

Meeting with Karen Ellemann, Secretary General of the Nordic Council of Ministers 9/5/2023

Association of Nordic Engineers' three recommendations for the Green and digital transition

Prioritizing STEM competences is the key to ensuring the green and digital transition in the Nordic Region

To ensure the success of the green transition in the Nordic Region, it is important to prioritize STEM competences. However, there is currently limited understanding of the specific engineering and STEM skills required for the rapid transition towards sustainability. Nordic governments and businesses have ambitious plans to tackle climate change through a green and digital transformation of society, but the exact competences needed from future engineers and STEM professionals remain uncertain, despite various predictions¹ of the future lack of those professionals.

It's important to recognize the competitive nature of the global landscape and consider the significance of STEM in shaping the future of Nordic economies. While the green transition is a strategic priority, generating interest in STEM among the young generation is crucial to avoid falling behind in the global context. This presents a significant challenge that requires attention and action.

To address the skills deficit,² the Association of Nordic Engineers recommends:

- 1. Establish a Nordic Green Transition Assessment Forum to identify the specific STEM competencies required to realize regional initiatives and national reform programs towards green and digital transition.**

The role of such a Forum would be to facilitate the assessment of skills demand for the green technology sectors in the region, align political strategies with the skills demand and orient the investments to close the existing gaps. The Forum will involve when needed, other relevant stakeholders from industry, academia and social partners in the assessment.

Particular attention is needed for:

- The education system requires a substantial upgrade to secure the provision of specialists matching the skills demand,
- There is a demand for more substantial knowledge sharing and collaboration across borders, organisations, and sectors to avoid a silo mentality and to capitalise on the vast potential for exporting skills and know-how from the region,
- Expanding existing and building new collaborations between the private sector, STEM professionals, and universities is also recommended,
- Exchange of best practices to attract and retain women and girls in STEM fields is strongly required. For example, cooperation could be thought with the Nordic Energy Equality Network³

¹ NHOs Kompetanse Barometer 2021 – <https://www.nho.no/siteassets/publikasjoner/kompetansebarometeret/nhos-kompetansebarometer-2021—nifurapport2022-3.pdf>

² [Towards A Circular Economy - Skills and competences for STEM professionals - nordicengineers](#) and [ane-report-competences-for-a-sustainable-future-online.pdf \(nordicengineers.org\)](#)

³ <https://www.nordicenergy.org/project/nordic-energy-equality-network-noon/>

2. Invest in technical research and secure excellence in Responsible AI research.

The necessary competencies and skills should be secured by relevant policies, research, development, and innovation subsidies targeted for the green transition. Technical research should be prioritised by the next NordForsk proposals to promote research and development at universities and companies, which in the past have demonstrated the ability to develop new technologies and solutions. Nordic higher education institutions should be incentivised to collaborate more on research, development and innovation.

Given AI's ethical, legal, and social implications, reinforced by recent Chat-GPT discourse, Nordic countries should prioritise Responsible AI research and establish the Nordic lighthouse centre of Responsible AI research, innovation and expertise. Nordic ministers should support initiatives towards establishing regulatory sandbox environments to test the use of AI technology. Our researchers have a lot of experience in developing approaches to designing and verifying AI systems, and those efforts should be further endorsed in terms of securing trustworthy AI.

3. Strengthen the cooperation on circular economy.

Both the Nordic Council of Ministers and ANE, have their working groups on Circular Economy⁴ and it would be beneficial for both sides to create synergies in the work towards the greener conversion in the region. There is a growing need for circular approaches to successfully complete the navigation from linear economies to an economy based on circularity. The group could work jointly to push national governments to prioritise skills and competences in their national circular economy strategies and develop recommendations on how to bridge this skill deficiency before it becomes an issue holding back the transition to circular economies in the Nordic region.

⁴ The Nordic Working Group for Circular Economy (NCE) and <https://www.norden.org/en/information/nordic-working-group-circular-economy-nce> and info on ANE WG can be found here: [Just Twin Transition - nordicengineers](https://www.nordicengineers.com/just-twin-transition)