Hello, my name is Sarah McCormack, and I am a Professor of Sustainable Energy in the Department of Civil, Structural and Environmental Engineering at Trinity College Dublin.

Thank you for the invitation to come here today to speak with you.

Given the time restrictions and breadth of perspectives at this meeting, I am concentrating on female participation in Science, Technology, Maths and Engineering (STEM) subjects.

Engineering is a field that has traditionally been dominated by men. Gender diversity in engineering is not just about achieving equality, it is about harnessing the full potential of our workforce and driving innovation and progress.

Women have historically faced systemic barriers and biases that have limited their participation in STEM fields, including engineering. This has resulted in a significant gender gap, with women being significantly underrepresented. By actively encouraging and supporting women to pursue careers in engineering & STEM areas, we can break down these barriers and promote gender equality in the workplace. It is crucial to create a level playing field where women have the same opportunities as men to enter, excel, and to lead.

Encouraging women into engineering is crucial for economic growth and competitiveness. Engineering is a field that drives economic development through technological advancements and infrastructure improvements. By tapping into the talent pool of women, who make up half our population, we can expand the engineering workforce and drive economic growth. Studies have shown that companies with diverse workforces, including gender diversity, tend to perform better financially and have a competitive advantage. Therefore, fostering gender diversity in engineering is not only the right thing to do, but it is also smart business.

From a personal perspective, I took a long route to get to my position today. Not all secondary level subjects were encouraged for girls and being from Donegal and there were not many options for 3rd level education in Inishowen. So, I left home to study, like many others. I went to Ulster University (UU) and studied science and then moved to Engineering to study for a PhD in Belfast (at UU). Afterwards, I moved to Technological University Dublin (TUD) (formerly Dublin Institute of Technology (DIT)), to the School of Physics and then on to a faculty position in the School of Engineering in Energy Engineering at Trinity College, Dublin.

I teach over 200 second year students, 20 – 60 Masters students along with 5 PhD students at Trinity and I co-supervise 2 others at TUD and Tyndall Institute in Cork. In our undergraduate Engineering courses women make up 20-30%, this is on the higher than most Irish universities. **Significantly, in our Engineering courses, women tend to do better, achieving higher degree results (more women achieve 1st class classifications) and women have higher completion rates (in 2017/18 it was 64% for men and over 90% for women).**

Females, just like their male counterparts, have the aptitude and potential to excel in STEM fields, but they often face societal and cultural barriers that discourage them from pursuing these subjects. Stereotypes and biases that suggest STEM is "for boys" or that girls are not as capable in these areas can limit their interest and participation. By actively encouraging girls to pursue STEM subjects in secondary schools, we can create a strong pipeline of female students who are prepared to pursue STEM careers, thus closing the gender gap and ensuring that girls have the same opportunities as boys to explore, learn, and excel in these fields. School Management, Subject Teachers, and
Guidance Counsellors in Post Primary School Settings all play pivotal roles in this regard. Encouraging STEM should be an integral part of a school culture.

By equipping girls with strong STEM skills early on, we can ensure that they are prepared for the jobs of the future and can contribute to Ireland’s competitiveness in industries such as technology, engineering, and healthcare. Companies with diverse workforces tend to perform better financially and lead to increased innovation, creativity, and problem-solving skills. Diverse teams are better equipped to understand and address the needs of diverse communities, which is especially important in engineering projects that have societal impacts. STEM skills are an investment in future employability and economic well-being, as well as that of our country as a whole.

By cultivating a diverse and skilled engineering workforce, Ireland can tap into the full potential of its talent pool, enhance its competitiveness and foster sustainable economic development.

Representation matters and having visible role models can inspire and motivate young girls and women to pursue careers in engineering and other STEM fields. Showcasing successful women STEM professionals as role models in schools, universities, and workplaces, can help challenge gender stereotypes and encourage more girls to consider engineering as a viable career option.

Encouraging gender diversity in engineering requires not only changing mindsets but also implementing supportive policies and practices in educational institutions, workplaces, and the engineering profession, such as flexible work arrangements, mentorship programs, diversity and inclusion initiatives, and bias training programs.

In conclusion, women offer different viewpoints, experiences, and approaches to problem-solving, which can lead to more innovative solutions and improved decision-making. In a world that is facing complex challenges such as climate change, sustainable development, and technological disruptions, we need diverse perspectives in engineering to develop innovative sustainable solutions that address the needs of all people.

Thank you for your time