

**To the attention of the Nordic Ministers responsible for Research,
to the Secretary General of the Nordic Council of Ministers**

Prioritising innovation, technical research, and development in the Nordic recovery plan

In our letter [10 steps for the Nordic recovery plan](#), addressed to your homologues responsible for Industry and Economic Affairs, we stated that the way out of the crisis is to reinforce the Nordic cooperation. This to make the Region a true frontrunner in the **green transition** and to invest in the innovative solutions leading to building sustainable societies.

This green transition cannot take off without innovation. Innovation cannot blossom without research and development, R&D, and commercial scale industrial deployment, which is at the heart of the Nordic welfare model and the Nordic countries' financial success. Therefore, we urge the Nordic Governments to keep **at least the same level of investments to R&D as before the Covid-19 crisis**. Investments in R&D are crucial in terms of creating new jobs, finding solutions for new production cycles, and increasing labour productivity both in short- and long-term perspectives. We also encourage the Nordic Governments **to support the European recovery plan and influence a timely agreement on the European budget**, where the financial envelope for R&D is highly prioritised.

From previous crisis, we know that R&D activities are at high risk of being slowed down. Industries hit by the crisis are forced to cut on technology development, restructuring and competence enhancement. Many companies use research institutes for their R&D activities, which especially for the technical-industrial research are mainly project-financed. Lowering R&D activities will also increase the risk of layoffs of many scientists and technologists and have a negative impact on the recovery and green transition. Hence, we call upon national governments **to support industries in their efforts towards R&D, by granting industries, especially SMEs an increased tax deduction on R&D expenses**.

We also ask the Research Ministers to stand for R&D in the Nordic recovery plan and to **include innovation as central part in the work programme of the forthcoming Finnish Presidency of the Nordic Council of Ministers**. Dedicated events to investigate opportunities for collaboration and to share Nordic R&D insights should be part of the Presidency programme. Moreover, the next NordForsk proposals should prioritise technical R&D to promote R&D at universities and companies working on new green solutions.

In these times, we should dare to prioritise, and see the potential in the solutions that can take us out of the crisis and create a sustainable growth. In our view, there is a need for a coordinated Nordic approach to boost investments in R&D activities in the areas such as **Carbon Capture and Storage (CCS), Power2X, new renewable battery technology, Artificial Intelligence (AI) and Fifth Generation Communication Technology (5G) and Hydrogen Breakthrough Ironmaking Technology**.

- Refineries, cement, iron & steel, chemical, waste and bio industries require widespread application of CCS to achieve significant reductions in emissions and prevent carbon leakage. Sweden and Finland are responsible for the largest CO₂-emissions from industry in the Nordic region, while Denmark and especially Norway have access to significant offshore storage capacities. The **Full-scale CCS project in Norway is a great example, where the R&D investments are needed to turn it into a Nordic-scale project**.
- A lot of green energy is produced in the Nordic countries, but it is still a global problem to store the green energy in fluid gas, for example used in trucks, trains, and aeroplanes. **Power2X¹** can be a solution for that and therefore, the investments are needed for **R&D activities to foster demonstration and testing possibilities, and upscaling some technologies**, such as TRL, where the levels are not mature yet.

¹ A priority area also identified by your homologues responsible for the Energy policy: <https://www.norden.org/en/news/energy-ministers-green-energy-conversion-power-new-start-after-covid-19>

- As the electricity grid is increasingly challenged with new and more volatile demand and supply, the storage and optimal grid investments will be critical to secure a stable cost-effective grid. The Nordic countries should cooperate to find solutions for local supply and peak management and **earmark R&D investments for new renewable battery technologies** to facilitate more production of renewable technologies required for a fully electrified Nordic Region.
- Nordic countries have a potential for **securing excellence in trustworthy AI research** – a competitive advantage for the Region. Trustworthiness in AI depends on ensuring clear lines of accountability for outcomes of the use of AI and strong notions of explainability. The **explainability research** is currently only nascent, and therefore **should be better prioritised**. In addition, and equally important, the investments should go to host more centres of excellence in **AI research, innovation, and expertise**. An important tool to benefit from AI research and solutions is 5G, which with the increased new speed empowers new AI solutions and digital services.
- The steel industry in the Nordic countries is one of the highest CO2-emitting industries. The dependence on steel production and the demand side is only expected to grow in the future. Therefore, the Nordic countries should coordinate efforts to **invest in R&D activities fostering the fossil-free production of steel**. For example, **the HYBRIT project** – the Swedish initiative building the world's first pilot plant based on direct reduction of iron ore with hydrogen - could become a true Nordic endeavour.

The shift to the **green economy requires a multi-stakeholder approach**. Consequently, in our letter to the Nordic Industry ministers we have suggested to establishing a Nordic Green Transition Forum. Our organisation, the Association of Nordic Engineers, which represents more than 500.000 engineers in the region, is ready to play a role in this Forum. Engineers have an impact on innovation and economic growth², and they can thus contribute with their expertise in finding the right solutions.

The **higher engineering education system needs the transformation to a multidisciplinary approach** combining the scientific knowledge with the practical skills and deep understanding of societal problems. An initiative such as the **Nordic Engineering Hub**, which is currently a research project financed by the Erasmus + programme, should be further supported to capitalise on its findings.

Let us finish with a quote by Albert Einstein: “Do not pretend that things will change if we always do the same. The crisis is the best blessing that can happen to people and countries, because the crisis brings progress. Creativity is born from the distress, as the day is born from the dark night. It is in crisis that invention, discovery, and large strategies are born. Whoever overcomes crisis, outdoes himself without being overcome”.

Copenhagen, June 3, 2020

On behalf of the:

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² http://www.denforstaingenjoren.se/wp-content/uploads/2019/09/forskarrapport_2006.pdf