
Department of the Environment, Climate and Communications Research and Innovation Strategy

Response from the American Chamber of Commerce Ireland (AmCham) to the Department of the Environment, Climate and Communications' public consultation.

August 2023

The American Chamber of Commerce Ireland

The Voice of US-Ireland Business

The American Chamber of Commerce Ireland (AmCham) is the collective voice of US companies in Ireland and the leading international business organisation supporting the Transatlantic business relationship. Our members are the Irish operations of all the major US companies in every sector present here, Irish companies with operations in the United States and organisations with close linkages to US-Ireland trade and investment.

What gaps do you see in the Department’s current research and innovation activities? How should we address those gaps in the Department Research and Innovation Strategy?

The development of research and innovation will be crucial in meeting our climate goals. AmCham notes that the development of renewable energy will be key in meeting our 2050 targets, as discussed in its White Paper *‘Powering Ireland into the Future’*¹, however greater attention must be paid to the wider areas that need to be addressed. In this regard some gaps in the current strategy include a lack of funding for fundamental environmental research, research into how we can measure sustainability, and research into the circular economy.

There needs to be funding for research that leverages off Ireland’s potential to be a leader in sustainable industry sectors. For example, Ireland has a huge potential to be a significant exporter of renewable energy. A long-term strategy focused on self-sufficiency and exports is needed to coincide with the short to medium-term strategy to establish security of supply, and research should play a core role in this strategy. Investments in test beds to trial and develop power conversion, energy storage, transmission, and integration technologies are critically needed. This will be essential if Ireland is to reach its potential as a global leader in energy transmission and renewables technologies. Further, the Department’s strategy needs to be cognisant of other initiatives coming down the line, for example, the proposed EU Net-Zero Industry Act; research reflective of the areas that are addressed in such acts should be prioritised.

As has been noted in several submissions to the Department, there is a pressing need for greater collaboration between industry, academia, and Government. AmCham members from both industry and academia are keen to engage with Government, particularly on the topic of sustainability.

AmCham further suggests that more could be done with existing international partnerships to expand on our knowledge, and to build our reputation as a research and innovation leader in the green space. Doing so would additionally expand our international research networks. AmCham acknowledges that the Department has been strong in the area of international collaboration, as is evidenced in its role coordinating Ireland’s participation in two of the Horizon Europe Missions, *“Climate Neutral and Smart Cities”* and *“Adaptation to Climate Change”*. However, AmCham believes that Ireland could do more to foster international collaboration. For example, the US-EU Trade and Technology Council (TTC) has a dedicated focus on climate and clean tech. Ireland should play a key role in shaping and responding to the aims of the TTC.

¹ <https://www.amcham.ie/posts/white-paper-on-sustainable-energy-powering-ireland-into-the-future/>

What actions can the department take to identify future trends in the areas under our remit?

As mentioned above, the need for collaboration between industry, academia, and Government is key, and will be important in identifying where the greatest need lies for research in areas under the Department's remit. AmCham suggests that a formalised structure is established within the Department for engaging with external experts to identify funding priorities. Ireland should look to how groups such as these can effectively play a role in helping to formalise collaboration. The development of structured horizon scanning projects would be additionally beneficial. Ireland should look to examples of best practice in other countries. The UK, for instance, provides a good example here, as several departments have their own Futures or Horizon Scanning teams.

Are there specific thematic areas relevant to the Department's remit which you would like to see more research and innovation activity in? How can this be achieved?

There is a pressing need for policy makers and industry to have a better idea of the reality of the anticipated impacts of climate change across regions and sectors. As such, research into climate adaptation strategies is required to ensure that all aspects of Irish society are fully prepared for what is to come. Alongside this, it is important that community engagement is prioritised, and, as such, research into societal engagement and behaviour studies should be supported by the Department.

As noted above, there must be a greater level of research that specifically targets areas set out in the Net-Zero Industry Act and Ireland's Climate Action Plan. For example, one area that will require considerably more research and innovation is the circular economy. With a circularity rate of 1.8%, Ireland lags well behind the EU average of 12.8%.² The Whole-of-Government Circular Economy Strategy provides an overall national policy framework for the circular transition to significantly improve Ireland's circularity performance above the EU average by 2030, but a greater focus on the importance of research in reaching these goals is required. Before policy related to the circular economy can be fully implemented there is a need for a greater depth of information, and thus research is needed into particular matters – for instance the challenges that the circular economy poses, the best ways to meet these challenges, and the level of public and private investment needed.

² <https://www.gov.ie/en/publication/7bd8c-climate-action-plan-2023/>

Have you views on the impact of disruptive technologies such as AI, Quantum and 6G as part of the digital transformation agenda and the implications of these technologies for the Department?

The Department should be ambitious in its approach to disruptive technologies and take measures to ensure that Ireland is a competitive location in which to develop them. Ireland has to date seen the benefits of the R&D tax credit, and it is important that this support remains adaptable and is reflective of Ireland’s ambition to be a global leader in research. In its Budget 2024 Submission³, AmCham called for the expansion of the scope of qualifying fields for the R&D tax credit, to include artificial intelligence, data analytics, digitalisation, emerging technologies in the field of advanced/digital manufacturing.

The greatest skills gaps for AmCham members have been identified in engineering, data and digital, and machine learning and AI. These areas also represent some of the greatest opportunities in the years ahead, and so significant moves must be made to rectify the gaps that exist in these areas. AmCham advocates for the provision for and ringfencing of a multi-annual fund to accelerate the delivery of the National Digital Strategy, with a particular focus on cyber-security, digital literacy and skills, digitalisation in healthcare, and the appropriate utilisation of new and emerging technologies such as generative AI and immersive technology.

Technological developments are key to emission reductions. The European Commission’s Joint Research Centre’s (JRC) study *‘Towards a green & digital future’* notes that *“successfully managing the green and digital ‘twin’ transitions is the cornerstone for delivering a sustainable, fair, and competitive future”*. As such, technical advancements and sustainability go hand in hand. A vast number of opportunities exists to further expand upon Ireland’s digital ecosystem, and to further promote the digital transformation of our economy and society. Again, test beds will be a key driver in making the most out of the disruptive technologies that are coming on-stream. To reach the full potential of these disruptive technologies significant research funding, infrastructure investment, and updated regulatory frameworks dedicated to their development will be necessary.

How can the Department better communicate its research and innovation needs?

It is important that the Department regularly keeps industry and research bodies up to date with their priorities and initiatives. Regular reporting of research priorities will be key in communicating the needs of the Department. The Department could communicate their research priorities annually, as part of their regular strategic

³ <https://www.amcham.ie/media/ef1rfr/1896-pre-budget-submission-report-fa-digital.pdf>

planning process, and stipulate which areas will require greater external advice. This would deliver a greater sense of clarity with regard to the direction the Department is heading in, whilst also establishing greater coherence between Government departments, reduced duplication, and greater opportunities for cooperation. These updates should be regular, clear, but also specific in terms of research questions that are being asked. Again, this is already the case for many Government departments throughout the UK.

AmCham acknowledges the way in which Ireland's Department of Further and Higher Education, Research, Innovation and Science and its agencies have recently published their areas of research interest for 2023 to 2024, as they relate to tertiary sector policy and their operations. The same approach should be adopted by the Department of the Environment, Climate, and Communications going forward.

How can the Department work more effectively to source evidence from the national research and innovation community to support its work in policy development, policy implementation, and the uptake of new technologies?

Ireland's research and innovation ecosystem should be treated as a place for discovering new solutions to public policy challenges. In this respect, Ireland's research and innovation ecosystem requires the sustained commitment of many Government departments, state agencies, and stakeholders. Collaboration with and between state agencies, alongside industry, is essential to finding solutions to today's systemic and complex challenges.

Government departments should use innovative and collaborative approaches, such as co-creations, as a mechanism for addressing policy problems. Co-creations bring together multiple stakeholders – MNCs, SMEs, HEI, NGOs, and others – to develop innovative solutions to complex challenges. As mentioned in a submission to the Department of Further & Higher Education, Research, Innovation and Science, the establishment of a National RDI Advisory Council to supply evidence-based advice for challenges and policy decisions would be beneficial. Such a body should include representatives from business, HEIs, and Government departments. Ensuring regional, sectoral and gender balance on such a body would best place it to identify and address all relevant issues. Such models have proven productive elsewhere, for example, the UK Department for Digital, Culture, Media & Sport have established a 'college of experts' for the department to access external expertise.

There further needs to be a concerted effort on both sides to connect with scholarship on advisory processes and practices, and continuous evaluation of how successfully the structures work and compare to international models. The European model provides a useful example of how science advice can be successfully implemented into

policy making. For example, the Scientific Advice Mechanism provides independent, high quality scientific advice directly to European Commissioners to inform their decision-making on policy issues. Ireland could look to examples of best practice, such as the processes in place at EU level, to inform a model at national level, allowing for the development of the necessary structures to best support the science advice process.

There is also a need to ensure we have the talent and expertise in areas which will become increasingly important in years to come. Currently, circa 550-600 PhD students graduate in Ireland each year – in ensuring the Ireland of 2050 is a bastion of research and innovation, a focus must be placed on increasing the proportion of PhD graduates and the capacity for research development in Ireland. Attracting world-class researchers and educators into Ireland’s tertiary education system must be a priority to reach Ireland’s long-term potential, and further support industry-academia collaboration and talent development.

How can the Department engage more effectively with all stakeholders in the national research and innovation system? If you are responding on behalf of an organisation, please state how the Department could more effectively engage with your organisation.

As has been noted throughout this submission, the need for collaboration and clarity from the Department cannot be overstated. It is crucial that Government understands what research bodies have to offer, and that research bodies understand the needs of Government. The establishment of expert boards is one way that this collaboration could be actualised.

Should the Department seek to grow its capacity to carry out in-house research? If yes, how can this be achieved?

Yes, AmCham regards the growth of in-house research as a positive move for the Department. Any such development should be carried out in collaboration with research organisations. The establishment of a centre funded by the Department would be welcomed.

Are there examples internationally of Government strategies on research and innovation in climate, communications / digital, circular economy, cyber security, energy or environment that we should examine? If so, can you provide details?

There are several case studies of European countries that have effectively implemented strategies on a range of research and innovation topics. For example, Denmark's Climate Act includes a comprehensive roadmap for reducing greenhouse gas emissions significantly by 2030 and reaching climate neutrality by 2050. AmCham has continuously advocated for the development of a roadmap for business, building on the Climate Action Plan, with defined KPIs and concrete timeframes. In terms of the circular economy, the Netherlands has an impressive Programme for the Circular Economy, which includes aims to achieve a fully circular economy by 2050, and details significant investment in research areas such as resource efficiency and sustainable product design, central to promoting a circular economy. In terms of digital, AmCham suggests that the Department looks to the UK's Digital Strategy which underlines the necessary role of research and innovation in AI, quantum computing and cybersecurity. Finally, Estonia's cybersecurity strategy goes into great detail in terms of digital security and the importance of ongoing research, and collaboration is a noteworthy document to consult.

Are there any other matters you wish to raise in relation to the development of the research and innovation strategy?

As mentioned throughout this consultation collaboration will be key going forward, and Government should adopt an across departmental approach to strengthen business research and development investment. This can be achieved through increased investment in mechanisms to support HEI-industry partnerships and collaboration, in areas specifically linked to Ireland's climate goals. Increasing university-industry collaboration in the space will have a hugely positive impact that goes beyond innovation itself. Rather it provides the opportunity to enhance the attractiveness of Ireland as a place to do business, expand Ireland's skills base, and accelerate Ireland's progress in terms of climate action.