consumption increased during 2025. The expected energy usage and performance is used to carry out a budget for energy costs during 2026 and beyond. That increase is factored into the predicted energy use as outlined on the figures included in Table 7, as below. Additionally, the predicted energy consumption is itemised and potential factors that will increase energy usage (more students, research intensity, ventilation rates and occupancy strategies) are accommodated. We are predicting that energy usage during 2026 will be slightly lower than 2025. We also increased the level of PV electricity production to reflect our year-to-date PV related energy production data. From 2023 on we are targeting a reduction in energy use and consumption by 3% per annum and are planning an increase in solar thermal by 5% per annum and an increase in PV electrical generation by 15% per annum.

Table 7: estimate of future energy usage, generation, and consumption.

Estimate of Future Energy Usage and Consumption				
MWh -Usage	2025	2026	2027	2028
Electricity	14,715	14,274	13,846	13,430
Electricity Generated on-site from PV	438	504	580	667
Gas	9,244	8,967	8,698	8,437
LPG	459	445	432	419
Gasoil	26	25	24	24
Wood Fuels	10,786			
Solar Thermal	1,056	1,024	994	964
Road Diesel	75	79	83	87
HVO	12	12	11	11
Total	154	149.21	144.73	140.39
	36,966	25,479	24,812	24,179
EnPi -Consumption				
Total - KWh/M2				
Conversion factors to calculate the Total Primary Energy Equivalent will change every year				

Appendix A: The Energy 'Dashboard' is an effective communication tool to promote energy efficiency

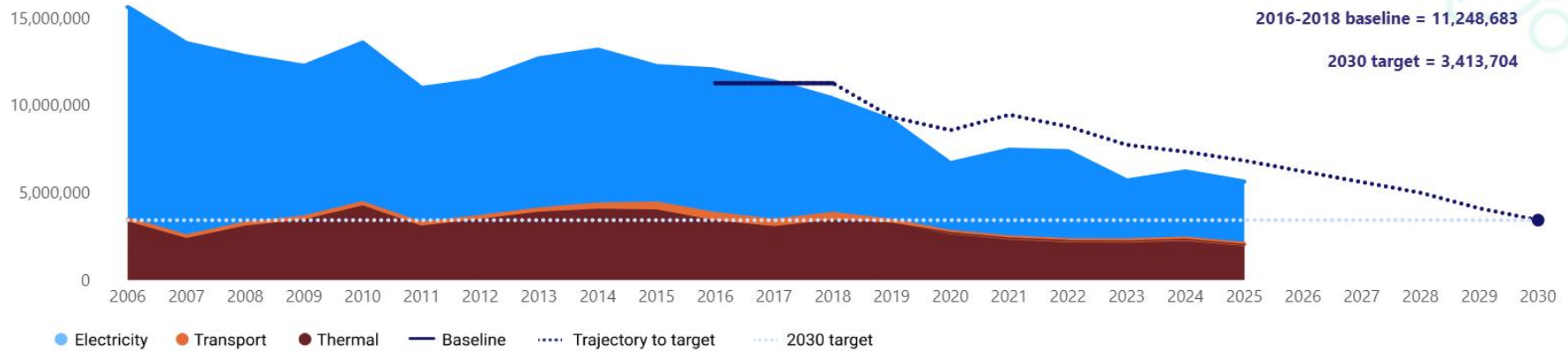




Appendix B: Gap to 2030 Target – halved our annual fossil fuel emissions, since 2016-18 baseline

Total CO₂ target

kgCO₂



Appendix C: Display Energy Certificates – See Dashboard for up-to-date DEC Certs.



Appendix D: Hosted the Annual Public Sector Conference – 15th May 2025

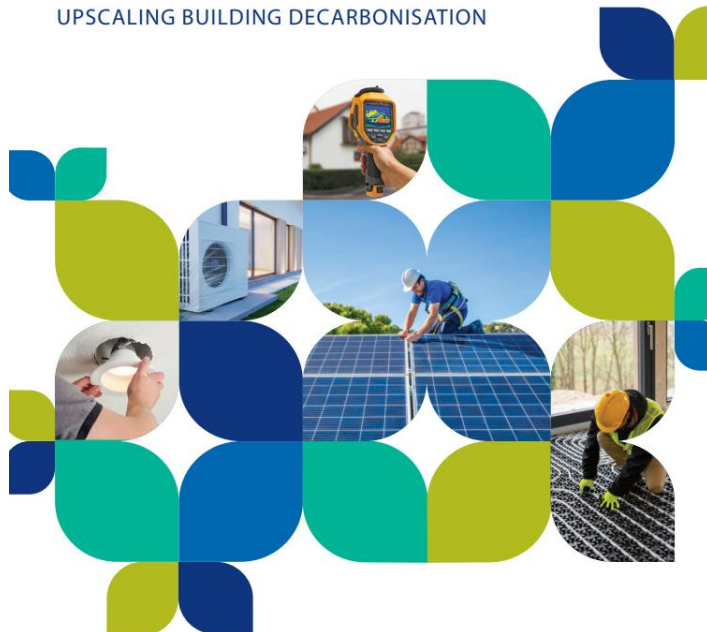


Rialtas na hÉireann
Government of Ireland

Public Sector Energy Conference

Thursday, 15th May, 2025
University of Galway

UPSCALING BUILDING DECARBONISATION



CONFERENCE FORMAT

THIS FREE EVENT FOR PUBLIC SECTOR ENERGY LEADERS INCLUDES:

Plenary Opening Session

- Opening addresses.
- Panel discussion on what is required to upscale the delivery of projects to achieve the targets, at government level.
- Panel discussion on the practical application of this vision within key sectoral building portfolio areas.

Afternoon Sectoral Breakout Sessions

Focusing on sectoral plans for building stock and what each public body needs to do to achieve the 2030 targets.

Indoor Exhibitor Area

Exhibitors include:

- OPW's Optimising Power @ Work;
- Office of Government Procurement;
- Local Government Operational Procurement Centre;
- Energy Suppliers under the Energy Efficiency Obligation Scheme (EEOS);
- SEAI programmes and support teams.

AGENDA

09:30 – 10:30	Registration, Networking & Refreshments
10:30 – 12:30	Plenary session
12:30 – 13:45	Networking Lunch
13:45 – 15:45	Sectoral Breakout Sessions
16:00	Conference Close

2 PANEL DISCUSSIONS

Panel 1 includes:

Departmental Officials from the Department of the Environment, Climate and Communications and William Walsh, SEAI.

Panel 2 includes:

- Declan Meally, Director of Business, Public Sector and Transport, SEAI;
- Brian O'Connell, National Director, Head of Strategic Health Infrastructure and Capital Delivery, HSE;
- Hubert Loftus, Assistant Sec Gen, Department of Education;
- Speaker, OPW (TBC);
- Paul Lemass, Assistant Sec Gen, Department of Further and Higher Education, Research, Innovation and Science;
- Robert Burns, CE, Monaghan County Council.

PLENARY SESSION



Ministerial Address:

Darragh O'Brien, Minister for Transport, Environment and Energy



Conference Opening:

William Walsh, CEO, SEAI



FACILITATOR:

Kathriona Devereux

Science Communicator and Broadcaster

Kathriona Devereux is an award winning broadcaster, science communicator and columnist. Kathriona has twenty years' experience in front of and behind the camera presenting and producing a range of factual programming for RTE, Virgin Media Television, BBC and ARTE.



AFTERNOON SECTORAL BREAKOUT SESSIONS

7 BREAKOUT SESSIONS

There will be 7 breakout sessions to choose from.

The first 5 are sectoral based and attendees will hear in more detail the strategic plans for that sector and the role and responsibility of each public body to achieve the goal.

The latter 2 will focus more on the 'approach' to building decarbonisation – i.e. leased offices will focus on low/no cost measures & negotiating with landlords, while owned offices will focus on retrofit solutions.

Some public bodies from the key sectors may wish to bring additional representatives to attend the latter 2 sessions also.

The afternoon breakout sessions are:

-  **Health Sector**
-  **OPW/Central Government**
-  **Local Authorities**
-  **3rd Level Education Sector (under DFHERIS)**
-  **Commercial Semi-States (designated to NewERA)**
-  **Government Agencies in owned buildings (focus on buildings that need to be retrofit to a high level & solutions to achieve this)**
-  **Government Agencies in leased buildings (focus on predominantly no/low cost measures in a leased building situation)**



WHY SHOULD YOU ATTEND?



The Public Sector Energy Conference has become the largest and most important networking event for those involved in public sector energy management. It is aimed at leadership level and focuses on strategic planning, sharing, learning and networking.

The key aims and objectives of the conference are:

- To provide a forum for key policymakers, planners and practitioners to discuss their vision for and experience of decarbonising the public sector building stock.
- To recognise those sectors who are actively planning roadmaps and delivering projects towards the 2030 targets and beyond.
- To inspire others by highlighting success stories, potential solutions and key actions which are helping Ireland deliver on its ambitious targets.
- To motivate all public bodies to take responsibility for their own organisations individual targets and roadmap.
- To encourage public bodies to learn from each other, think bigger and actively collaborate to develop the pathways, solutions and funding to achieve the carbon and energy efficiency targets.

We are particularly interested in inviting:

- Chief Executives of public bodies.
- Energy Performance Officers at Departmental level and nominated by public bodies.
- Energy managers or those responsible for energy management in public bodies.
- Estate managers or those responsible for the retrofit of building stock.
- Key members of energy project teams within public bodies, those responsible for M&R and those interested in energy management or energy saving opportunities within public bodies* are also welcome to attend

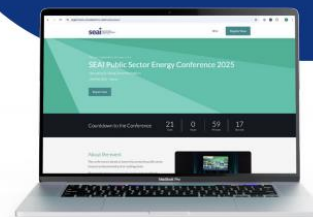
* Note that this event is for public sector personnel only, or for those invited by public bodies to attend on their behalf. Only public sector personnel can attend the sectoral breakout sessions.

HOW TO REGISTER

All those attending the conference must register in advance.

Attendees must choose their afternoon breakout session at time of registering.

[CLICK TO REGISTER](#)



GETTING THERE

The University of Galway is holding a number of rooms in their newest campus accommodation for delegates who wish to travel up the night before.

The accommodation rate for Dunlin Village is €87.50 per room per night, based on single occupancy. To reserve a room please click the button below:

[RESERVE A ROOM](#)

Those travelling on the day of the conference have a number of public transport options via rail or bus. SEAI also plans to run a number of commuter coaches from key locations. Please indicate your interest in reserving a seat on a coach at time of registration.

To view the sustainable travel plan [click here](#).

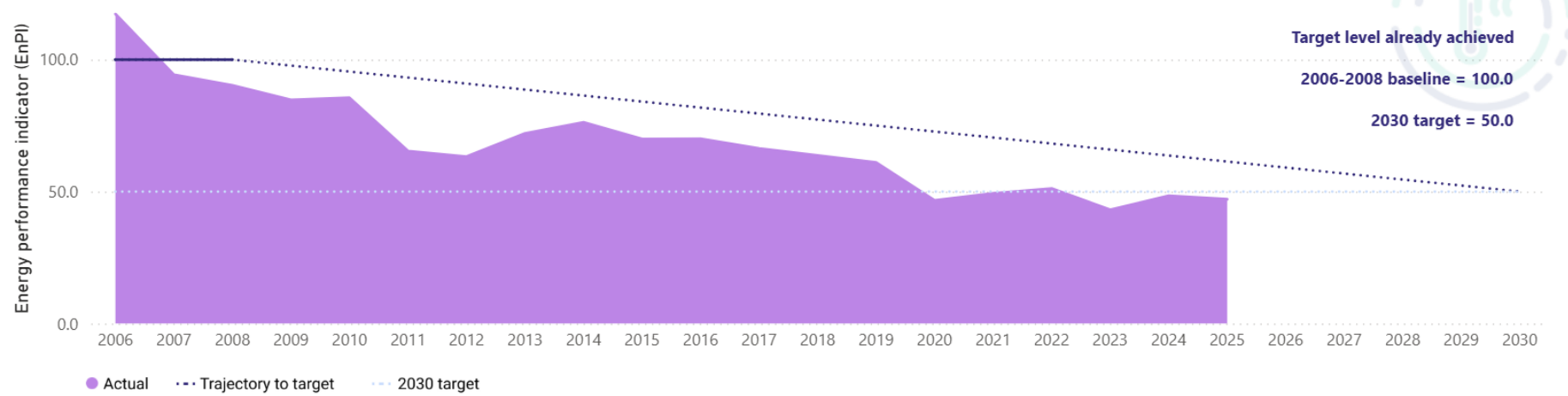
Contact publicsector@seai.ie with any queries.





Appendix Energy Efficiency target, EnPI

Energy efficiency target



Appendix F Supplementary Energy usage information - 2025

Fuel	2025			Additional Information
	Quantity [kWh]	Spend (Est.)	CO2 Emissions (kg.)	
Electricity Imports	14,715,488	€3,826,027	2,910,724	AUP 26c per kWh e
Electricity Generated on-site from PV	438,280	-€109,570	-86,692	
Gas Imports	9,244,280	€739,542	1,875,664	AUP 8 c per kWh(th)
LPG	459,126	€60,742	105,278	
Gasoil - Kerosene & Heating	25,758	€2,827	6,488	AUP 11c per kWh @ a rate of 10.1 kWh per Litre
LFO	10,786	€1,184	2,717	
Wood pellets	1,056,000	€62,208	0	220 Tonnes @ approx. 4,600 to 4,800 kWh per Tonne - Quad Biomass Boiler
Solar Thermal	75,000	-€7,500	-18,893	Negative cost @ say 10c /kWh
Road Diesel	12,070	€1,340	3,185	AUP 10.35 kWh/Lt 1,200 Lt
Biofuel -HVO	153,820	€15,920	0	AUP 10.35 kWh/Lt 1,000 Lt
Total	26,190,608	€4,708,607	4,901,339	
Total Primary Energy Requirement	39,545,806			From M&R
Total Primary Energy Requirement - CO ₂ emissions			5,621,293	From M&R

Appendix G: SEAI Conversion Factors 2026

Energy conversion and emission factors 2025												
Liquid	Energy content			Emission factor				Density	Specific vol.	PE factor	Note	Year
	toe/t	MJ/kg	MJ/l	gCO2/kWh	gCO2/MJ	kgCO2/kg	kgCO2/l	kg/m^3	l/t	-		
Petroleum												
Crude oil	1.023	42.81	40.13	264.0	73.33	3.140	2.943	937	1,067	-		2025
Gasoline / petrol (100% petroleum)	1.065	44.59	33.03	251.9	69.96	3.119	2.311	741	1,350	1.1		2025
Kerosene	1.056	44.20	35.36	257.0	71.39	3.155	2.524	800	1,250	1.1		2025
Jet Kerosene	1.053	44.10	35.28	257.0	71.39	3.148	2.519	800	1,250	1.1		2025
Diesel / gasoil (100% petroleum)	1.034	43.31	36.60	263.9	73.30	3.174	2.682	845	1,183	1.1		2025
Residual fuel oil / fuel oil	0.985	41.24	38.83	273.6	76.01	3.134	2.951	942	1,062	1.1		2025
LPG	1.126	47.16	24.62	229.3	63.69	3.003	1.568	522	1,915	1.1	Assumes a mixture of 70% propane & 30% butane by mass	2025
Biofuel / bioliquid												
Biodiesel HVO	1.051	44.00	34.00	-	-	-	-	773	1,294	1.1	Hydrotreated vegetable oil	2025
Biomass												
Wood pellets & briquettes	0.413	17.28		-	-	-				1.1		2025
Wood logs & chips	0.313	13.11		-	-	-				1.1	Assumes 25% moisture content	2025
Gas	Energy content			Emission factor						PE factor	Note	Year
		MJ/m^3		gCO2/kWh	gCO2/MJ	kgCO2/m^3			-			
Natural gas (GCV)		39.33		183.5	50.98	2.005				1.1	Provisional values for 2025	2025
Natural gas (NCV)		35.48		203.5	56.52	2.005				1.1	Provisional values for 2025	2025
Electricity				Emission factor						PE factor	Note	Year
				gCO2/kWh	gCO2/MJ					-		
Electricity consumption				197.8	54.95					1.739		2025
Gross electricity supply				178.3	49.54					1.576		2025

Web accessed on the 15th September 2026