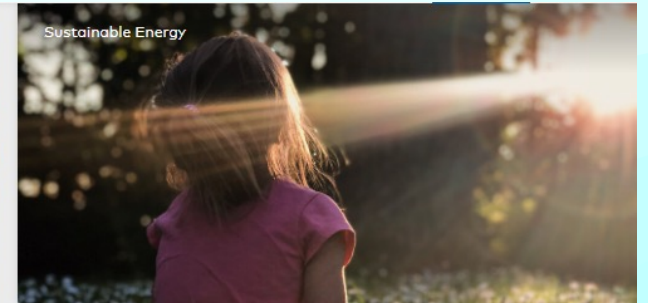




Nordic activities and intensified co-operation

Nordic Energy Research

- Nordic Energy Research is the platform for cooperative energy research and policy development under the auspices of the Nordic Council of Ministers.
- Main forum for energy research cooperation in the Nordics
- Facilitating energy research synergies in the Nordics
- We fund R&D to promote a sustainable future
- We contribute to policymaking



The Value of Nordic Research collaboration

- Nordic countries can be forerunners in building hydrogen value chains
- Energy research and common knowledge creation will play key roles
- Building on Nordic strongholds
- We look for solutions that will be better for being jointly discovered and developed





The Nordic Hydrogen Valleys as Energy Hubs programme will show the potential of hydrogen to become a zero-emission energy carrier in the Nordic countries, by demonstrating solutions that service the entire hydrogen value chain through five projects.

The programme is worth 10M EUR and consists of 5 different research consortia, over 55 partners and from 5 countries.

<https://www.nordicenergy.org/programme/nordic-hydrogen-valleys-as-energy-hubs/>

<https://www.linkedin.com/showcase/nordic-hydrogen-valleys-as-energy-hubs/>





The projects will study topics ranging from cross-sectoral linkage, storage & transport, materials and safety research, and social acceptance

- Nordic Hydrogen Hubs - Roadmaps towards 2030 and 2040 (NordicH2ubs)
- Rally to the Valley: Establishing Hydrogen Value Chains for the Nordics (Nord_H2ubs)
- Hydrogen, Ammonia and Methanol in Hydrogen Hubs in the Nordic region (H2AMN)
- Hydrogen Safety and Improved Permit Processes (H2SIPP)
- Material and Structural Integrity Assessment for Safe Nordic Hydrogen Transportation Infrastructure (MatHias)



Hydrogen Valleys						
Maritime transport	+2.9	2030	Hydrogen	Storage	Grid reinforcements	Industrial symbiosis
Materials research	Permits	BANANA	Social acceptance	Road transport	Ammonia	Energy domains
Local planning	CCUS	Safety	Smart Grids	NIMBY	Political commitment	PtX



- Co-operation within **energy research** and **common knowledge creation** play a crucial role in the rally to the hydrogen valley.
- **By building on each other's experiences and strengths, as well as geographical differences, we can reach much higher levels than by doing it ourselves. The Nordic region is jointly in an excellent position to deploy innovative solutions due to ambitious energy and climate policy goals, as well as extensive research programs.**



- **Challenge: The industry is more mature than the political decision capability. Hydrogen is the teenager of the energy family.**
- **A lot of nationally funded projects only exist as concepts, waiting to reach a positive decision.**
- **How will the energy hubs be handled in the electricity market? Will they have their own prize zone similar to energy islands? This will influence the optimization strategy for a PtX unit, and the goal should be to operate for the good of society, for low overall energy prices for the consumers.**

Big question:

What if there is a breakthrough discovery, a disruptive innovation that will make hydrogen unnecessary at the foreseen scale?

This is unlikely to happen before 2030 at a commercial scale.

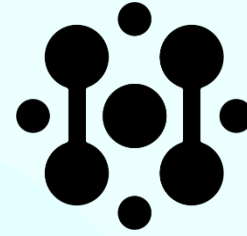
Also, we are not going to be able to fully build a new renewable energy infrastructure to cover all demands before 2030, 2040 or even 2050. A disruptive innovation will have plenty of space and application beyond 2030.

A T. rex grew so much and so quickly during its teenage years that its hunting practices changed. Young T. rexes were agile and could move quickly. Full-grown T. rexes couldn't run but used their massive jaws to crush prey.





Nordic Energy
Research



Nordic
Hydrogen Valleys
as Energy Hubs



rannís

BUSINESS
FINLAND



Swedish
Energy Agency

Innovation Fund Denmark



Forskningsrådet

New open call in the Nordic Maritime Transport and Energy Research Programme

In response to the continued growing need for low-emission solutions in the maritime sector, Nordic Energy Research, Sweden, Iceland, and the Faroe Islands have agreed to fund a new round of projects in the [Nordic Maritime Transport and Energy Research Programme](#).



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