Engineers Ireland Sustainability Plan

Consultation paper

15th June 2020

Climate breakdown and biodiversity collapse are the most serious issues of our time and transformational action is required in all engineering sectors and disciplines. Engineers have a critical role, and an ethical obligation to play this role, in the transition to a more sustainable society. Engineers Ireland is making a strategic commitment to sustainability and climate action.

The purpose of the Sustainability Plan is to translate this strategic commitment into actions as part of a whole-of-organisation approach. This consultation paper outlines our approach to sustainability and proposes actions under the headings Learn (professional formation and development), Live (operations), Lead (advocacy and regulation) and Collaborate.

1. Introduction

In September 2019, Marguerite Sayers stated in her Presidential Address 'Climate change – Engineering to Fix it – or Live with it':

> "To some extent, we have engineered our way into this situation, and we need to engineer our way out of it. […] As an engineering community, we therefore need to be front and centre of the call for action on climate change. We need to explain the consequences for all of us of inaction so that we provide necessary information, promote necessary behavioural changes, encourage the right choices and garner the financial support necessary to invest in the world's infrastructure."

Engineers Ireland is already involved in a large amount of sustainability-related work, including in CPD training, academic accreditation, sector events etc. Sustainability is one of our core policy values and is to the fore in our advocacy, media and communications on energy, housing, transport, water, flood risk management and other topics. However, to be *front and centre* in the response to climate change and biodiversity loss, Engineers Ireland can do more from the strategic level to our day-to-day operations. Over the past six months, there have been some developments in this regard.

In November, the Executive Board approved a proposal that Engineers Ireland develop and adopt a sustainability vision/commitment and integrate this in the upcoming strategic planning process, potentially using a Learn-Live-Lead model to bring together a diverse set of objectives and actions.

In February, the Council of Engineers Ireland approved a motion to "*Declare a Climate and Biodiversity Emergency, publicly recognising that climate breakdown and biodiversity collapse are the most serious issues of our time.".* The Declaration was made on 4th March, World Engineering Day for Sustainable

Development. In May, the Council and Executive Board approved a statement of strategic intent, emphasising a commitment to sustainability in our vision, mission, core work and a strategic theme.

The purpose of the Sustainability Plan is to translate this strategic commitment into actions. This consultation paper outlines Engineers Ireland's existing sustainability commitment, member engagement and work by other organisations. Primarily, the paper sets out proposals for the Sustainability Plan (section 4) – your feedback on our approach and proposed actions would be greatly appreciated.

2. Strategic commitment

Statement of Strategic Intent
Our Vision: A community of creative professionals delivering sustainable solutions for society

Our Mission: Engineers Ireland is an institution that enables the engineering community progress their professional development and make a sustainable impact on society, advocates for the profession and encourages and educates the future generations of engineers.

The Strategy's five themes are: growth and diversity; influence for impact; drive standards & innovation; champion sustainability.

One of the Strategy's core objectives is: Advocacy for the Profession, its contribution to environmental sustainability and social and economic development. Some of the proposed actions include:

- Taking a whole-of-organisation approach to championing the UN SDGs, such those related to wellbeing (SDG 3), climate action (SDG 6, 7, 11, 13) and the economy (SDG 9, 12)
- Shaping public policy through independent study and engagement as an impartial adviser to government on topics such as wellbeing, climate action and biodiversity loss, and infrastructure investment

Declaration of a Climate and Biodiversity Emergency (March 2020)
"On the 22nd of February, the Council of Engineers Ireland – which includes representatives of our engineering divisions and regional branches – passed a motion to declare a Climate and Biodiversity Emergency, publicly recognising that climate breakdown and biodiversity collapse are the most serious issues of our time. The Council of Engineers Ireland acknowledges the considered opinion of the scientific community that transformational action is required to achieve meaningful outcomes."

"The planet has ecological limits and a finite biocapacity, a paradigm shift is required to realign humanity's ecological footprint within this capacity. Indeed, with our existing technologies and fossil fuel dependence, we will fail to achieve our existing commitments. Engineers Ireland is adding our voice to those of professional bodies and other organisations around the world by declaring a Climate and Biodiversity Emergency.

"Engineers Ireland members will take action to address the impact of the Climate and Biodiversity Emergency. In this most important of missions, we will collaborate with scientists, environmentalists, government, their advisors, public service, other professions and civil society.

"As a professional body with 25,000 members, we will act as a leading voice for sustainability. Under the environmental and social obligations of our Code of Ethics, our members shall for example:

- promote the principles and practices of sustainable development and the needs of present and future generations.
- strive to accomplish the objectives of their work with the most efficient consumption of natural resources which is practicable economically, including the maximum reduction in energy usage, waste and pollution.
- promote the importance of social and environmental factors to professional Colleagues, employers and clients with whom they share responsibility and collaborate with other professions to mitigate the adverse impacts of their common endeavours.
- foster environmental awareness within the profession and among the public."

Engineers Ireland member survey (2,180 responses, January 2020)

Climate action and sustainability were strongly represented in the responses to Engineers Ireland's latest member survey. When asked whether engineers have an ethical obligation to tackle climate change and biodiversity loss, 88% agreed. In a question on the forthcoming Strategy, one of the priority themes raised was climate change. Members suggested a wide range of climate/sustainability related projects for Engineers Ireland to profile in publications and events.

Further information on engineering, education and the UN SDGs is available in the 'Engineering 2020: A barometer of the profession in Ireland' report. The report was launched on World Engineering Day for Sustainable Development, a UNESCO-WFEO international day to highlight the achievements of engineers and engineering in our modern world and improve public understanding of how engineering and technology is central to modern life and sustainable development.

Translating strategic commitment into action

Combining the above strategic commitment and engagement gives four key considerations for the Sustainability Plan:

- Scale of the challenge: climate breakdown and biodiversity collapse are the most serious issues of our time and transformational action is required now to achieve meaningful outcomes. Action is needed across all engineering sectors.
- Engineers have an ethical obligation to tackle climate change and biodiversity loss and to deliver sustainable solutions / make a sustainable impact on society. Engineers are already involved in delivering major sustainability projects and research.
- Engineers Ireland has an important role in: championing and educating on sustainability and the UN SDGs; promoting the principles and practices of sustainable development and the needs of present and future generations; advocating on wellbeing, climate action and biodiversity loss in public policy.
- There is a need for collaboration with international engineering organisations, scientists, environmentalists, government and their advisors, public service, colleagues across the built environment supply chain, other professions and civil society.

3. Review of some relevant sustainability models

In preparing this consultation paper, a number of examples of organisational response to sustainability, in Ireland and internationally, were examined. Some of the more relevant models are summarised below.

Commit-Lead-Develop-Educate-Implement (RIAI)
Royal Institute of Architects in Ireland's Sustainability Policy:

- Commit to promote environmental, social, economic and ecological sustainability as a fundamental principle of education and practice. The RIAI and its Members will…
- Lead in the public and the private sectors to ensure that sustainability becomes, and remains, normal practice. The RIAI will support members to take a leadership role in…
- Develop and support policies, regulations and practices that facilitate the implementation of the UN Sustainable Development Goals and IPCC Climate Change Report recommendations. The RIAI will…
- Educate - The RIAI will work to educate members, students, clients, the building industry and the public about the critical importance, substantial opportunities and benefits of sustainability.
- Implement - The RIAI will work to support its Members to implement and continually improve sustainability in the design, resourcing, construction, use and reuse of buildings, and the planning and development of the built environment.

Learn-Live-Lead (NUI Galway)
NUI Galway Sustainability Strategy used a 'Learn-Live-Lead' model to bring together a vision and a diverse range of targets and actions:

- Vision: NUI Galway will become a top-class green, smart and healthy campus. Our students, graduates and staff will be increasingly valued for their world-readiness, our research will help to tackle societal challenges, and our campus will be a role model for the transition to a more sustainable future.
- Model: The Strategy is based on a Learn-Live-Lead model whereby we will build on our core strengths in teaching and research to *learn* about the environment and new techniques, analyse campus operations building performance and user habits to *live* more sustainability and connect to the broader community and other institutions to *lead* by example.

Project Development, Standards, Technical Capacity, Communicate (ASCE)
American Society of Civil Engineers Five-Year Roadmap to Sustainable Development:

- Sustainable Project Development - To achieve such a shift in thinking, the strategic goal is to invent or reinvent infrastructure development processes to identify and address the intrinsic needs of a program or project.
- Standards and Protocols - To address the problem of standards and protocols that fail to address non-stationarity, the strategic goal is to establish, adopt, and implement methodologies that produce sustainable infrastructure.

- Expand Technical Capacity - Achieving the necessary professional transformation requires civil engineers to build or expand their capacity to achieve the visions and principles of sustainable development through new training and professional development opportunities.
- Communicate and Advocate - This significant transformation of the civil engineering profession requires communicating the reasons for change with members, the public, and all stakeholders.

UN Sustainable Development Goals (WFEO and Engineers Ireland survey)
The World Federation of Engineering Organisations is highlighting the contribution of engineering to achieve the UN Sustainable Development Goals (SDGs) to ensure that everyone has access to clean water, sanitation, reliable energy, and other basic human needs. WFEO states that engineers are needed most in the goals for water, energy, sustainable infrastructure, innovation and education.

Engineers Ireland surveyed employers and academics (as part of our accreditation review), asking to what extent each of the SDGs should be covered in engineering education programmes. The majority of employers and academics selected the same six SDGs to be covered in depth:

- Goal 6. Ensure availability and sustainable management of water and sanitation for all.
- Goal 7. Ensure access to affordable, reliable, sustainable and modern energy for all.
- Goal 9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation.
- Goal 11. Make cities and human settlements inclusive, safe, resilient and sustainable.
- Goal 12. Ensure sustainable consumption and production patterns.
- Goal 13. Take urgent action to combat climate change and its impacts.

4. Sustainability Plan proposals

APPROACH
Climate breakdown and biodiversity collapse are the most serious issues of our time and transformational action is required in all engineering sectors and disciplines. Engineers have a critical role, and an ethical obligation to play this role, in the transition to a more sustainable society.

Our approach to sustainability includes the resilience of our built and natural environment in the face of extreme weather (climate adaptation), the need to reduce emissions related to our buildings, vehicles and infrastructure (climate mitigation), biodiversity protection and enhancement, and achieving the UN Sustainable Development Goals.

As an organisation, Engineers Ireland is directly involved in a large amount of sustainability-related work and can guide/regulate, educate and inspire a large audience, particularly our 25,000 members. In this Sustainability Plan, we are adopting a Learn-Live-Lead model (aligned with our core objectives) to bring together a variety of actions as part of a whole-of-organisation approach.

Engineers Ireland will champion the principles and practices of sustainable development and will enable our engineering community to make a sustainable impact on society. In this most important of missions, we will collaborate with international engineering organisations, scientists, environmentalists,

government, their advisors, public service, colleagues across the built environment supply chain, other professions and civil society.

LEARN (Professional formation and development)
Engineers Ireland accredits more than 200 third level engineering programmes, subjecting each to a rigorous assessment focused on Programme Outcomes. Events by our Regions, Divisions and Societies typically reach over 14,000 attendees. We also offer an extensive CPD training programme which reaches more than 3,000 delegates each year, including collaborations with SEAI, IGBC and the Heritage Council. The STEPS programme engages almost 200,000 volunteers, students, parents and teachers.

Proposed actions:

- Create a new programme outcome/area on sustainability in the Engineers Ireland Accreditation Criteria for third level engineering programmes.
- Establish a cross-cutting Engineering Division dedicated to climate action.
- Develop a sustainability training series of new and existing CPD courses and sector events, potentially aligned with the UN SDGs.
- Make sustainability outreach a core theme of the STEPS programme.

LIVE (Operations)
22 Clyde Road welcomes thousands of members and visitors in a typical year and is the workplace for more than 40 staff. Engineers Ireland also runs many events outside 22 Clyde Road and visits hundreds of workplaces, colleges and schools. During the COVID-19 pandemic, our staff and sectors are currently working remotely and have brought services and events online for the benefit of members. To lead by example, we should strive to become exemplars in good sustainability practice.
Proposed actions:

- Continue to expand online member services and training post-pandemic and revise policies on travel/mileage to increase sustainable travel behaviour by staff and representatives.
- Undertake an environmental audit of 22 Clyde Road (e.g. energy, water, waste), set baselines and targets, and develop actions.
- Adopt a sustainable events policy for 22 Clyde Road, other sector events and large corporate events (e.g. Excellence Awards, National Conference, President's Ball).
- Participate in workplace sustainability initiatives related to energy, travel and health by e.g. EPA, SEAI, NTA and HSE.

LEAD (Advocacy and Regulation)
Engineers Ireland is a leader for the engineering profession and broader Irish society through media, member communications, public policy and public affairs. Our leadership on sustainability will be pivotal to the success of the national Climate Action Plan and the transition to carbon neutrality. We also play a regulatory role for our membership through our Bye-laws, Code of Ethics and Membership Regulations.

Proposed actions:

- Revise and communicate the Engineers Ireland Code of Ethics to strengthen members' commitment to sustainable engineering practice and climate action.
- Adopt a sustainable and ethical investment policy.

- Communicate the key role of engineering in achieving the UN SDGs, such as those related to wellbeing (SDG 3), climate action (SDG 6, 7, 11, 13) and the economy (SDG 9, 12).
- Through research, publications and engagement, influence public policy on wellbeing, climate action and biodiversity loss, and infrastructure investment.
- Hold a National Conference on the theme of 'engineering climate action'.

COLLABORATE

The solutions to the sustainability challenges set out above will require collaboration with other sectors of society. For example, working together with other professions in the built environment (e.g. developers, architects, manufacturers, property managers) if we are to take a life-cycle approach on cost and carbon reduction and working with the national heritage sector on biodiversity challenges. Within Engineers Ireland, there is scope for more collaboration between members working in different sectors.

Proposed actions:

- Adopt an inter-disciplinary approach to sustainability training and sector events to span across the Regions, Divisions and Societies in Engineers Ireland.
- Hold sustainability training and networking events that engage with other relevant professional bodies or sectors of society.
- Build coalitions with other professional bodies or sectors of society on sustainability policy and advocacy.

IMPLEMENTATION AND REPORTING

Following this consultation and the finalisation of actions, an implementation timeline will be developed and included in the Sustainability Plan. Progress will be reported quarterly to the Council and Executive Board. Regular communication and engagement will take place with members and other stakeholders.

How to respond to the consultation

Your feedback on our approach and proposed actions would be greatly appreciated.

Please respond using this SurveyMonkey link: https://www.surveymonkey.com/r/DL8F5GT

The deadline for responses is 2nd July 2020.

Thank you.
