Cleantech *for* Nordics

Q1 2024: QUARTERLY BRIEFING

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INTRODUCTION

The first quarter of 2024 is behind us, and the huge amount of debt raised by especially Northvolt and H2 Green Steel forced us to fully reconsider how we represent data here at Cleantech for Nordics. This period has witnessed a remarkable surge in debt investments, potentially signaling a shifting landscape that we are closely monitoring. We're optimistic about this shift and hopeful that debt financing could provide a viable solution to the significant hurdles frequently encountered by cleantech manufacturing ventures and FOAKS, and perhaps debt can be one of the answers in overcoming the infamous “valley of death”. With a diverse range of financing tools that can complement each other, we see immense potential for the cleantech sector to further accelerate its progress.

In our latest brief, we highlighted how the EU elections were approaching. With June 9th drawing nearer, we want to reiterate the significance of these elections for the cleantech sector. Navigating the tangled web of EU policies can be daunting, however. Therefore, in this brief, we've gathered som stories from start-ups and a VC to illustrate how the sector is influenced by the decisions made in Brussels, to provide some context to the complexity. You will find the manifesto again at the end of this brief, and note that we already have four signatories from Finnish EU candidates, We see this is a promising first step in fostering a closer collaboration to Brussels. If you are in contact with policymakers and EU candidates who would like to know more about our work and endorse our manifesto, please reach out!

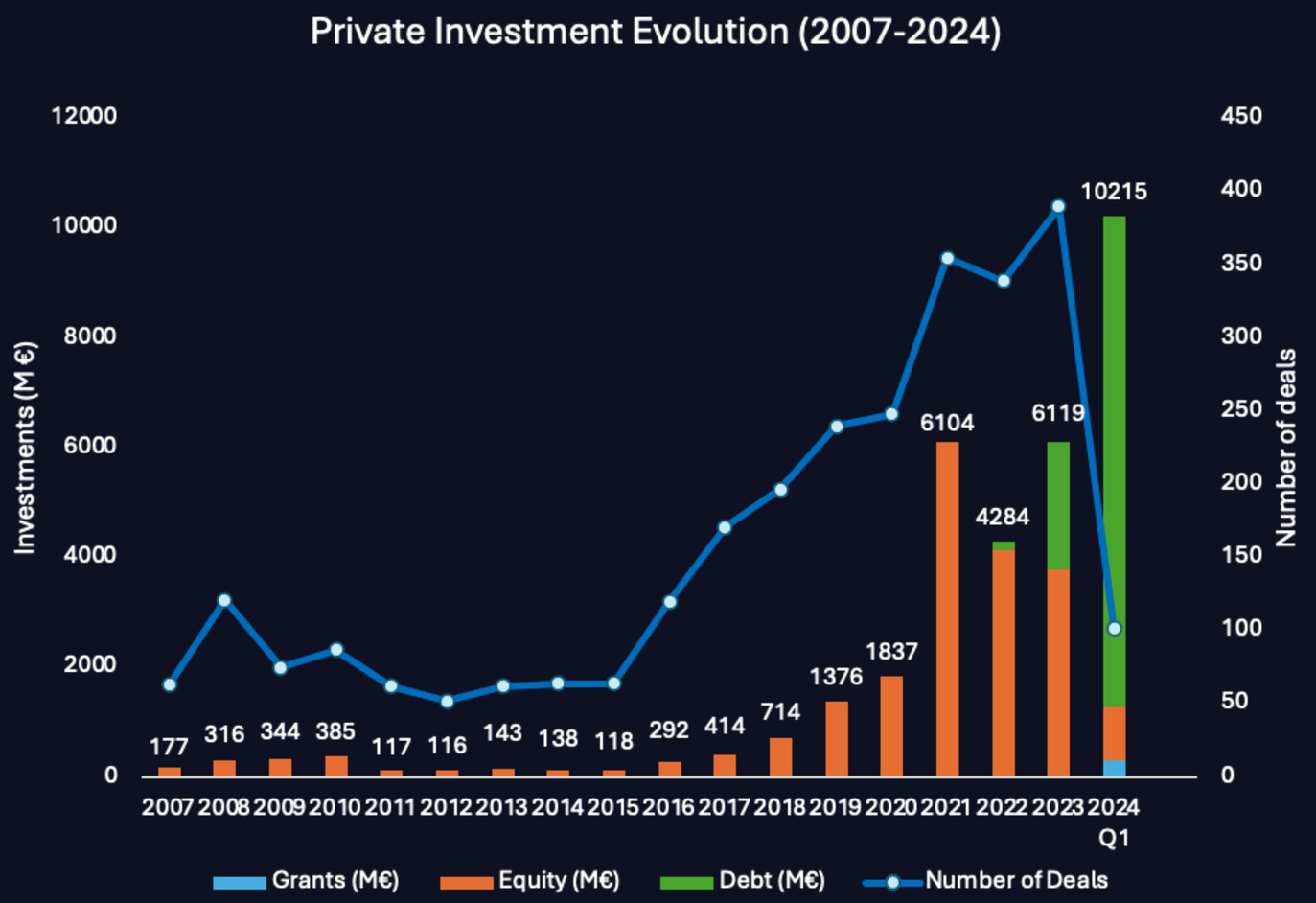
As always, you will also find an overview of the most recent dealflow activity, showcasing the companies securing top investments, and a summary of policy updates from the Nordics.

We hope you enjoy the read and don’t hesitate to get in touch with us at eva@cleantechscandinavia.com.

THE YEAR OF DEBT?

2024 may go down as the year of debt. We're experiencing an unparalleled level of investments through debt. When we add up all types of investment—grants, equity, and debt—we find that the total investment in just one quarter is almost twice the amount recorded for the entire previous year, with debt being the primary driver of this increase. However, when we focus solely on equity investments, we're seeing a fairly similar level as the previous year.

In previous years, we've included debt investments in our yearly totals due to their rarity and relatively small scale. The notable debt megadeals of 2023, involving Northvolt and H2 Green Steel, were also structured as convertible notes, allowing them to be converted into equity at a later point. However, the substantial increase in debt investments witnessed in Q1 of 2024 prompts us to reconsider our data representation. Please see debt tracked in green in the chart on the right. Backtracking investments since 2022, the verdict is clear: 2024 is shaping up to be the year of debt investments for cleantech with Q1 alone breaking records.

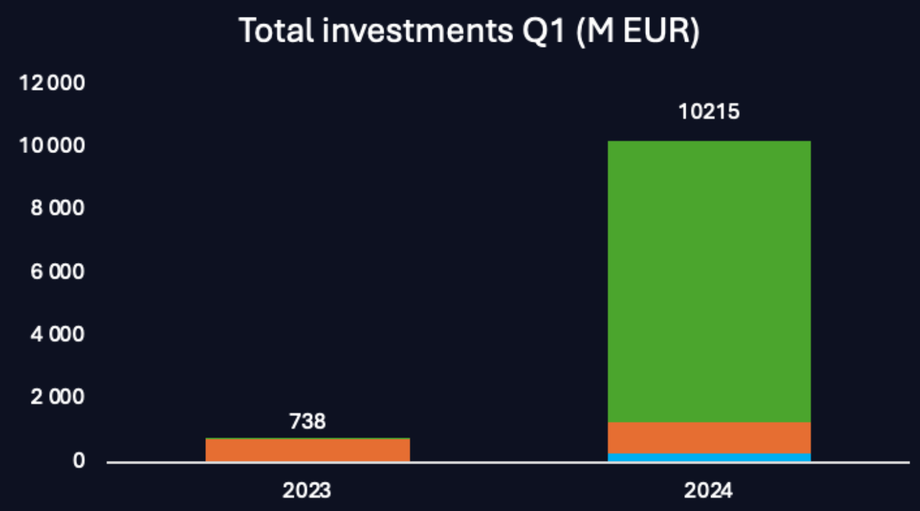


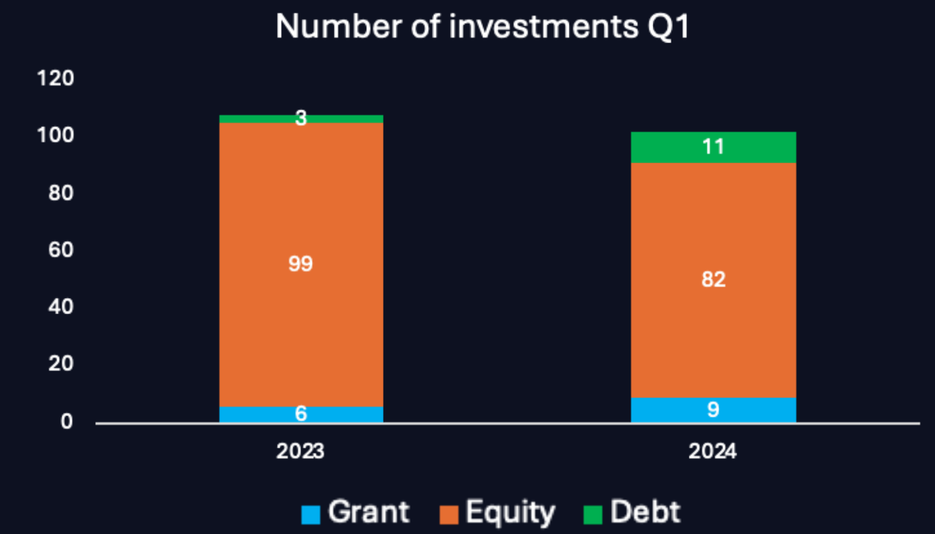
A QUARTER OF MEGAROUNDS AND DEBT

The first quarter of 2024 was described by Sifted as a quarter of megarounds, debt, and climate tech. When we look at our dealflow data, we see the same picture. Focusing only on equity investments, while the number of deals decreased, the total value rose by 36% compared to Q1 2023. In Q1 2023, there were 99 equity investments totaling 724 M EUR, whereas Q1 2024 saw 82 deals totaling 985 M EUR. Once we add debt financing to the picture, the landscape undergoes a dramatic transformation. The total investment amount skyrockets to 10,215 M EUR, a tenfold increase compared to the previous year.

We've previously pointed out Northvolt and H2 Green Steel as notable outliers, and it's not surprising that they're once again at the center of attention. While Northvolt secured 4,600 M EUR and H2 Green Steel secured 4,750 M EUR this quarter, it's worth noting that they're not the only companies to secure deals exceeding 100 M EUR. In fact, we now have four companies surpassing the 100 M EUR mark already in Q1, whereas only three companies achieved this feat last year.

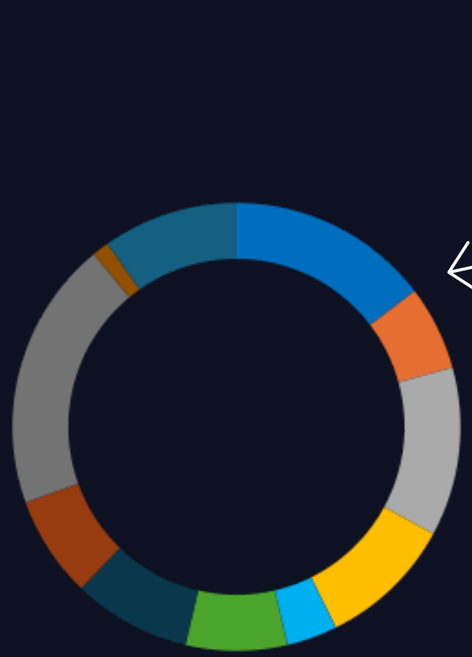
With the introduction of debt financing into the cleantech landscape, coupled with the growing presence of banks and infrastructure technology investors, the landscape for startups undergoes a shift in opportunities. These diverse actors and financing mechanisms can synergize effectively, serving different functions across various investment stages. To learn more about this topic, we would like to highlight our upcoming panel discussion on “The convergence of climate-tech and Infratech” during Clentech Capital Day in Helsinki on May 14-15th.





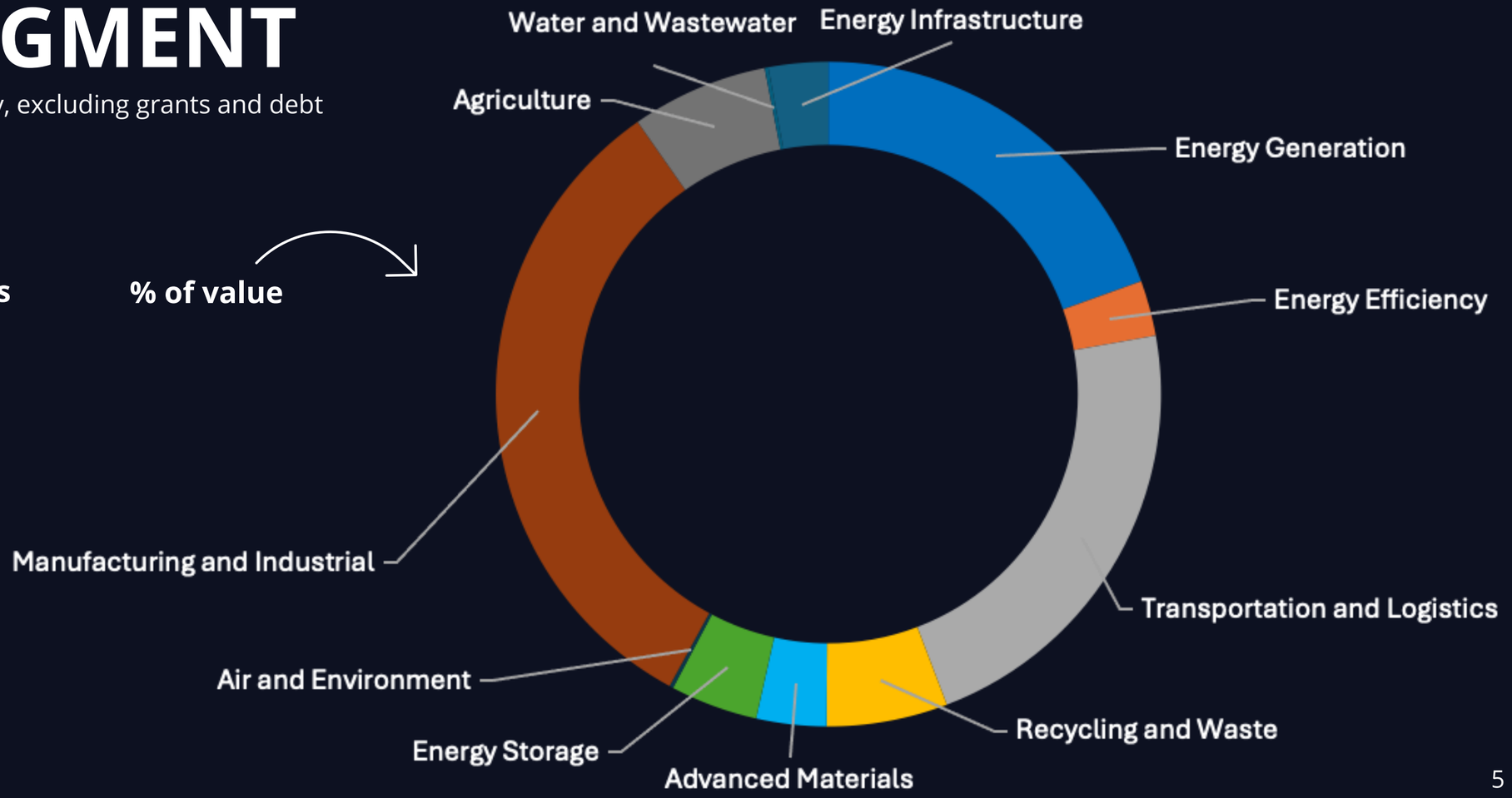
INVESTMENTS BY INDUSTRY SEGMENT

Distribution of equity investments by industry, excluding grants and debt

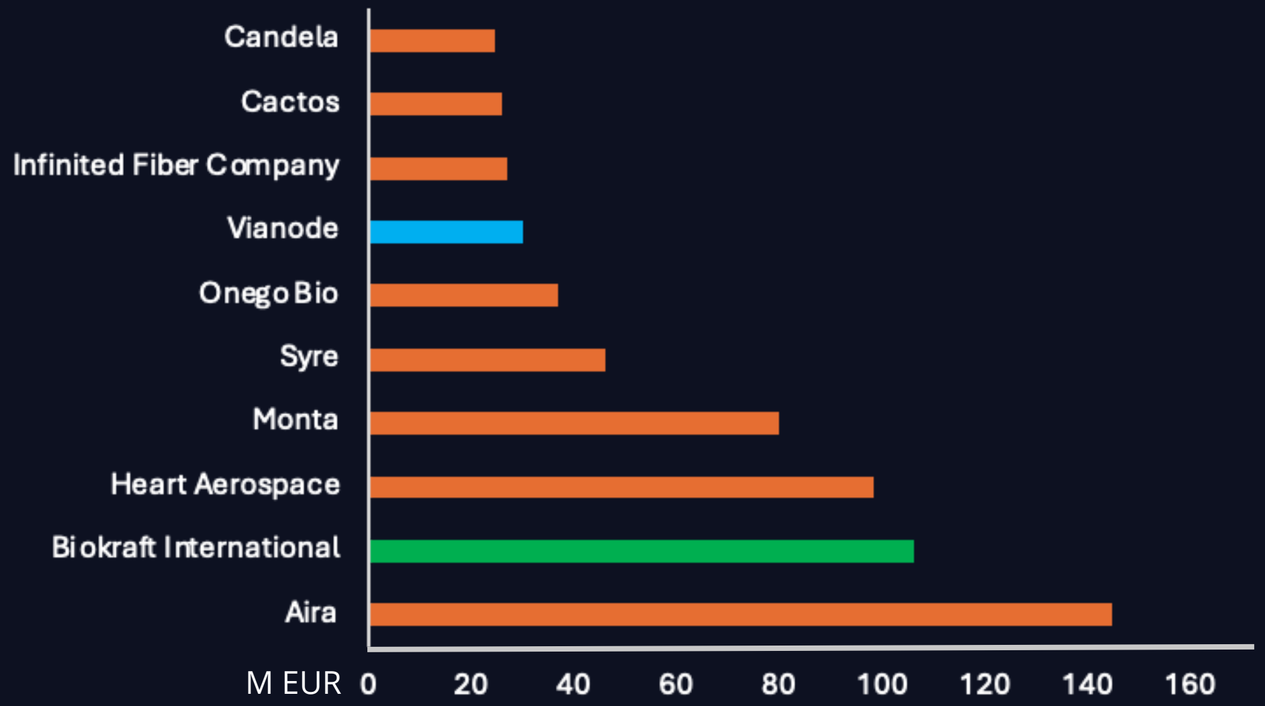


% of deals

% of value



TOP NORDIC INVESTMENTS 2023



Note that when one company has received multiple rounds of investments, such as H2 Green Steel, they are represented here as a total for the quarter.

In the first quarter, four companies secured investments surpassing 100 M EUR. H2 Green Steel and Northvolt surpassed this milestone by far, with total secured funds of 4,750 M EUR and 4,600 M EUR, respectively. Additionally, Aira and Biokraft International each attracted investments exceeding 100 M EUR. Heart Aerospace and Monta closely followed, securing 98.55 M EUR and 80 M EUR, respectively. Comparing to last year, only one company, Polytech, secured over 100 M EUR in the first quarter. Throughout the entire year, Polytech, H2 Green Steel, and Northvolt were the only three companies to achieve this feat.

Cleantech for Nordics

TOP NORDIC COMPANIES Q1 2024

NORTHVOLT

Northvolt specializes in lithium-ion battery cells, manufacturing batteries with clean energy, resulting in 80% lower CO2 emissions compared to coal powered cells.

H2 GREEN STEEL

H2 Green Steel produces green steel. Powered by hydrogen, H2 Green Steel produces steel with 95% reduced CO2 emissions compared to traditional steel-making.

AIRA

Aira provides intelligent heat pumps, offering innovative and affordable technology to advance electrification of residential heating.

BIOKRAFT INTERNATIONAL

Biokraft International turns organic waste into renewable energy and biofertilizer, as well as exploring liquified biogas for heavy road transport and shipping.

HEART AEROSPACE

Heart Aerospace is an electric airplane company, designing hybrid-electric motors with battery-derived energy.

MONTA

Monta offers an EV charging platform, enabling personalised charging experiences, full control over operations, and advanced energy management.

SYRE

Syre offers a textile-to-textile recycling solution, reducing CO2 emissions by up to 85% compared to conventional methods, and promoting a circular value chain.

ONEGO BIO

Onego Bio produces an animal-free egg white while having a positive effect on the environment and animal welfare.

VIANODE

Vianode is a synthetic graphite manufacturer producing high-performance battery materials with 90% lower CO2 emissions for the EV value chain.

INFINITED FIBER COMPANY

Infinited Fiber Company turns textile waste into high-quality fibers, reducing the need for new materials and reducing waste.

Energy Generation | Transportation and Logistics | Recycling and Waste | Advanced Materials | Energy Storage | Manufacturing and Industrial | Agriculture

THREADING THE GREEN NEEDLE

TEXTILE ECOSYSTEM INNOVATORS FOUND IN THE DEALFLOW

In Q1, the unfortunate bankruptcy of Renewcell was swiftly followed by the establishment of Syre, a joint venture between Harald Mix and H&M, dedicated to textile recycling. When we look at the dealflow, we find several companies working in different parts of the value chain for textiles and clothing. Here are three companies from Q1 taking who are taking on sustainability in the fashion industry. Indeed, two of the companies—Syre and Infinited Fiber Company—both secured two of the largest investments of Q1.

SYRE

Syre is on a mission to decarbonize and reduce waste in the textile industry, starting with polyester. They offer a textile-to-textile recycling solution that produces circular polyester which reduces CO2 emissions by up to 85% compared to traditional oil-based production methods, while maintaining the quality. By scaling up true textile-to-textile recycling, they aim to transition from a linear to a circular value chain, maximizing the reuse of textile waste and minimizing environmental impact.

INIFINITED FIBER COMPANY

Infinited Fiber Company transforms textile waste, which typically would end up in landfills or incinerators, into a high-quality, circular textile fiber. This reduces the need for virgin raw materials in textile production. Their patented technology tackles the global challenges of textile waste management and the growing demand for new textiles be repurposing waste into premium-quality fibers.

VIVIDYE

Vividye makes printed fabrics part of the recycling loop, reducing textile waste. Vividye's textile print technology allows for effortless print removal without damaging the textile fiber. This breakthrough enables the reuse of garments, facilitating multiple printing cycles and extending the lifespan of each garment.

SCALE-UP NEWS

- **Polarium** expands local production in Stockholm with the launch of Polarium X2, focusing on manufacturing Homevolt, a smart consumer battery developed in collaboration with Tibber. Located in Tomteboda, Stockholm, Polarium X2 aims to increase Homevolt production capacity, supporting more homes to access smart energy solutions. Read more here.

- Finnish startup **Woodio** invests 7 M EUR in a new factory in Lahti, Finland, to expand its production capacity and meet growing demand for its ecological bathroom furniture made from a 100% waterproof wood composite. The new factory, set to be completed in spring 2025, will allow Woodio to transition from a pilot factory environment to a larger production capacity with streamlined production and higher level of automation and flexibility. Read more here.

- **Midsummer** will open a new 200 MW mega factory in Flen, Sweden for its production of thin-film solar cells. Set to commence operations in 2026, the factory will create employment opportunities for around 200 people. The plant, supported in part by the EU Innovation Fund, is strategically situated in Flen to facilitate the transportation of both input materials and finished products across Sweden and throughout Europe. Read more here.

EU POLICY IN PRACTICE

INSIGHTS INTO AN ARTICLE 9 FUND WITH NATALIE MILDE OF FUTURE ENERGY VENTURES

Future Energy Ventures (FEV) supports ready-to-scale start-ups whose mission is to accelerate the energy transition and decarbonize society. In 2024, FEV announced the initial closing of Fund II, a Sustainable Finance Disclosure Regulation (SFDR) Article 9 fund pursuing investments in companies with clear decarbonization potential. In this interview, Natalie Milde shares insights on their new Article 9 fund.

What is meant by an SFDR Article 9 fund and why did you launch it?
Article 9 fund means being dedicated to making investments which make a significant positive contribution to a chosen sustainable investment objective, for example, climate change mitigation, without causing significant harm to any other sustainability objectives, such as biodiversity or circular economy. FEV launched Fund II as an Article 9 fund because it was the designation closest aligned with our company mission - partnering with exceptional entrepreneurs and investing in companies offering innovative solutions to address the energy transition and reduce carbon emissions.

To ensure our investments are likely to have the impact we would like to see in the world, we screen for three factors early on in our process. (1) Intentionality: The company has a clear intention to mitigate climate change and impact is interlocked with the business model so that commercial success is positively correlated with impact. (2) Scalability: The company and its technology is fit for scaling – because decarbonization is the business of large numbers. Even the most impactful and innovative solution will not matter if it does not scale. And finally, substantial: At scale, the impact potential is substantial. Scaling a product with insignificant, albeit quantifiable unit impact will not be enough – the dent the company can make in global emissions must be great.

What are the challenges and opportunities for sustainable investment funds?
Sustainable investment funds face a number of challenges, largely tied to regulatory compliance, but also enjoy many, many opportunities. One major challenge is defining what constitutes "sustainable" investing. There are numerous frameworks and standards, leading to ambiguity and greenwashing concerns. This means establishing consistent metrics for evaluating the financial performance of sustainable investments compared to traditional ones remain complex. Reliable data on whatever ESG metrics are selected can also be hard to come by, affecting the ability to accurately assess sustainability performance. And finally, evolving regulations and policies around sustainable investing can be a real headache, even if I believe it represents steps in the right direction.

The Sustainable Finance Disclosure Regulation (SFDR) is certainly helping to direct funding towards sustainable investments, reduce greenwashing, and ensure funding goes to truly sustainable investors. However, SFDR and Article 9, the highest designation possible, is not fit for innovation. Positive climate impact is measured by how much companies can reduce their own emissions. For early-stage climate tech companies, the sustainability of investments does not come from the company's reduction of their own environmental footprint, but from the reduction their products or services can generate when sold to customers. The opportunities far outweigh the challenges though. There is a significant

and growing demand for sustainable investment options from individual and institutional investors. According to Sightline Climate, despite a tough fundraising environment in 2023, 100 new climate funds achieved their 1st or 2nd closing with in total $83B in fresh capital.

How can policy accelerate the sustainable finance landscape?
The regulatory tailwinds are strong! In Germany, the new Buildings Energy Act mandates that all new non-residential buildings, and from 2025 onwards also existing buildings, continuously monitor, analyze, and optimize energy consumption. This creates a strong driver for innovation in real estate. In Norway, the government is pushing for a new law on circularity, requiring products to last longer, be easier to repair, recycle, reuse, and cause less emissions and waste. In the U.S., the new SEC rules regarding climate risk disclosures and governance, and GHG emissions is a landmark regulation already forcing tens of thousands of companies to measure and manage their climate impact. These are just three examples, and overall, we are seeing more and more regulation pushing our economies towards more circularity, more renewables, creating green jobs and incentivizing business leaders to act in alignment with the change that we need. The Corporate Sustainability Reporting Directive (CRSD) also drives sustainability in finance. The CSRD mandates companies disclose detailed sustainability information, which directly supports the data needs of the SFDR. By ensuring companies provide standardized, comparable, and reliable sustainability information, the CSRD effectively feeds into the SFDR's objectives, enabling investors and stakeholders to make more informed decisions.

Looking towards an EU election, what measures or policies should the EU prioritize to speed up progress towards climate goals?
Many! I believe climate action needs a portfolio approach – we need a multitude of actions, technologies, and policies to make a substantial dent in global emissions. We need to say “yes, and”. Of course, capital is always the constraint, but where there is a will there is a way. Here are some of the policy decisions I would like to see from the EU:

- The EU should commit to reaching net-zero emissions by 2040, in order to make a fair contribution to a global target of net-zero emissions by 2050. The EU, one of the largest historical emitters and with some of the highest per-capita greenhouse gas emissions today, has benefited economically from centuries of burning fossil fuels. Europe has a responsibility to cut emissions faster than other lower-income countries who have not contributed as much to the climate crisis. As such, the EU should increase its Nationally Determined Contributions (NDC) to the 1.5°C compatible according to their fair share.
- The EU should stop investing in new fossil gas infrastructure and phase out fossil gas entirely by 2035 at the latest, oil by 2040, and focus its efforts on renewable energy. This should be combined with more ambitious binding targets for renewable energy and energy efficiency, going beyond the current 2030 goals of 42.5% and 11.7% respectively.
- Further strengthen the LULUCF regulation, i.e. rules governing land use, land-use change and forestry in a way that enhances carbon sinks and removals.
- Substantially increase its climate finance contributions, including through returning revenues from the new carbon border adjustment mechanism (CBAM) to support decarbonisation in Global South countries
- Strengthen the EU Emissions Trading System (ETS): The EU should continue to strengthen the ETS by increasing the emissions reduction target, phasing out free allowances, and expanding the scope to cover more industries and sectors like buildings, transport, and agriculture.
- Initiate a VAT reform in which taxes on animal products are increased while taxes on plant-based products is lowered. This could be a strong price-signal influencing consumer behavior towards lower-emission food products.

EU POLICY IN PRACTICE

INNOVATOR INSIGHTS ON EU LEGISLATION

With the EU elections around the corner, we asked a few Nordic start-ups how their work is impacted by EU policy in practice.

OVER EASY SOLAR

The EBPD regulation mandating solar cells on buildings, within certain requirements, is a monumental piece of policy and presents a huge opportunity for solar companies. I don't think we fully realize the impact this directive can have on the solar industry. It opens up a huge market and will probably result in many different types of innovations suitable for different types of buildings and architecture. For example, solar cells in combination with green roofs, as we do, will be more important. And of course, we will see a lot more solar energy, which will probably affect the entire energy landscape in the coming years. Amidst all this it's important though that we also have measures to support these industries so that the solar industry has the resources, competences and finances to manage the expected demand.

– Trygve Mongstad, CEO and Founder

AGREENA

At Agreena, everything we do is governed by regulation. Currently, we are closely monitoring the delegate acts of the CRCF, which will bring methodologies for carbon removal. Additionally, all policy at the EU level that affects farmers is very material to us as a company. Wether it be CAP, Nature Restoration Law, CS3D, CSRD/ESRS, Green Claims Directive, it all ends up affecting our farmers.

– Simon Schultheis, Regulatory and Standards Affairs

REXCON

It's encouraging to see the strengthening of overall goals on an EU level, but our company currently operates ahead of policy. As a green producer of building products, we're driven by our own vision rather than by regulatory pressure. Our company's vision is ahead of current policies, and EU regulation has yet to pressure us or the building industry. Many companies in Denmark, including ours, are urging the government to be bolder in emission reduction efforts for the building industry, and we would like to see more ambitious regulation.

– Jesper Sørensen, Operations and Management

FINNISH EU CANDIDATES ENDORSE C4N EU MANIFESTO

The Cleantech for Nordics EU manifesto has achieved a significant milestone with its first signatories! In April, an event centered on the manifesto and its priorities was convened by EU candidate Atte Harjanne (Greens/EFA) at the Finnish Parliament. The gathering facilitated a productive meeting and insightful discussions, resulting in endorsements from four Finnish candidates who have pledged their commitment to advancing the cleantech sector:

- Atte Harjanne, Greens/EFA
- Katri Kulmuni, Renew
- Ville Kaunisto, EPP
- Merja Kyllönen, GUE/NGL

Their support marks a notable step forward in our collective efforts to drive sustainability initiatives in the region. If you are in contact with policymakers and EU candidates who would like to know more about our work and support our manifesto, please reach out!

The manifesto in full can be viewed at:
https://cleantechfornordics.com/manifesto/

POLICY NEWS

- **Denmark commits 1 billion DKK into green industries.** Denmark will allocate one billion DKK in state aid for key green sectors in 2024, aiming to stay competitive amidst increasing global green subsidies. The support will benefit businesses with production facilities in wind turbines and electrolyzers.

- **Denmark announces largest offshore wind tender.** The Danish Energy Agency announced a new tender for Denmark's largest offshore wind farms to date. The wind farms are expected to deliver at least 6 GW of offshore wind power, with the potential to install up to 10 GW or more. This surplus energy could not only meet Danish consumption but also be exported to neighboring countries or utilized for hydrogen production.

- **Denmark likely to meet short-term climate goals**. Denmark is on track to achieve its short-term climate objectives, largely due to updated data on carbon-rich soils in Denmark. The country is also making strides toward attaining its 2030 goal, reducing emissions by 70%. However, challenges remain in reaching this long-term target, especially concerning the proposed carbon tax on agriculture.

- **Agricultural tax proposed in Denmark.** In order for Denmark to meet the goal of a 70% reduction in greenhouse gas emissions by 2030 and the long-term goal of climate neutrality, an agricultural tax has been proposed. Against this background, an expert group has presented three main models for a new and uniform CO 2 e-tax on agriculture. The expert group recommended taxing agricultural production by up to 750 DKK per ton of emitted CO2-equivalent, along with initiatives to assist the industry in reducing emissions, such as afforestation and the adoption of new technologies. The measures will cut emissions by 2.4-3.2 million tons of CO2 once fully phased in by the year 2030, depending of the taxation model adopted

- **Local climate adoption plans.** Denmark is the first country in the world where all municipalities have committed, or are in the process of committing, to climate action plans thatalignwith the goalsof the Paris Agreement. The project aims to coordinate efforts for local climate action plans. The collective work on climate action plans is known as the Climate Alliance, encompassing analyses of emission reduction possibilities and climate adaptation measures.

POLICY NEWS

- **Ban on diesel and gasoline cars approved for parts of Stockholm city center.** Starting December 31, 2024, vehicles of these types are prohibited, following approval from the European Commission. The ban will be enforced under Environmental Zone Class 3, one of the strictest measures to reduce emissions, thereby improving air quality and urban space.

- **Swedish government falls short on climate targets.** Sweden's climate plan faces criticism from the Climate Policy Council, warning of increased emissions due to weakened policies. The plan lacks clarity on emission reductions, jeopardizing national and EU targets for 2030. The council disputes claims of net-zero emissions by 2045. Overall, the council deems the plan unnecessarily risky, with short-term emission increases and uncertain long-term strategies. Furthermore, Sweden's Environmental Protection Agency also concludes that Sweden will not reach their climate targets with current policies.

- **Government boosts climate investments.** The Swedish government allocates an additional 100 M SEK for new climate investments with funds earmarked for initiatives such as new charging stations. This boost supplements the Climate Leap program (Klimatklivet), which already distributes around 5 B SEK for greenhouse gas reduction measures.

- **Sweden signs CCS agreement with Norway and Denmark.** A new bilateral agreement enables the storage of captured Swedish carbon dioxide in Denmark and Norway, removing a barrier to a common Nordic market for carbon capture and storage.

- **Finland and Sweden oppose EU nature restoration and anti-deforestation regulations.** Finland raised concerns about the costs of the nature restoration regulation, shifting its stance despite prior support, and Sweden was also among the countries blocking the law. Sweden and Finland are also among the countries seeking to delay and weaken the implementation of the EU anti-deforestation law, aiming to exempt small-scale farmers from its rules.

- **Finland considers green tax credit. T**he Finnish Government unveiled plans to introduce a tax credit for green industrial investments, aiming to boost Finland's competitiveness in the global investment landscape. This policy aligns with the EU's Temporary Crisis Framework, offering incentives for investments in sectors crucial for the transition to a net-zero economy. The tax credit can be up to 20% of project value up to EUR 150 M.

POLICY NEWS

- **Finland decides to end oil heating.** The Finnish government has made a principle decision to phase out oil heating in all buildings by the end of 2030. This decision, while not legally binding, sets a target for transitioning away from fossil fuels for heating purposes. The government aims to encourage the use of renewable alternatives. Financial incentives and tax adjustments are among the measures proposed to facilitate this transition.

- **Industrial parternship between Norway and the EU**. Norway and the EU established a new industrial partnership focusing on sustainable value chains, including batteries and land-based raw materials. The agreement aims to advance climate goals and foster economic growth and green job creation. Notably, the EU may exempt Norway from Brexit tariffs on batteries produced in Norway.

- **Law proposed for sustainable products and circular economy.** The Norwegian government proposed a law focusing on sustainable products and value chains, aiming to meet the standards of other countries and promote a circular economy. It aims to set requirements for products to last longer, be easier to repair, recycle, reduce emissions, and generate less waste. The proposal would be a step towards advancing circular economy initiatives in Norway.

- **Iceland and the United States have initiated cooperation in energy and climate.** The focus is on geothermal energy, carbon capture, and hydrogen production to meet climate goals and speed up the transition to renewable energy. The cooperation aims to leverage Iceland's expertise and promote global impact. They'll facilitate partnerships and prioritize experimental projects and research.

- **Review of Iceland's conservation and energy framework.** A task force has been appointed to review Iceland's framework on nature conservation and energy efficiency in response to various criticisms. Criticism has been raised against the framework, and the review aims to ensure responsible and rational use of energy resources. Emphasis will be placed on improving overall efficiency and streamlining regulations.

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