



Irish Academy of Engineering Publications work plan 2025/2026

Introduction

The Irish Academy of Engineering relies on the voluntary support of our Fellows (members). One of our main activities is the researching and publication of evidence-based reports delivering on our mission of providing thought leadership on matters where Engineering/Technology can play a major part in providing independent advice to policy makers on matters involving engineering and technology.

Organisation

This research and publication activity falls to our three main standing committees (SC's) and also our Regional committees. The main Standing committees are:

- **Infrastructure Standing committee** - Chair Tim Corcoran/Vice chair John T Murphy.
- **Energy & Climate Action Standing committee** – Chair Eamonn O'Reilly
- **Enterprise, Innovation & Education Standing committee** – Chair Mark Gantly

Standing committees generally meet annually, identify topics of relevance/interest, identify working groups to carry out research and prepare reports for publication. The work is carried out in accordance with the Academy guidance document on publications and the Chair of the relevant standing committee ensures the draft is compliant with the guidance note and recommends publication to the Academy President/Executive.

It should be noted that not all working groups result in publications. At times the research may conclude that topics do not result in recommendations to advance the wellbeing of the Country.

Work Plan 2025/2025

The following is a short summary of work currently in progress and potentially envisaged

Infrastructure Standing Committee (ISC)

ISC 1 1 Consenting issues associated with flood relief schemes (completion of report, currently in draft)

ISC 2 Port Facilities to support offshore wind turbine construction and maintenance (with Southern Region)

ISC 3 Resilience of Infrastructure including power (gas and electricity) ports (cf Holyhead), communications, water, transport coastal protection (or critical infrastructure adapting to Climate Change)

ISC 4 Sustainable Freight transportation in Ireland

ISC 5 Collaboration type contracts for smaller type public projects

ISC 6 Adopting innovation to infrastructure projects e.g, more efficient methods for watermain renewal without major road works and traffic management

ISC 7 Supply chain for major infrastructure projects

ISC 8 Update on Regional Broadband

Energy & Climate Action Standing Committee

The commentary on Page 18 of the Academy's Annual Report 2024-2025 listed a number of possible areas which the Energy & Climate Action standing committee might look at as follows:

- National strategic gas storage capacity requirement
- Transmission infrastructure requirement
- Sizing the aggregate capacity of renewables that will be needed
- Requirement for a growing fleet of firm, dispatchable back-up generators as the power source of last resort
- The future of the gas network • Assessment of the potential of eFuels in the context of a continuing dependence on liquid fuels
- Future battery storage needs and options
- Suitability of the institutional arrangements in place to deliver the energy transition

Theme for the next report - The working group is currently researching a publication for Autumn 2025 to cover the following:

Ireland's energy policy has, in recent years, failed to address the needs of a growing island economy with an increasing population and with a high dependence on foreign direct investment.

There has been a singular focus in energy policy on sustainability to the exclusion of energy prices and energy security.

Energy policy needs to be recast to ensure that essential energy infrastructure is developed to meet demand from economic growth and demand arising from the electrification of energy services.

The Academy's next report will argue that Ireland's energy policy needs to be rebalanced based on engineering fundamentals in two areas:

- *The technologies that are available on the supply side*
- *The delivery of large energy infrastructure projects based on these technolog*

The current approach of achieving climate neutrality by 2050 through a series of five- year carbon budgets is not working and it is not conceivable that progress towards this ultimate target can accelerate over the remaining 25 years to the point where it can be met. This reality needs to be recognised.

The core message of the report is that the reduction of energy-related GHG emissions needs to be recast in policy as a constraint rather than as a singular policy objective and that policy needs to address energy security and energy availability to support economic development.

Enterprise, Innovation & Education (EIE) Standing committee

EIE 1 - Enterprise Policy Formation

A number of Academy fellows were involved in the Technology Foresight process (initiated in 1998) which paved the way for the creation of Science Foundation Ireland (SFI), and also helped focus public investment in key growth sectors. The consensus is that this process had a major impact on our economic success over the last 25 years.

At the time in 1998, this process was managed by Forfas, with key stakeholders from industry and education coopted to contribute.

Today the process for investment in technology appears less coherent. The proposed workstream would document the existing process and then comment on its efficacy. Beyond some basic desk research, the workstream will involve consultation with policy maker and executives from government departments (DETE and DFHERIS) and state agencies (IDA and Enterprise Ireland (EI)).

EIE 2 - Research Ireland

(This workstream is related to the previous EIE 2 project)

Over the last year, SFI has gone through a substantial transformation. It has been renamed as Research Ireland (Taighde Eireann) and, with the integration of the Irish Research Council, its brief has been extended to include research in humanities.

A number of Academy fellows have expressed concern at both changes – the elimination of what was seen as a strong, internationally recognised brand (SFI) and the weakening of its focus – away from the scientific domains that will drive future economic success.

This workstream will build an accurate understanding of the agenda for the new Research Ireland, including consideration of the two concerns expressed by fellows. With this understanding, we will prepare a commentary and recommendations.

The workstream will involve direct engagement with the CEO of Research Ireland and with selected board members.

EIE 3 - Scaling

Over the last 20 years, Ireland has established effective supports for creating startups. There has been a cultural shift in your younger generation with startup creation now seen as a natural career choice.

The challenge is now how to scale high potential startups to be successful enterprises. Anecdotally we hear that access to financing, scaling beyond direct ‘founder sales’ and attracting/ retaining top talent are impediments to this. This workstream would explore the supports that we have in place for scaling, how effective these are in practice, and further measures that could be taken.

The workstream will involve discussion with innovation hubs focussed on scaling (e.g. Platform94 in Galway), startups with scaling potential, policy makers (DETE) and state agencies (Enterprise Ireland(EI)).

EIE 4 - Placemaking

It is widely accepted that innovation thrives in locations with a strong lifestyle proposition. Top talent (including homegrown talent) is mobile and will seek out those locations which best meet their needs for housing, education, healthcare, leisure etc.

While Ireland has many of the intrinsic natural amenities that will attract talent, we have serious deficits in almost of all of the other attributes that are essential to a complete lifestyle proposition.

Work is underway to address the deficits - in transport, energy, water and waste water, housing etc. Some of these are the subject of scrutiny and comment by other Academy committees. This workstream will examine how well these elements are being integrated to deliver towns and cities that will attract and retain top talent.

The workstream will focus in particular on the work being done by the RIAI’s Irish Cities group(supported by IAE Fellows) – which has proposed a detailed plan for the development of Galway city to 2070. It will also look at how this study is impacting spatial planning in the city in a real way.

A ½ day seminar is proposed, which will present the Irish Cities Galway 2070 project, also presentations from planners in the city on current 'live' projects and produce summary conclusions and recommendations for action.

EIE 5 - Development of Technological Universities – Research Agenda

Our technological universities are now up and running for about 5 years . Much of that time has been consumed with integration of the legacy entities and the formation of new leadership teams and governance structures – while continue to operate education and research activities day-to-day.

In order to justify their status as Technical Universities (TU), there is an expectation that they will substantially increase their research activity. What is not clear is if there is a strong theme to this new research activity. Will the TUs compete directly with the existing universities?

A related question – is there a risk that raising their game on research will have a negative impact on the TUs where they have been traditionally very strong in educating industry-ready talent?

Now is a good time to answer those questions - through dialog with TU leaders, with policy makers (DFHERIS) and with those stakeholders (IDA, Enterprise Ireland (EI)) who depend on TUs.

How you can help our Academy

We are always looking for volunteers and subject matter experts for our working groups. If you can help us, please let us know by contacting our Administrator Fiona McCarron at Academy@iae.ie.