

Cleantech *for* Nordics

Q3 2024: QUARTERLY BRIEFING

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INTRODUCTION

The third quarter has passed, and it has brought us new investment numbers and political updates. The U.S. presidential election has captured global attention, sparking concerns within the cleantech community about its potential impact. Moments like these highlight the importance of our work here and around the world—and why we can't afford to slow down.

On the European front, we have also had a change in Parliament and a new Commission has been nominated. We hope this next political cycle brings bold leadership in addressing climate change, moving with the urgency that the green transition and this industrial shift demands. With the momentum from the Draghi report highlighting Europe's need to secure future competitiveness, cleantech's role is clearer than ever.

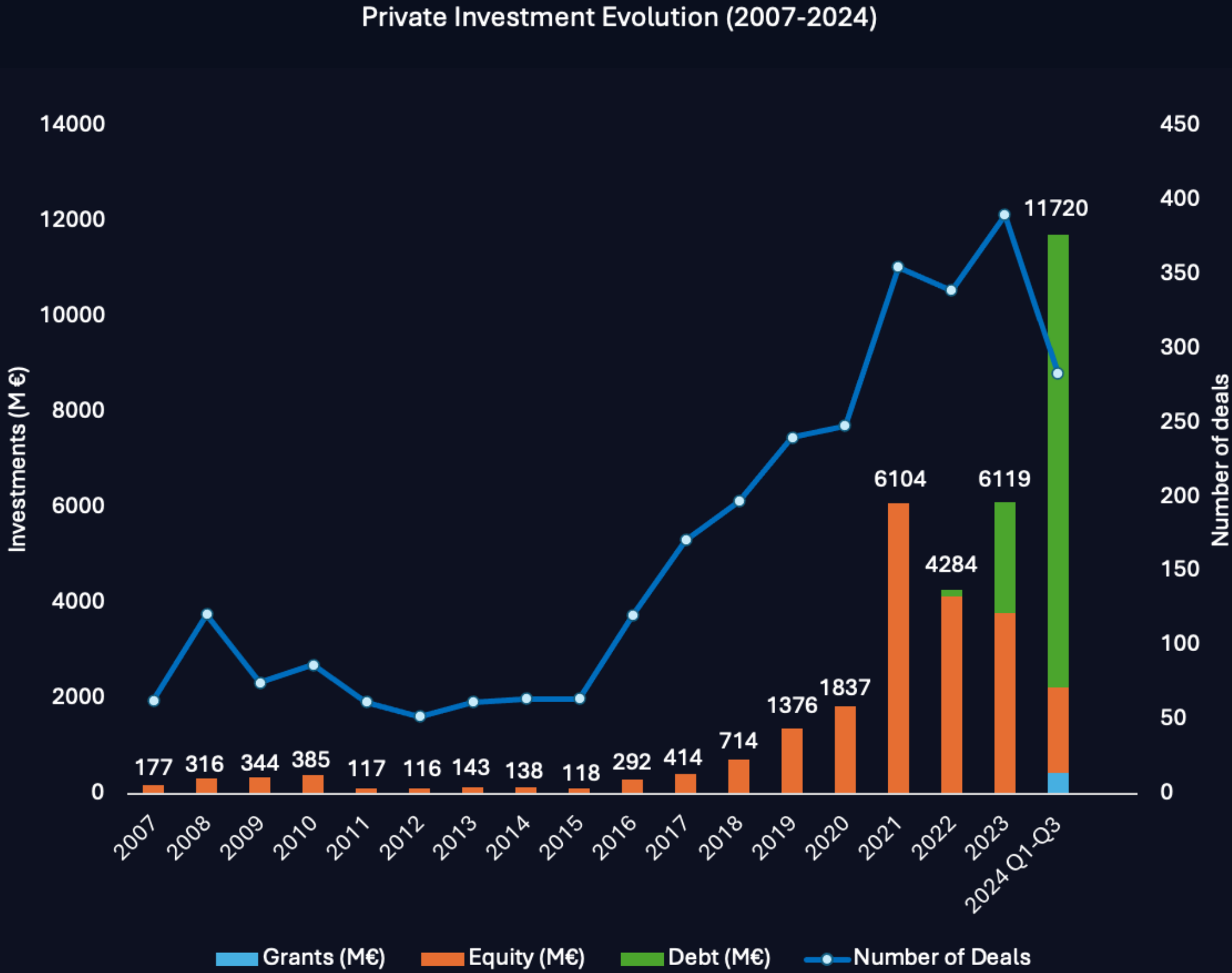
Here in the Nordics, the news of Northvolt has truly put green industry to the test, and we must ask ourselves if Europe is ready to take on the industrial leadership needed to tackle climate change and stay competitive? We see a major opportunity here, and we've shared our thoughts in two op-eds in Swedish media advocating for bold, green industrial policy that can unlock capital and build these emerging markets. The English version of both pieces are included in this brief.

In terms of investment numbers, we conclude that another 653 M EUR have been invested in cleantech in the Nordics. Take a look at the rest of the numbers and insights in the following pages, along with Nordic policy updates.

If you have any feedback or thoughts on the content we include in these briefs, please do reach out to eva@cleantechscandinavia.com.

653 M EUR INVESTED IN CLEANTECH IN Q3

With Q3 now behind us, an additional 653 M EUR has been invested in Nordic cleantech, bringing us closer to what is shaping up to be a record year for 2024 with unprecedented investment levels. Although Q3 didn't bring major breakthroughs, capital continues to flow into the Nordic cleantech sector.



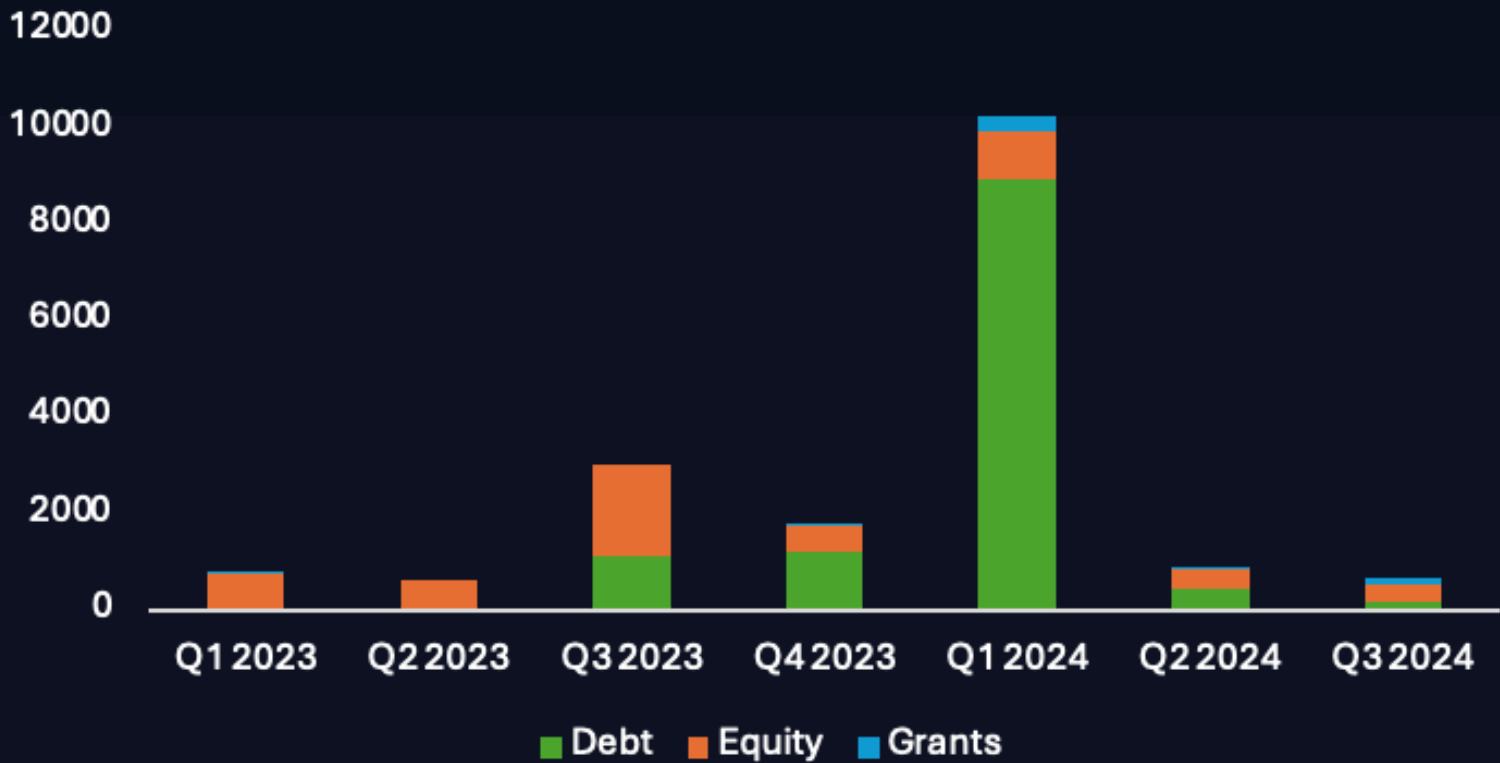
NORDIC CLEANTECH INVESTMENT DIPS IN Q3, BUT DEALS STEADY

This quarter, Europe saw a dip in investments, and we’re seeing the same trend here in the Nordics. A total of 653 M EUR was invested, with nearly 60% going into equity, and the rest split between grants and debt. Looking back at the most recent quarters, we can also see that the most significant investment spikes have been due to a significant increase in debt funding—something which we haven't experienced this quarter. While equity investments show a slight decline as well, this trend is not as sharp.

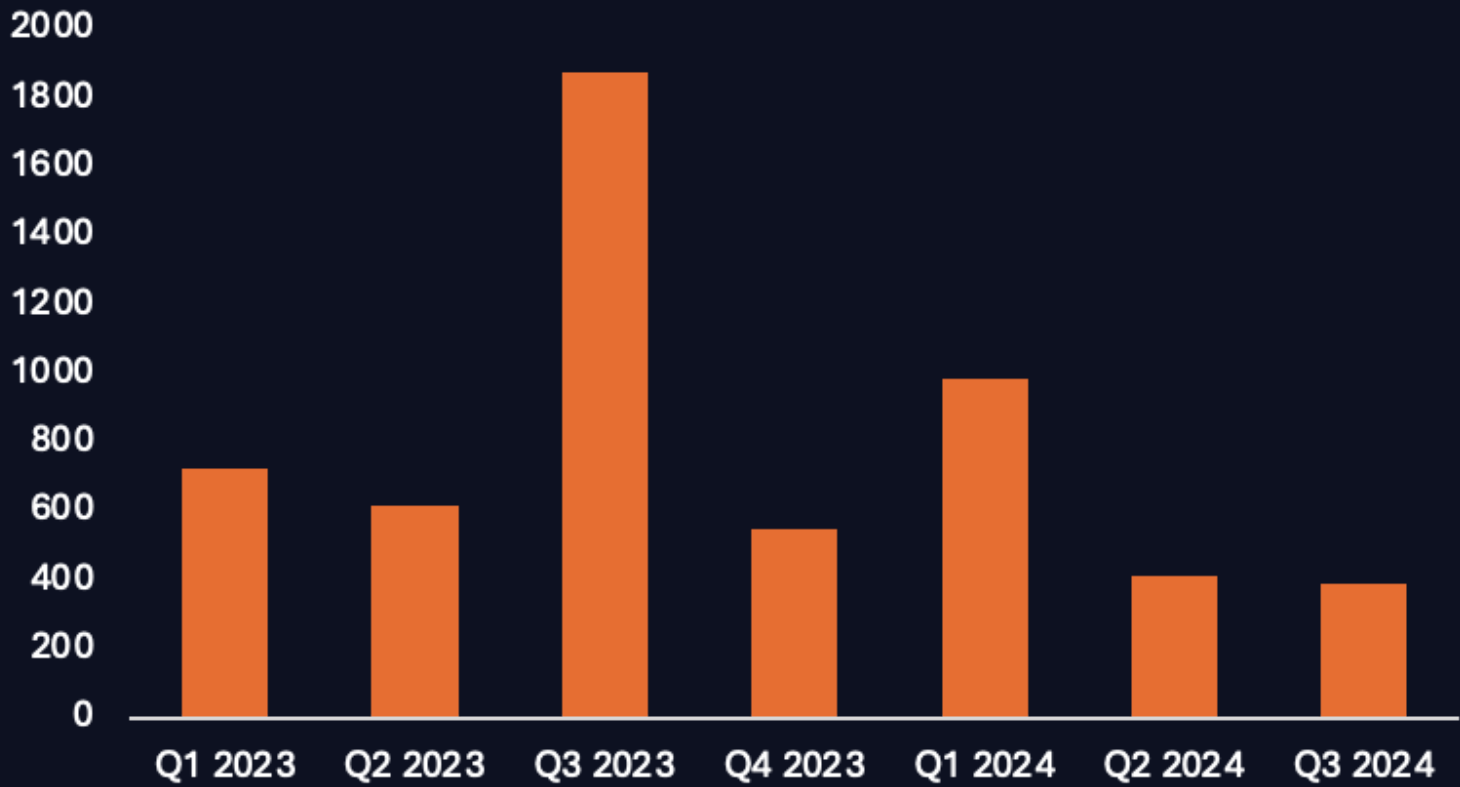
When comparing Q3 2024 to last year, the drop in investment is striking—down nearly fivefold from the 3 B EUR invested in 2023, largely due to the two megadeals by Northvolt and Stegra (formerly H2 Green Steel). Despite this, the number of deals remains steady, with 78 this quarter compared to 74 in Q3 2023.

As usual, Sweden is leading the charge, securing more than half of all deals and around 75% of the total capital invested. Denmark and Norway follow, with Denmark attracting larger sums, while Norway takes the lead in the number of deals.

Investments by quarter

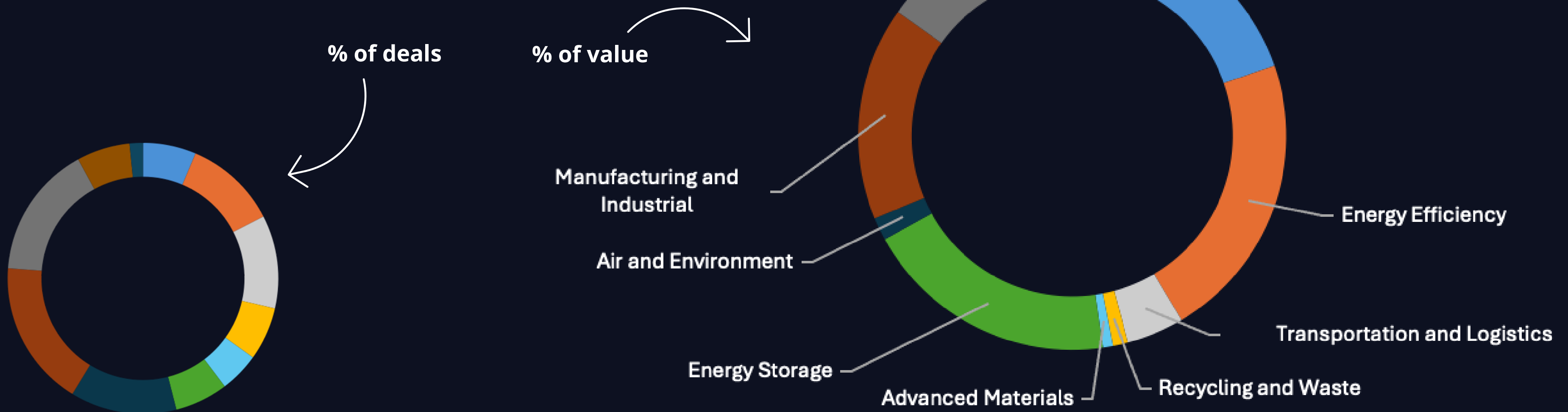


Equity investments by quarter

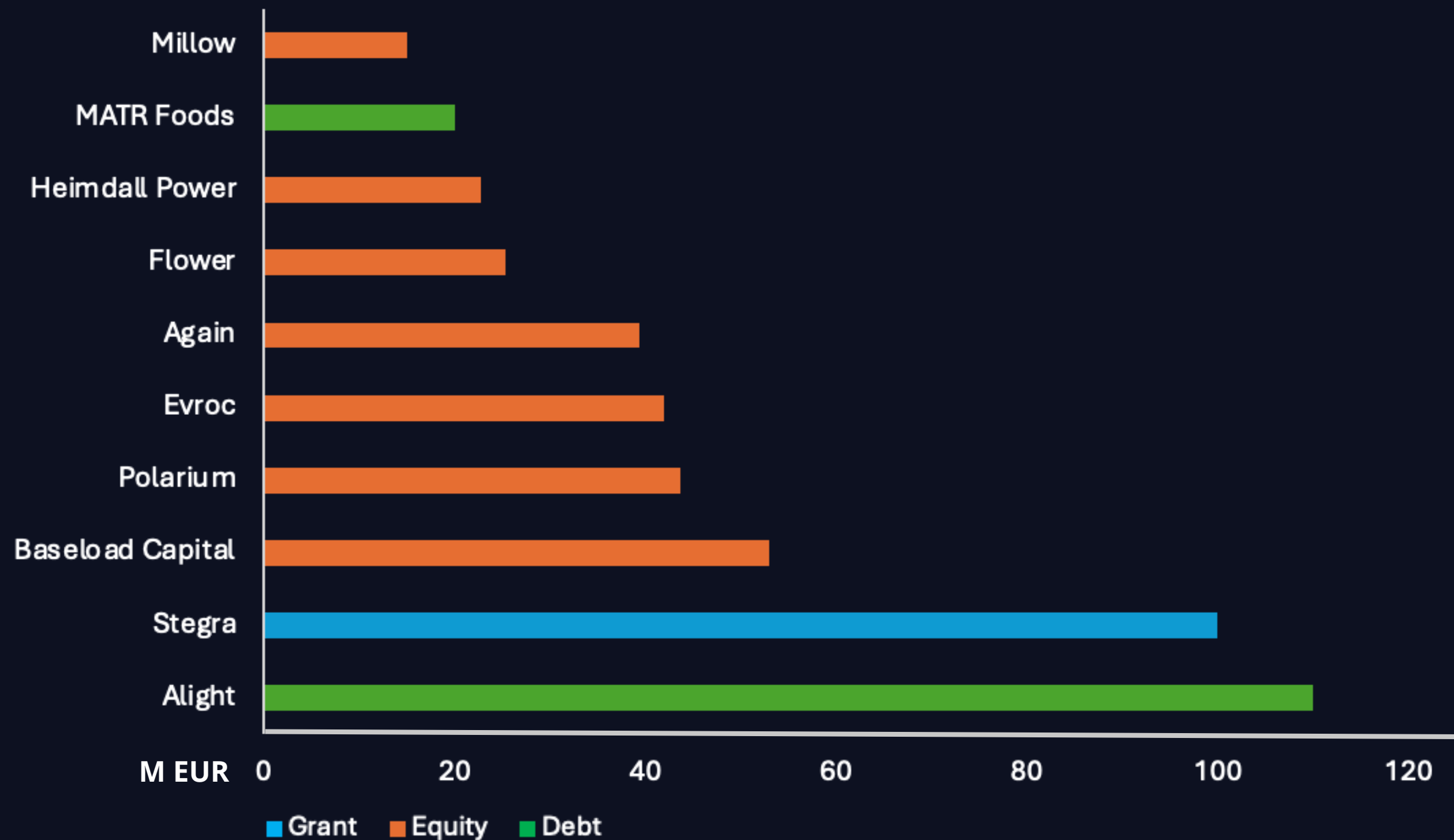


Q3 INVESTMENTS BY INDUSTRY SEGMENT

Distribution of equity investments by industry, excluding grants and debt



TOP NORDIC INVESTMENTS Q3 2024



TOP NORDIC COMPANIES Q3 2024

ALIGHT

Alight helps energy-intensive businesses switch to solar power. They build, own, and operate solar projects, both onsite and offsite, and provide clean energy at a low, fixed cost through power purchase agreements (PPAs).

STEGRA

Stegra produces green steel. Powered by hydrogen, Stegra produces steel with 95% reduced CO2 emissions compared to traditional steelmaking.

BASELOAD CAPITAL

Baseload capital invest in and develop geothermal energy worldwide.

POLARIUM

Polarium provides energy storage and optimization solutions based on lithium-ion battery technology.

EVROC

Evroc is building a secure, sustainable hyperscale cloud designed to reduce environmental impact. Using energy-efficient technologies, Evroc's data centers minimize electricity use and emissions, creating one of the world's cleanest cloud platforms.

AGAIN

Again is a carbon utilization company that uses fermentation to convert industrial CO2 emissions into carbon-negative, commercially valuable chemicals. By using carbon outputs from industry as inputs for chemical manufacturing, emissions from the chemicals industry can be reduced.

FLOWER

Flower offers flexible energy solutions. As a leading developer of grid-scale Battery Energy Storage Systems (BESS), Flower addresses challenges in grid stability and resilience.

HEIMDALL POWER

Heimdall Power offer world-leading solutions for Ambient Adjusted Rating (AAR), Dynamic Line Rating (DLR), and asset health monitoring, helping utilities operate their power grids as effectively, safely, and cost-efficiently as possible.

MATR FOODS

MATR Foods develops plant-based food using fungi fermentation.

MILLOW

Millow uses mycelium-based food production to develop a plant-based meat alternative that produces 97% fewer emissions compared to beef and 80% fewer compared to soy.

WHY CLEANTECH NEEDS BOLD POLICY

In October, Cleantech for Nordics published two op-eds in Dagens Industri, reflecting on the growing challenges and opportunities in the cleantech sector. With industry giant Northvolt making headlines, it's clearer than ever that we must support the growth of cleantech companies. While written within the Swedish context, the insights and calls for action are true beyond Sweden's borders. Please find the English versions, slightly edited to fit the format of the brief, below. Read the original [here](#).

The green transition is well underway, but Sweden still has a long road ahead. News of Volvo scaling back its electric car targets and Northvolt revising its production plans may raise concern, yet Northvolt's journey is far from unique. Most companies face obstacles as they grow and scale. This is why it is important to view these investments as part of a broader, long-term strategy. The green transition is capital intensive and has long investment horizons, so temporary setbacks are inevitable. These setbacks cannot, however, be used as an excuse to slow down.

Sweden is a global leader in cleantech, with immense potential. Our most recent yearly account shows that over 200 cleantech investments were made in Sweden in 2023 alone — a clear testament to the strength of Swedish industry. However, for these companies to truly scale, create jobs, and cut emissions, they need capital. A recent study by Nordic investors revealed an investment gap of at least €15 billion in growth capital for Nordic cleantech companies. This is where public support must step in to reduce financial risks and mobilize private investment. Ignoring this gap risks losing both our technological edge and economic competitiveness, particularly as the U.S. and China are rolling out massive green support packages as we speak to catch up –and overtake – Europe.

Mario Draghi recently published his critical report which underlines the importance of Europe leading the green transition to maintain its competitiveness. Clean technologies are central to Europe's industrial future, and the green transition can serve as a driver of economic growth. This alignment of climate and economic interests is exactly what is needed to justify substantial public support for green industry, both in Sweden and across Europe.

Draghi also criticizes Europe's lack of risk appetite and calls for more strategic backing of key players and projects. The European Investment Bank can play a crucial role here by providing green credit guarantees that reduce the risks of green investments. In Sweden, greater collaboration between public and private capital is equally critical — not just to stay competitive globally, but to lead the transition.

The opportunity we stand before is, however, far from guaranteed. Without a clear industrial policy, Sweden risks losing its chance of becoming a major player – and winner – in the global climate transition. And investing in cleantech is a strategic investment for our future. While the state should not be footing the entire bill, public funds must be used to reduce risks and create incentives for private capital to flow into green ventures. Pension funds and institutional investors also need to play a key role, but mobilizing this capital requires a clear, long-term strategy for green industry. The risks and costs of inaction far outweigh the risks of investments – both for our economic future and the planet.

Climate change is an urgent crisis, and the free market alone cannot solve it. To meet the tight timelines demanded by the climate crisis and deliver the necessary solutions, the state must continue to be a driving force. The question is not whether to invest in cleantech, but how much and how fast.

THE CASE FOR GREEN INDUSTRIAL POLICY

The following text is our second op-ed published in Dagens Industri, written as a reply to our original text. Read the original [here](#).

There's a tendency to oversimplify industrial policy and the role of the state in societal transformations. Experiences from the U.S. show that green industrial policies have often been very successful. What's important to note here is that we are talking about high-risk investments that private capital tends to avoid. While Sweden can't replicate the U.S. model entirely, there's no reason we can't support innovation on a smaller scale. Historically, it is also clear that private actors usually enter new sectors first after the public has absorbed the highest risks and uncertainties—especially in capital-intensive industries.

Public support is critical for breakthrough innovations in hardware. The financing models and scaling trajectories we see for software companies are simply not applicable here. Furthermore, there is a significant difference between massive billion-dollar industrial projects, and smaller government investments and subsidies supporting pilot projects and scaling of new production. Indeed, a recent Swedish interview study on green industrial policy shows very positive experiences from strengthening these types of existing funding programs in Sweden and creating additional support for investments and scaling of new technology. While the private sector should bear most of the financial risk, public support is often necessary to unlock private capital and help build emerging markets.

To build a portfolio of companies and industries that deliver long-term benefits for

both the economy and the climate, we must establish market conditions that address the environmental challenges ahead. The EU ETS and CBAM are effective instruments in shaping these conditions, but they are not enough on their own. The market often underestimate long-term societal benefits, and overestimates short-term risks. Here, the public sector can step in to correct this and provide clearer market signals. Without clear incentives, it is difficult for investors to bet on cleantech. Currently, the market is skewed in favor of carbon emissions, and policy intervention is needed to help make green investments financially viable.

We also need to look at the geopolitical realities of green industrial policy. The U.S. risks falling behind China, and the EU risks losing major investments to the U.S. With this in mind, the EU must address the fact that critical industries and skills are being lost. This raises an essential question: which sectors are strategically important enough to retain within Europe? With billions earmarked for cleantech in the EU over the coming years, Sweden should aim to secure at least a portion of these investments.

This isn't about throwing money into a green void. We're talking about blended finance, public guarantees, support for scaling new production, and catalytic capital to unlock private investments. Most importantly, we need a long-term green industrial strategy that provides the market with the signals it needs for stable, predictable investment.

Sweden has the opportunity to lead the green transition – not just for the climate, but to create jobs, boost competitiveness, and take the next industrial leap. We are already impacted by global industrial policies, and it would be a mistake to not support the competence and innovation we foster here in Sweden.

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- **EU commissioners have been nominated.** On the Nordic side, Finland's Henna Virkkunen has been nominated as Executive Vice-President for Tech Sovereignty, Security, and Democracy. Denmark's Dan Jørgensen is nominated as Commissioner for Energy and Housing, and Jessika Rosvall from Sweden is nominated as Commissioner for Environment, Water Resilience, and a Competitive Circular Economy.
- **The Swedish government has approved only one out of fourteen proposed wind farms,** rejecting thirteen planned projects. The projects in the Baltic Sea are now rejected due to negatively impacting national defense capabilities. Additionally, although the Kriegers Flak wind farm project in the Baltic Sea had previously received approval, the state-owned company Vattenfall has suspended its development due to the government's decision to not provide support for land cables.
- **The government's nuclear power inquiry has been presented,** proposing the completion of two reactors by 2035 and a total of ten reactors by 2045. The first four reactors will be co-financed with a state loan of SEK 300 billion. Additionally, a guaranteed minimum price of 80 öre per kilowatt-hour for electricity sold from the nuclear plants will be established over a 40-year period, funded through a new electricity tax.
- **Sweden and the United States are collaborating on nuclear power** and have signed an agreement to support new nuclear development. The partnership focuses on policy, research, and innovation in supply chains and advanced nuclear fuel.
- **The Swedish government removes the aviation tax,** which will take effect in July 2025. The removal of the aviation tax will lower domestic flight tickets by around SEK 100 and international flights by up to SEK 400 one-way. The government expects cheaper tickets to boost demand for air travel. Carbon emissions are expected to increase by at least 110,000 tons as a result of removing the tax.
- **The Swedish government plans to cut support for solar installations next year,** reducing the subsidy from 20% to 15%. This decision is based on the increased adoption of solar panels, and the government suggests solar energy should now expand on market-based terms.
- **The Norwegian government's 2025 budget and updated climate plan reveal that the country is not on track to meet its 2030 goal** of a 55% reduction in greenhouse gas emissions from 1990 levels. Climate Minister Tore O. Sandvik acknowledged that last year's projections were

POLICY NEWS

overly optimistic due to unexpected population growth and economic growth, while climate organizations argue that progress remains too slow.

- **In Norway, climate emissions have not become more expensive.** Despite an increase in the CO2 tax, reductions in other taxes, such as those on aviation, fuel, and mineral oil, have offset the impact. As a result, emissions costs for most households and industries have decreased.
- **The Norwegian government proposes to allocate 8.1 billion NOK to Enova in 2025,** a state enterprise owned by the Ministry of Climate and Environment which manages Norway's Climate and Energy Fund. The proposal includes targeted funding to reduce emissions from transport and support energy efficiency measures for households.
- **Preliminary numbers indicate that Norway's consumption-based emissions increased by 7% last year,** surpassing emissions from agriculture and nearly matching those from road traffic. This growth in consumption-based emissions effectively negates all of Norway's emissions reduction progress since 1990.

- **The Danish government has announced a 15 billion DKK investment in green research and innovation for the period 2025-2030.** The initiative will focus on areas such as Power-to-X, CO2 storage, agriculture, and circular economy.
- **Denmark's 2024 climate program outlines that, if the green tripartite agreement is adopted, the country is on track to reduce CO2 emissions by nearly 80% by 2035.** This includes reaching the 2030 target of a 70% reduction from 1990 levels, with help of the proposed CO2 tax on agriculture. The climate program also sets the stage for upcoming political negotiations on a new 2035 climate target, to be established by 2025.
- **Denmark joins international tax task force.** At COP28, France, Kenya, and Barbados launched the Global Solidarity Levies Task Force to develop international levies for climate, nature, and development goals. Denmark has joined the task force, with its Ministry of Taxation contributing expertise in shipping and aviation. The task force will explore taxes on sectors such as shipping, aviation, fossil fuels, and financial transactions, aiming to present recommendations at COP30 in 2025.

POLICY NEWS

- **The Danish Climate Council has raised concerns about the government's green tripartite agreement**, saying it may not be enough to meet climate goals. The Council points out that the plan is not ambitious enough, moves too slowly, and may be too optimistic, especially when it comes to reforesting land and converting low-lying agricultural areas. It also warns that relying only on voluntary measures won't be sufficient to reach the targets and suggests stronger incentives or mandatory actions may be needed.
- **Finland plans to increase the vehicle tax on electric vehicles and hybrids**, moving Finland further from meeting EU emission requirements. The proposed tax increase could weaken the incentive for consumers to choose EVs, and the trend of EV uptake is already going down in Finland—likely due to current policies. In addition to the planned hike, the government has also reduced fuel taxes, benefiting combustion engine vehicles.
- **The Finnish government plans to make municipal climate plans optional instead of mandatory, aiming to increase municipal autonomy**. This change will save €2.8 million but may slow climate action, especially in smaller municipalities that lack resources. Larger municipalities, which already have established climate plans, are less
- **Iceland's government has resigned** after tensions within the coalition. The three-party coalition consisting of the Independence Party, the Progressive Party, and the Left-Green Movement, struggled to resolve key issues related to economic, energy, and immigration policy. A new election will be held on November 30.
- **Iceland's emissions within the Effort Sharing Regulation (ESR) decreased** by 2.8% from 2022 to 2023, and by 14% since 2005, according to preliminary data. Emissions from local industry under the EU Emissions Trading System (ETS) dropped by 3.3%, while aviation emissions rose by 11%. The reduction is primarily due to lower fuel use in fishmeal plants, reduced fertilizer use, fewer sheep, and decreased waste disposal. These preliminary figures indicate that Iceland is on track to meet its EU climate commitments, using flexible emission allocations.
- **Iceland announced 510 million ISK in grants to help purchase clean energy trucks this year**. This is the second round of funding, with an estimated saving of over 600,000 liters of oil annually. All 55 applications were approved, most being larger electric trucks with big batteries. The growing number of clean energy vehicles shows progress in Iceland's shift to sustainable transport, especially for heavy trucks.

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- **Iceland has signed cooperation agreements with Indonesia and Italy to advance geothermal energy.** In Indonesia, the partnership focuses on supporting Icelandic companies and strengthening scientific collaboration, with a focus on renewable energy and carbon storage. In Italy, the agreement aims to improve bilateral cooperation, leveraging shared expertise to overcome regulatory barriers and promote geothermal energy.

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