## The success recipe for the green transition in Nordics

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#### **Green transition and Nordics**



- The Nordic countries are better off and in good speed in many ways: Green transition is true, taking place (smart grids, PVs, HPs, EVs etc.) and societies are strong & healthy
- Electricity very clean and green: hydro power, nuclear power, wind power, bio-CHP
  - More wind power & PV in FI & SE
  - Aurora line starting 2025
  - In the longer run, storage (batteries etc.), nuclear (SMR or big), integration of networks (electricity, District Heating, Hydrogen grids)
- The Hydrogen projects (and others) have suffered from lacking investments, FID
- "The Hydrogen hang-over" is easily coped with, things built on solid business cases

### The Success Recipe



- The recipe: KISS, step-by-step, from smaller to bigger, simple to complicated, learn-by-doing
- You can't hurry Love.. Sorry, technology. Every technology needs time to get rid of "the childhood diseases", to "learn".
- Also the sectors where Hydrogen will play (and not play) and what role is not fully written
- The Nordics have all the ingredients: cheap power, strong grids, plenty of bio-CO2, plenty of sweat water, heat use in Dist. Heating, skilled labor etc. PLUS DEMAND IS NEEDED!
- It is good to build on these premises gradually growing, healthy hydrogen economy!

### Different speeds, yet same goals





- Politicians, researchers, industry ... different speeds
- "The technology is there, already in Apollo-flights.."
- EU goal 10 Mt/a renewable H2 produced and 10 Mt imported by 2030 – goals OK, but not by 2030...
- Finland, in 2022 Clim. & Energy Strategy: "2025 goal 200
  MW electrolyzers" not by 2025, "1000 MW 2030"...
- Gov. progam: FI can produce 10 % of EU's clean H2 2030

# Thank You Kiitos