



STRATEGY & MACRO TEAM

From ESG hype to transition 'winners'

Since the ESG hype a few years ago, Nordic ESG-related share prices have fallen c66% on average. We conclude that many Nordic companies should be exposed to significant structural growth trends for years to come, driven by new regulations. Moreover, we have identified several 'winners' / 'relative winners' of climate transition. These are exposed to the push for clean tech, traditional renewables, energy efficiency in buildings or are well positioned ahead of increased cost of carbon.

From boom to bust. It was not that long ago that Greta Thunberg was nominated for a Nobel Peace prize, ESG was a buzzword, and ESG-related ETFs saw a tsunami of inflows. Anticipation of a rapid shift to a more sustainable society led to ballooning expectations and valuations for many names. However, as in most hype cycles, the market priced in too much too quickly. Since 2021, the share prices of many companies once lauded as 'Nordic ESG-related' names have slumped, with only pennies left in some.

Carrots and sticks. Following years of working on climate policies and incentives, we are on the brink of seeing the effects. Europe is using a stick approach, while the US is favouring the carrot. The EU's 'Fit for 55' targets a 55% cut in carbon emissions by 2030 (base year 1990), with key regulations coming in this year; here we believe the Emission Trading Scheme, new targets for buildings' energy performance, and renewable energy targets are likely to have the greatest impact on Nordic companies. Meanwhile, the US's Inflation Reduction Act focuses on incentivising continued decarbonisation.

Four key trends affecting Nordic companies. To determine the impact of climate regulations on Nordic companies, we have focused on four key trends: 1) the increased cost of carbon (driven by the EU's Emission Trading System); 2) the push for traditional renewables (a clear focus on wind and solar); 3) the push for electrification and clean tech (an increased need for hydrogen infrastructure); and 4) energy efficiency (mostly affecting real estate and construction).

'Winners' and 'relative winners'. While Nordic companies are generally well placed for accelerated decarbonisation, we believe the potential 'losers' are those unable to transform an emissions-intensive value chain (e.g. oil & gas or heavy industries). We have identified the 'winners' to be in tailwind sectors (e.g. renewables), and perhaps more interestingly we have identified 'relative winners' (i.e. companies in active strategic transition). However, international market dynamics and barriers to entry cannot be ignored, e.g. Nibe should see strong market growth of heat pumps, but a sharp ramp-up in supply could well exceed demand. We believe the following are best placed to benefit for years to come: Vestas Wind/Cadeler/Edda Wind as well as Cloudberry/Ørsted/OX2 (push for traditional renewables – hydro and (offshore) wind), Hexagon Purus (push for clean tech), Multiconsult/Norconsult/Sweco, NCC/Veidekke as well as Rockwool (more renovation and energy efficiency in buildings). We also highlight several 'relative winners' amid the increased cost of carbon, e.g. Boliden, Borregaard, SSAB and Yara.

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Context and investment summary

According to Gartner's hype cycle, ESG has moved from hype to disillusionment; next comes the 'slope of enlightenment', when we expect significant changes. The EU Green Deal and US Inflation Reduction Act should be key drivers, and E, S and G factors are becoming ever-more integrated into companies, rather than simply put on a pedestal. In this report, we identify the listed Nordic companies that should benefit the most. We conclude that:

- There are cyclical movements.
- Despite geopolitical turmoil, the energy crisis, and an economic downturn, regulatory change continues apace. Policies should not be overlooked by corporates or investors.
- Delving into the policies reveals four key trends likely to affect Nordic companies: 1) a higher cost of carbon; 2) a push for 'traditional' renewables; 3) a push for clean tech; and 4) a push for renovation/energy efficiency in real estate. There is also the issue of how to achieve the transition (human capital, resources efficiency, circularity, critical minerals supply), but there are few regulations yet so this remains on our watchlist
- The most affected sectors look to be industrials, utilities, energy and real estate, as they will see significant shifts (direct impact of policies) and contain a range of leaders (already at the forefront of implementation/adjustment/strategic transition) and laggards alike. We have identified clear 'winners' and perhaps more interestingly 'relative winners'/transition cases.
- Nordic companies appear ready for transition. Irrespective of disclosure regulations, more and more are future-proofed, i.e. aligning strategic activities with society's preferred direction.

We have identified the listed Nordic companies set to benefit the most

Figure 1: Summary: transition ‘winners’ (sectors with a tailwind) and ‘relative winners’

	Increased cost of carbon		Push for traditional renewables		Push for clean tech		Push for energy efficiency in buildings	
	Sector tailwind	‘Relative winner’	Sector tailwind	‘Relative winner’	Sector tailwind	‘Relative winner’	Sector tailwind	‘Relative winner’
Industrials – energy/clean tech-related	Bonheur	✓		✓				
	Cadeler			✓	✓			
	Cambi					✓		
	Cloudberry	✓	✓	✓	✓			
	Edda Wind			✓	✓			
	Equinor				✓		✓	
	Hexagon Composites					✓		
	Hexagon Purus	✓	✓			✓	✓	
	Nel			✓		✓	✓	
	Otovo			✓				✓
	Scatec	✓		✓	✓			
	Vestas	✓	✓	✓	✓	✓	✓	
Ørsted	✓	✓	✓	✓				
Materials	Boliden							
	Borregaard		✓					
	Norsk Hydro		✓		✓			
	SSAB		✓					
	Stora Enso		✓					
	UPM						✓	
	Yara		✓					
Industrials – capital goods	Alfa Laval				✓	✓	✓	
	Kongsberg Gruppen		✓					
	NCC						✓	✓
	Nibe						✓	✓
	OX2	✓		✓	✓			
	Rockwool						✓	✓
	Systemair						✓	
	Veidekke						✓	✓
	Volvo		✓					
	Wärtsilä		✓					
Real estate	Castellum							✓
	Catena							✓
	Entra							✓
	Wallenstam							✓
Consultants	Afry						✓	
	Multiconsult						✓	✓
	Norconsult						✓	✓
	Sweco						✓	✓

Source: DNB Markets

Figure 2: Key ratios, transition 'winners' and 'relative winners'

	Company	Rating	Target price	Target price vs. share price	Share price perf. LTM	Sales CAGR 2024e-2026e	EBIT margin		EV/EBIT		P/E		P/B
							2024e	2025e	2024e	2025e	2024e	2025e	2024e
Industrials – energy/clean tech-related	Bonheur	BUY	275	18%	1%	0%	15%	20%	6.4	3.9	23.4	10.4	1.1
	Cadeler	BUY	72	43%	10%	117%	16%	44%	52.2	11.4	118.7	9.6	1.3
	Cambi	BUY	20	40%	77%	6%	22%	20%	8.4	7.8	14.3	13.8	4.8
	Cloudberry	HOLD	10	13%	-16%	-3%	-11%	3%	neg	189.8	11.3	8.5	0.5
	Edda Wind	BUY	35	54%	-7%	49%	24%	38%	32.1	11.9	neg	7.3	0.7
	Equinor	HOLD	280	-7%	-6%	2%	25%	27%	2.8	2.7	8.1	7.0	1.8
	Hexagon Composites	NO REC	0	0%	-45%	14%	6%	9%	15.8	9.0	neg	14.3	1.1
	Hexagon Purus	BUY	11	92%	-76%	64%	-33%	-7%	neg	-10.5	neg	neg	1.4
	Nel	SELL	3.5	-25%	-65%	44%	-28%	-6%	neg	-25.0	neg	neg	1.4
	Otovo	HOLD	2.6	84%	-89%	22%	-35%	-16%	neg	-4.1	neg	-1.4	0.7
	Scatec	HOLD	72	2%	-5%	-24%	29%	31%	15.4	15.0	16.5	17.1	1.1
	Vestas	BUY	242	37%	-9%	13%	5%	8%	28.4	14.7	41.1	20.5	6.6
Ørsted	HOLD	405	8%	-36%	0%	18%	20%	17.4	13.5	22.3	19.1	1.8	
Materials	Boliden	BUY	380	9%	-13%	3%	11%	13%	11.8	9.6	14.1	11.3	1.6
	Borregaard	BUY	200	4%	9%	5%	18%	18%	15.2	14.0	20.3	18.5	3.5
	Norsk Hydro	SELL	50	-30%	-12%	1%	7%	7%	10.6	11.4	14.4	15.1	1.4
	SSAB	BUY	105	62%	-18%	-1%	11%	13%	3.5	3.0	6.6	5.8	0.9
	StoraEnso	BUY	16	29%	6%	3%	8%	12%	17.2	11.1	21.4	12.5	0.9
	UPM	BUY	44	42%	4%	1%	15%	20%	11.1	7.8	12.7	9.0	1.4
	Yara	BUY	425	30%	-33%	2%	9%	8%	7.6	7.5	8.9	8.8	0.9
Industrials – capital goods	Alfa Laval	BUY	495	17%	12%	8%	15%	17%	16.3	13.9	22.1	19.0	4.1
	Kongsbergs Gruppen	BUY	680	-11%	68%	10%	12%	12%	25.3	21.5	31.4	26.9	7.6
	NCC	BUY	150	18%	38%	2%	3%	3%	10.4	10.1	9.1	9.8	1.6
	Nibe	HOLD	50	1%	-60%	2%	7%	10%	38.7	23.3	61.1	32.0	3.3
	OX2	BUY	75	80%	-49%	49%	9%	10%	7.7	3.7	11.1	6.6	2.0
	Rockwool	BUY	2500	13%	34%	4%	14%	15%	11.8	10.4	16.0	14.3	2.2
	Systemair	HOLD	78	9%	-22%	4%	9%	9%	14.5	12.8	20.9	19.5	2.4
	Veidekke	HOLD	120	8%	-3%	1%	3%	4%	9.0	8.5	13.2	12.4	4.8
	Volvo	BUY	340	18%	36%	3%	13%	13%	7.4	6.8	10.9	10.3	3.6
Wärtsilä	BUY	18	17%	73%	11%	10%	10%	13.3	11.5	19.5	16.7	3.4	
Real estate	Castellum	BUY	136	8%	17%	4%	63%	64%	18.4	17.7	15.5	15.1	0.8
	Catena	BUY	500	2%	24%	8%	77%	78%	23.3	21.7	27.7	25.2	1.4
	Entra	HOLD	115	8%	-1%	0%	84%	84%	17.6	17.4	17.6	15.4	0.8
	Wallenstam	SELL	40	-12%	9%	5%	66%	66%	31.1	30.0	35.4	29.6	1.0
Consultants	Afry	BUY	205	24%	-14%	5%	8%	8%	10.1	8.3	13.1	10.8	1.3
	Multiconsult	BUY	160	15%	-4%	6%	8%	8%	10.8	10.2	14.4	13.2	2.9
	Norconsult	BUY	31.5	21%	37%	6%	6%	8%	13.0	8.2	22.5	12.6	3.4
	Sweco	BUY	137	18%	-15%	7%	10%	10%	14.2	12.7	19.1	16.8	3.6

Source: DNB Markets (estimates), Bloomberg (estimates for Hexagon Composites), 2024-04-18

From boom to bust

Climate-related investing – a brief history

Given the importance of decarbonisation, it might be a surprise to learn that idea of sustainability and sustainable investments is relatively recent. AI was invented 20 years before the first sustainable mutual fund, while generative AI was developed two years before the S&P had an ESG index.

Focusing on sustainable investments is relatively recent

Sustainable finance catches on

From a financial perspective, climate-related investments were in their infancy until 2005. Early steps included addressing the role of capital in abating climate change: 1) the Kyoto Protocol (1997) stimulated investment in the most cost-/emissions-efficient projects; and 2) the Greenhouse Gas Protocol (1998) and Carbon Disclosure Project (1999) increased climate-related reporting, improving investment transparency. Sustainable and climate-related investing started to pick up with the Principles for Responsible Investment (PRI) (2006), which began quantifying and measuring the climate impact of investments.

By 2020, the role of capital in climate change and the risks/opportunities for financials had become mainstream...

The signing of the Paris Agreement at COP21 (2015) marked a turning point, making it legally binding for countries to limit the temperature rise to 1.5°C above pre-industrial levels. The Paris Agreement led the Financial Stability Board to establish the Task Force in Climate-Related Financial Disclosures (TCFD) (2017) to assess the risk of climate change to companies' bottom lines. By 2020, the role of capital in abating climate change, as well as the risks and opportunities that climate change can have on financials, had become mainstream.

Public awakening

Sustainability also started to become mainstream, particularly climate themes. In European parliamentary elections, Green parties had been hovering around 4–6% since the 1990s but jumped to close to 10% of the votes in 2019. In August 2018, Greta Thunberg spent her first Friday outside the Swedish government, "school striking for climate". It grew into a movement, with the largest-ever climate protest in September 2019 having 6m people across 150 countries.

...as had sustainability...

Figure 3: Greta Thunberg – the face of climate protests in the late 2010s



Source: Getty Images/Reuters

Public interest in the climate and changing consumer behaviour piled pressure on politicians, policymakers, and the financial community. The culmination was Blackrock CEO, Larry Fink's annual letter in 2020 "A Fundamental Reshaping of Finance":

...which has piled pressure on politicians

Figure 4: Snippet from Blackrock's CEO annual letter, 2020

Climate change has become a defining factor in companies' long-term prospects. Last September, when millions of people took to the streets to demand action on climate change, many of them emphasized the significant and lasting impact that it will have on economic growth and prosperity – a risk that markets to date have been slower to reflect. **But awareness is rapidly changing, and I believe we are on the edge of a fundamental reshaping of finance.**

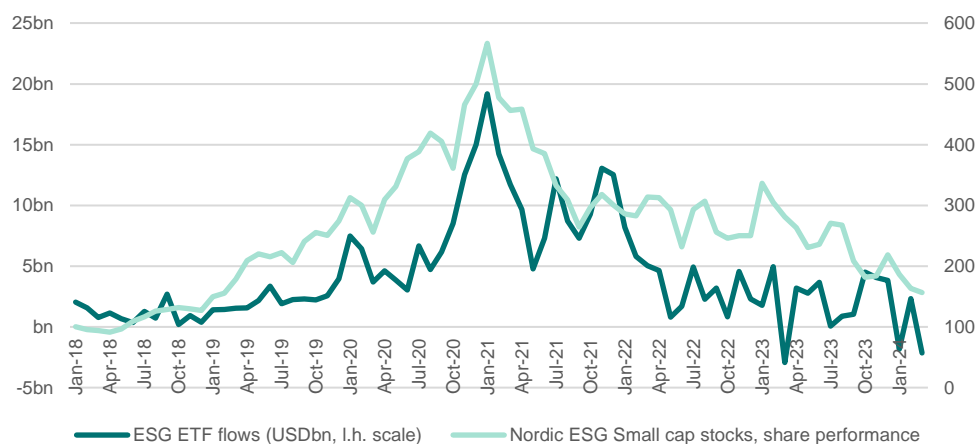
Source: Blackrock

ESG bubble

This all sets the scene for the ESG bubble. Although ‘ESG’ refers to how Environmental, Social and Governance factors affect, and are affected by, a company’s performance, in 2020–2021 the label tended to be – somewhat misleadingly in our view – used mainly for companies or initiatives providing any type of climate change solution. In fact, as long as a company could claim it helped fight climate change, the social and governance (and sometimes even financial) aspects often appeared to be disregarded. The hype was real, and a tsunami of cash poured into ESG-related investments (ESG-linked ETFs’ monthly inflow grew from USD1bn–2bn in early 2018 to USD20bn–25bn in late 2020). A lack of ESG alternatives and a relative insensitivity to valuations (ETFs buy regardless of the price) inflated the ESG bubble in several regions. In the Nordics, small-cap ESG stocks rallied 250% in two years and 12-month forward P/E’s in companies such as Nibe, Tomra and Beijer Ref clearly exceeded 50x.

The hype was real. Lack of ESG alternatives and insensitivity to valuations inflated the ESG bubble

Figure 5: Inflows in ESG ETFs (USDm) versus Nordic small-cap ESG stocks (ESG stocks: Index 100=2018)



Source: Bloomberg (underlying data), DNB Markets (further calculations)

Most bubbles burst, and this one was caused by higher interest rates and lower risk appetite as market turbulence increased. As ESG-related companies were forecast to generate most of their growth beyond the next 2–3 years, valuations were very sensitive to higher discount rates. As the market corrected, it became harder for smaller companies to secure funding (mainly through equity) to finance early-phase projects to achieve the forecast growth. Small-cap ESG-related share prices peaked in late 2020 and have since more than halved. Meanwhile, large-cap ESG-related companies were more stable in 2022, but many share prices dropped in 2023. Thus, it became clear that ‘ESG’ alone was unable to supersede other value drivers (innovation, capital allocation, productivity, etc.). Instead one should focus on those ESG issues that are truly important for the growth and the financial performance of the business and make ESG an integral part of any investment risk and financial analysis.

Perhaps unsurprisingly, the bubble burst and many share prices slumped. ESG alone is unable to supersede other value drivers – rather it is a part of any investment risk and financial analysis

Figure 6: Nordic ESG-stocks, share performance (index 100=2018)



Source: Bloomberg (underlying data), DNB Markets (further calculations)

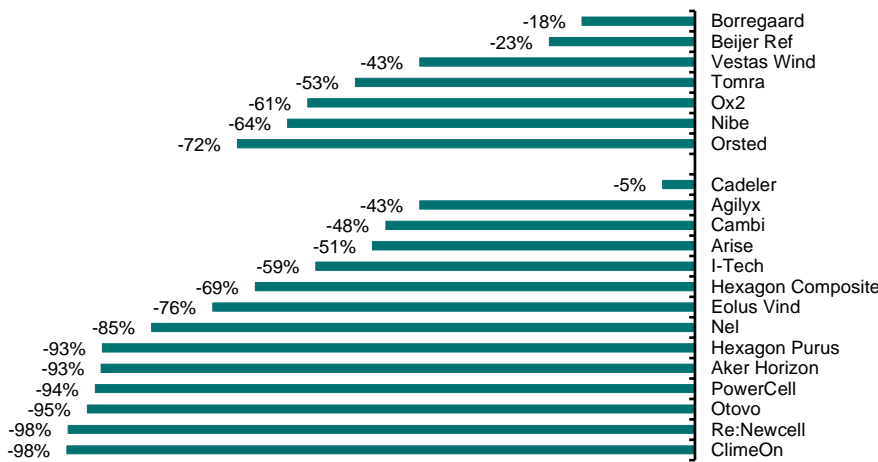
ESG names

Analysing individual companies, we note that:

- **Several Nordic small-caps have been virtually wiped out** over the past two years, with seven down more than 80% – and Re:Newcell, Otovo and ClimeOn down more than 95% since the peak. Only Cadeler has outperformed the Carnegie Small cap index and is close to an all-time high, we believe owing to the still-favourable outlook for offshore wind.
- **Large-caps have also been hit, with share prices slumping** over the past two years, e.g. previous market darling Ørsted has fallen 72% since its peak. Other ESG names (with significant ownership from ESG ETFs) such as Nibe and Tomra have fallen 64% and 53% since their peaks, respectively. Some have stabilised and even tentatively risen YTD, but are still far from their peaks.

Small- and large-caps both affected

Figure 7: Nordic ESG companies, current share price versus all-time high

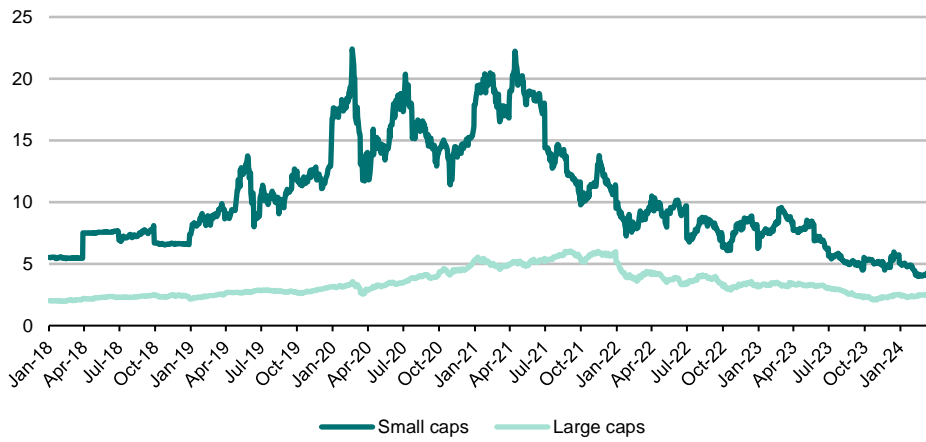


Source: Bloomberg (underlying data), DNB Markets (further calculations), 17 April 2024

When valuations were peaking in 2020, trailing 12-month EV/sales for small-caps averaged 20x and 12-month forward P/Es for large-caps averaged 30x. The subsequent de-ratings have been meaningful, to 4x and c25x, respectively.

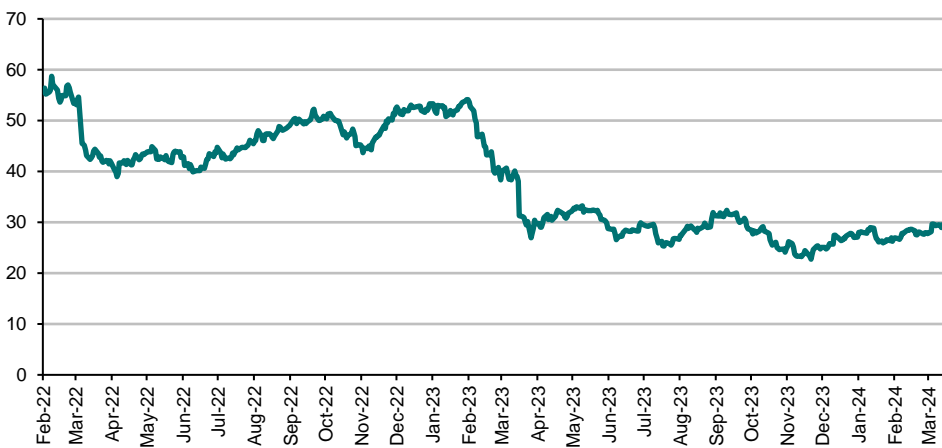
Small-caps' trailing 12-month EV/sales has fallen from 20x to 3x, and large-caps' 12-month forward P/Es from 45x to c25x

Figure 8: Nordic ESG-stocks, trailing 12-month EV/sales



Source: Bloomberg (underlying data), DNB Markets (further calculations)

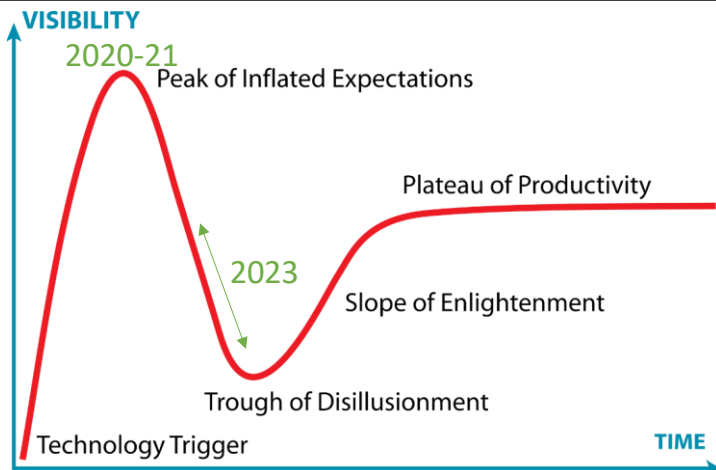
Figure 9: 12-month forward P/E for Nordic ESG large caps



Source: Bloomberg (underlying data), DNB Markets (further calculations)

We believe we have come a long way from ‘peak inflated expectations’ in the Gartner hype cycle curve (see below), and that ESG hype has followed a typical hype cycle. In the next section we explain why we believe the next phase, the ‘slope of enlightenment’, should materialise over the coming years. We believe we are in a multi-year structural growth phase for many companies/industries exposed to society’s decarbonisation transition.

Figure 10: Gartner hype cycle – climate transition in ‘Slope of Enlightenment’ phase



Source: Gartner (illustration), DNB Markets (estimate where we are in the cycle)

From woolly words to concrete impact

Despite geopolitical turmoil, the energy crisis, and an economic downturn, regulatory change continues apace. Policies and incentives are coming into play and should have a meaningful impact on decarbonisation. There have also been announcements of extensive public green spending on renewables and clean tech in Asia (mainly China) that should have a significant impact on global emissions, in this note we focus on the EU and the US as these should have a larger impact on listed Nordic names.

The EU and the US are approaching transition policies differently: one with sticks, the other with carrots:

- **The EU's** approach has been risk and cost-based, with policies focused on increasing the cost of carbon-intensive production and products, e.g. the EU Emissions Trading Scheme affects and increases the price of carbon emissions.
- **The US's** approach with its Inflation Reduction Act has been to boost low-carbon solutions in renewables and clean tech with subsidies that should eventually bring costs down and facilitate production.

Different policy choices have different effects on the economy and companies. We believe there is no one set of policies that will drive transition, but rather a combination thereof. Thus, we focus on four key trends in policies: 1) increased cost of carbon; 2) a push for traditional renewables; 3) a push for clean tech; and 4) a push for energy efficiency (particularly related to real estate and renovation).

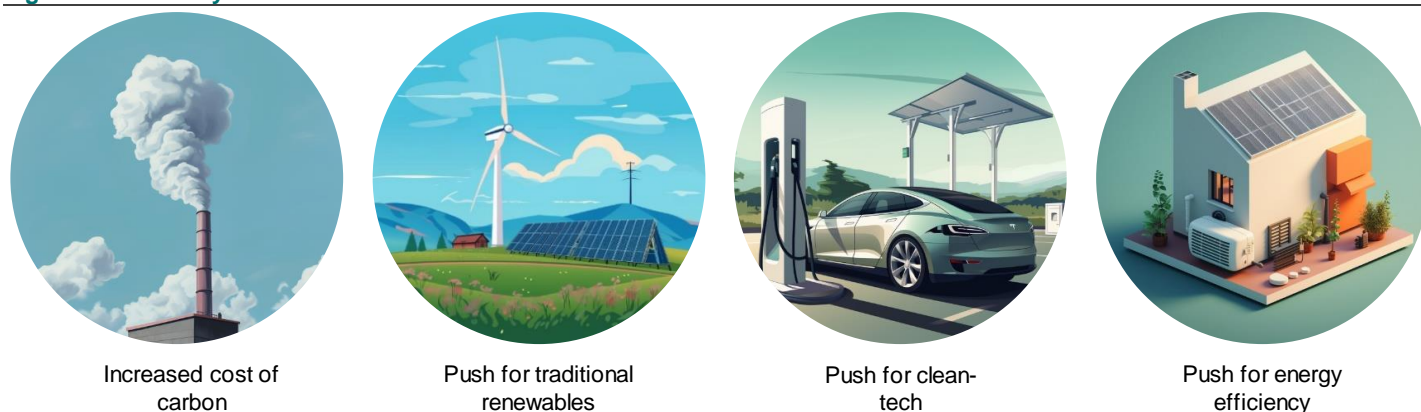
Regulatory change continues apace

Sticks and carrots

Four key trends:

- Increased cost of carbon
- Push for traditional renewables
- Push for clean tech
- Push for energy efficiency

Figure 11: Four key trends



Source: DNB Markets, Midjourney

EU Green Deal

The Green Deal (2018) is the EU's plan to become carbon-neutral by 2050 and meet its commitments to the Paris Agreement. Simply put, it includes one package to increase ESG disclosure and generate capital flow to sustainable activities (Sustainable Finance Action Plan), and another to cut emissions and boost low-carbon solutions in industrial companies ('Fit for 55'). Both include regulations to ensure a low-carbon economy, but we believe 'Fit for 55' is the one to watch for concrete policies enforcing transition for companies. 'Fit for 55' has been years in the making, became law in 2023, and will be rolled out in 2024 onwards.

'Fit for 55': costs, costs and costs – putting a price on it all

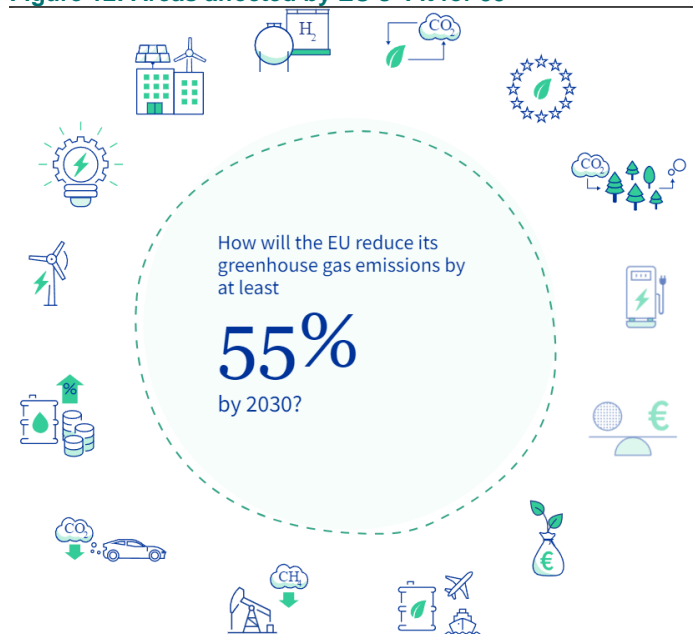
'Fit for 55' was proposed by the European Commission in July 2021 as a roadmap to reducing carbon emissions by at least 55% by 2030 (base year 1990). It contains proposals to revise, tighten and update legislation and introduce initiatives to ensure policies are in line with the 2030 climate goal. A lot has changed since it was published – the energy crisis, geopolitical challenges, energy resilience efforts, inflation and the pandemic. However, nothing has slowed the EU's climate-related regulatory processes and changes come into force from this year.

'Green Deal' is the EU's plan to become carbon-neutral by 2050 and meet its commitments to the Paris Agreement

'Fit for 55' aims to more than halve carbon emissions by 2030 (versus 1990)

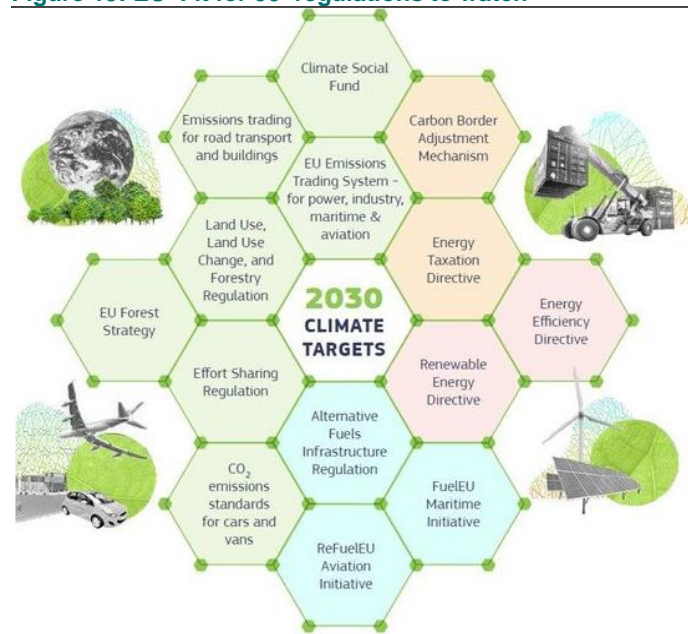
Of the 'Fit for 55' regulatory changes, we believe those likely to affect markets medium/long-term will be: the EU Emissions Trading System, energy performance targets (e.g. for buildings), renewable energy targets, and various transportation regulations (vehicles, shipping, aviation).

Figure 12: Areas affected by EU's 'Fit for 55'



Source: Council of the European Union

Figure 13: EU 'Fit for 55' regulations to watch



Source: European Commission

'Fit for 55': key regulations coming into force in 2024 onwards

- **EU Emissions Trading Scheme (ETS) reform.** This is the EU's most effective climate regulation and the world's first and largest emission trading system, affecting c40% of the region's CO₂ emissions. It affects mainly the energy and heavy industries (e.g. steel production, cement, chemicals) and transportation (maritime, aviation). Companies lacking the emission rights to cover their emissions could face fines and/or obligations to buy more rights. Since its 2005 launch, the EU ETS has cut c40% of emissions from the sectors covered by the scheme, and aims to cut it by 62% by 2030. This corresponds to a 4.3–4.4% annual reduction in CO₂ emissions. Although the CO₂ price has dropped significantly YTD (cEUR60/t in April 2024) driven by an industrial decline in the EU and increased renewable energy output, it had been EUR80–100/t for two years and the EU expects it to stabilise at EUR130/t by 2030. At cEUR100/t, the cost of CO₂ rights corresponds to EUR185 per ton of steel produced by a steel producer, or c30% of the current steel price, implying the cost for excess emissions will be very high for emissions-intensive industries.
- **EU Carbon Border Adjustment Mechanism (CBAM).** This incentivises low-emissions imports and protects exports, by putting a carbon levy on imported iron, steel, cement, aluminium, fertilisers, hydrogen and more, to shield the EU from cheaper, more-polluting products from elsewhere. The consequence is likely higher input costs for key commodities, although EU companies under the EU ETS are positive about the level playing field. A trial started on 1 October 2023, with full operation from 2026. To put this into context, Europe imports c15–20% of steel consumed in the region, mostly from Asia. According to Eurofer, the production of steel in Asia emits on average 50–100% more CO₂ per ton of steel produced in Europe, meaning imported steel will be hit by substantial extra costs for emissions.
- **Renewable Energy Directive (RED) reform.** This cuts permitting times and expands areas, by cementing that the EU's share of renewables in total consumed energy will be at least 42.5% by 2030 (22% in 2021). Member states now need to implement binding targets or binding shares on renewables mix. There are two key parts: 1) Accelerated Permitting Laws, facilitating more rapid deployment and development of renewable energy infrastructure by

simplifying and expediting the permitting process; and 2) an overriding public interest clause, allowing some renewable energy projects (particularly wind and solar) to be prioritised in the permitting process when considered to be of significant public interest. Also, the EU has launched 'REPowerEU Plan' to rapidly reduce its dependence on Russian fossil fuel and accelerate the green transition; this also aims to hugely scale-up renewable energy projects.

■ **Energy-efficiency targets including Energy Performance in Buildings Directive (EPBD).**

This boosts everything that saves energy and could double renovation rate, by enforcing a cut in energy consumption of 11.7% by 2030 (base year 2020) and implying that by 2024–2030 member states' annual energy-saving obligations will near double. The EPBD (not yet fully approved) is a key part of efficiency measures. With buildings accounting for 40% of energy consumed, it seeks to enforce mandatory renovations of the worst-performing buildings and ensure that newbuilds have zero emissions from 2030.

In our view, these regulations have the most direct and wide-ranging market impact, because they involve a direct added cost (usually related to carbon emissions) for a broad range of sectors. Thus, laggards could face much higher costs, but climate-adaptive companies could benefit. However, these regulations are a fraction of everything entering into force in 2024 and onwards under the EU Green Deal. For a fuller overview of 'Fit for 55', contact us to sign up to our [Sustainable Finance Regulatory Updates](#).

Election year 2024: will the EU backtrack on the Green Deal?

With 2024 being an election year for the European Parliament and the European Commission, we expect few new ESG regulations in 2024. After a 5-year ESG-policy wave, the EU has flagged that new topics, such as Competition and Defence, have overtaken the Green Deal as the EU's top election and strategic priority for the next EC term (2024–2029). In our view, these long-term signals do not change the EU's pace on ESG. The Fit-for-55 regulations have just been implemented and will now come into effect, hot on the heels of the EU's numerous regulations for financial markets, under the Sustainable Finance Action Plan. Hence, although the 'regulatory wave' has begun to subside, the integration of ESG-related risks and opportunities has become an integral part of the EU's operations.

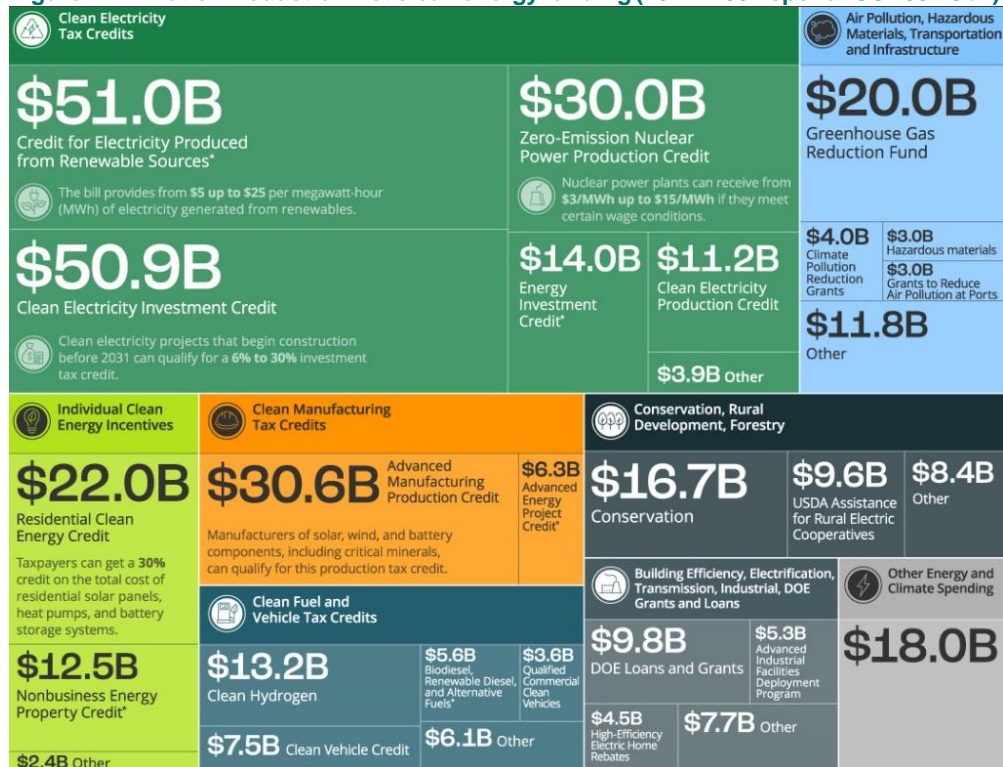
US Inflation Reduction Act (IRA)

All about incentives

In the US, President Biden surprised many by managing to push through a climate and low-carbon energy policy package, the 'US Inflation Reduction Act (US IRA)' in August 2022, after failing to get political approval for 'Build Back Better' in 2021. Learning from mistakes, the US IRA addresses the US's key emitting industrial sectors and includes nearly USD400bn of direct subsidies and tax credits for clean energy technologies and solutions that cut emissions in those sectors.

IRA includes USD369bn of subsidies/tax credits for clean energy technology/solutions that cut emissions

Figure 14: Inflation Reduction Act clean energy funding (2022–2031 spend: USD392.5bn)



Source: Congressional budget office

The US’s approach to decarbonisation and transition has not focused on limiting carbon-intensive supply or implementing carbon pricing, but rather on boosting low-carbon solutions by increasing production quantities of renewables and clean tech and cutting the price of units and production. The Act aims to lower the costs of clean energy and technology, making them more competitive in relation to fossil fuel-based energy, via tax credits, subsidies, and other financial incentives that encourage production and adoption of clean technologies.

US IRA: three core mechanisms effective in 2023 onwards

The regulatory contents of the US IRA, as well as its closely linked climate policy ‘Bipartisan Infrastructure Law’, are extensive. We believe the following three mechanisms have the most direct impact on companies:

Extensive regulations – and three key mechanisms

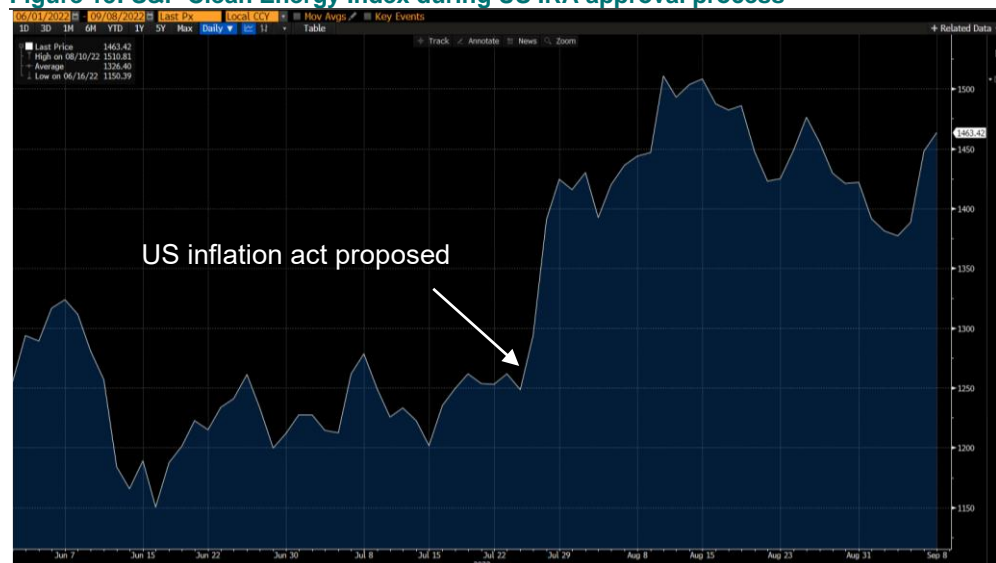
- Investment Tax Credit (ITC)**, incentivising capex. New qualified investments and start-up costs get a tax credit up to 30% of capex granted through the IRS, and some incentives have a competitive application process. Examples include solar energy projects for residential and commercial solar installations, wind energy, waste energy recovery, and fuel cells.
- Production Tax Credit (PTC)**, incentivising existing production with a predictable timeline. This is not a new mechanism but rather a by-law formally extended with fixed timelines depending on jurisdiction. It also provides a per kilowatt hour tax credit for electricity generated by qualified energy resources. Two key projects are: 1) wind power generation, where credit is given for each kWh of electricity produced by a wind turbine for 10 years; and 2) biomass (wood waste, municipality waste) power generation, with a per-kWh credit.
- Local content requirements.** Domestic content requirements mean projects approved for IRS grants must generate American jobs with a supply chain that is primarily American or from countries with a free-trade agreement (which the EU does not have) so investments bolster US manufacturing and job creation. Several countries/regions (among them the EU) have criticised this, fearing a competitive disadvantage and saying it violates the World Trade Organisation’s free-trade rule on non-discrimination of jurisdictions.

Other mechanisms should also incentivise transition, such as consumer incentives (including tax credits for energy-efficient home improvements and electric vehicle purchases), and clean energy manufacturing (to stimulate domestic manufacturing of clean energy equipment).

Potential impact and market consequences

The market impact was immediate: low-carbon energy companies with US exposure were mentioned at the launch of the IRA, including wind power producers and suppliers, and these companies enjoyed share price spikes in summer and early autumn 2022 as the US IRA was voted through the Senate (July 2022) and signed by the President (August 2022).

Figure 15: S&P Clean Energy Index during US IRA approval process



Source: Bloomberg

We believe the impact of IRA will last in the medium to long term. Several studies since it was launched pointed to increased developments; American Clean Power suggested in 2023 that ‘in just over a year, US utility-scale clean energy industry has US\$349bn of investment added 36,820 new manufacturing jobs [and] 100 manufacturing facilities (for expansions)¹. Projects in solar, battery and wind have upscaled.

Projects in solar, battery and wind have upscaled

The IRA has increased the attractiveness of clean energy industries and investing. Several companies – including large European and Nordic names – have announced substantial potential financial benefits as they boost development, relocate, or plan to relocate to the US due to the IRA, e.g. Yara Clean Ammonia (blue hydrogen) and Vestas Wind System (wind turbine manufacturing) announced US-linked developments in 2023.

Election year 2024: the US backtrack on the IRA?

With 2024 being an election year in the US, clean energy projects that benefit from the IRA face questions about the potential for a rollback of the law and its initiatives if a Republican wins. Donald Trump in particular has repeatedly attacked central elements of the IRA, including tax credits for purchasing EVs. A few elements, which had been secured from the outset, make a broad repeal of the law unlikely, we believe, because: 1) it is primarily a tax-related law, which will require agreement from the President and both houses; and 2) the IRA has enhanced benefits and investments in several Republican states, and generally it is much harder to get political acceptance for cutting business rather than creating more.

That said, we believe that a Republic administration would most likely try to influence the programmes in ways that do not require full political majority or an act of Congress. The impact of potential anti-climate policy measures would affect US businesses, but we believe that our identified four trends will remain overarching. In the next section, we discuss the four key trends that should benefit Nordic companies on the back of the European Green Deal and US Inflation Reduction Act.

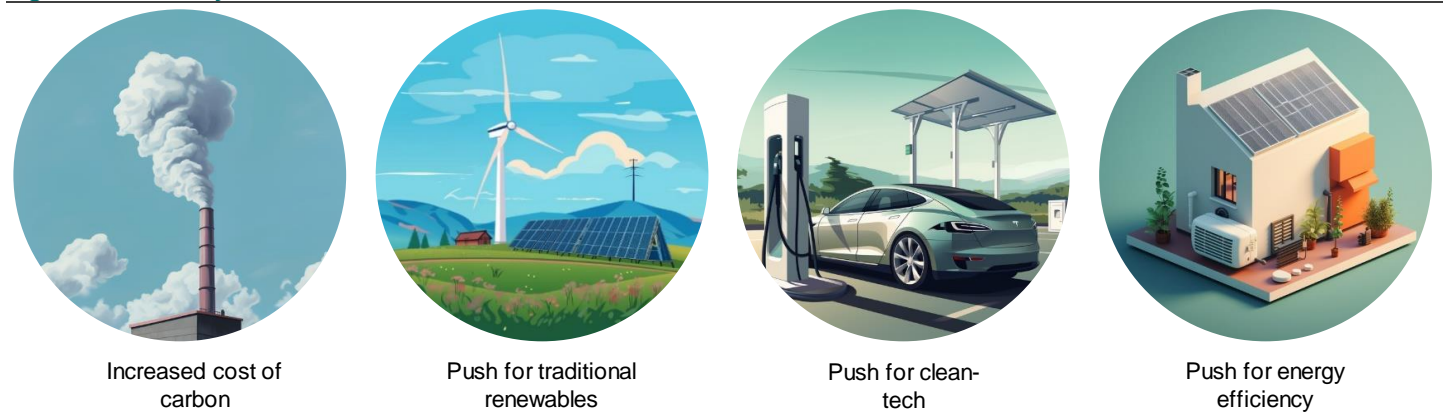
¹ Clean Energy Investing in America | ACP (cleanpower.org) ; DNB Markets

Four key trends – impact on Nordic companies

To assess the impact of climate policies on Nordic companies, we have identified four key trends: 1) increased cost of carbon; 2) a push for 'traditional' renewables; 3) a push for electrification and clean tech; and 4) energy efficiency. We then asked all DNB Markets' equity analysts to assess whether (and how) these trends might affect the companies they cover, to determine: 1) which sectors were likely to face headwinds or tailwinds; and 2) whether there were companies in each sector they considered more robust and thus identifiable as relative 'winners'. A few names stood out as already incorporating the risks and opportunities stemming from these policies, making them potential 'winners' of climate transition. See the Appendix for more company information, recommendations, target prices, and analyst contact details.

We identified four key trends and garnered input from DNB Markets' analysts on the companies they cover

Figure 16: Four key trends

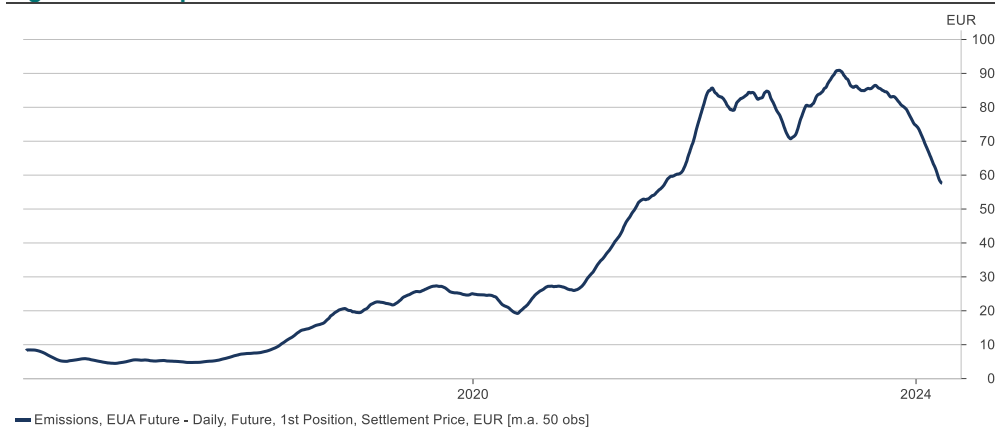


Source: DNB Markets, Midjourney

Trend no.1: increased cost of carbon

Driven by the EU ETS Reform and CBAM, the CO₂ quota price has risen sharply since 2020. Although it has dropped significantly YTD (cEUR60/t in April 2024) on an industrial decline in the EU and increased renewable energy output, it had been EUR80–90/t for the previous two years. There are few forecasts on CO₂ prices, but the EU estimates a steady increase as policies are enforced in late 2024 onwards, stabilising at EUR130/tCO_{2e}.

Figure 17: CO₂ price since 2017



— Emissions, EUA Future - Daily, Future, 1st Position, Settlement Price, EUR [m.a. 50 obs]

Source: Macrobond

We expect much greater transparency and oversight requirements to cause short-term pain (more reporting), but long-term gain (more market credibility and price stability). The EU regulations make it hard for companies not to report – or understand the financial consequences of – CO₂ emissions even if they are not (yet) regulated by the EU ETS.

We find that EU industries and high emitters are already pricing in emissions costs to an increasing degree, albeit the larger companies more than the smaller/medium-sized ones. Industry's greatest worry regarding the EU ETS reform has been the effect it could have on

Many EU high emitters (particularly large-caps) are already pricing in emissions costs

exports and competitiveness, as the price of EU-domiciled products – everything else being equal – will increase. Hence, the EU aims to gradually phase in the CBAM.

In our view, the implementation of CBAM will be a positive for European industrial producers that come under the EU ETS. Several companies and industry associations have asserted that it creates an unfavourable competitive situation for them compared with those outside the EU not facing the same increasing CO₂ cost. Although CBAM enables EU companies to decarbonise while protecting local industries and preventing business from relocating out of the EU, we see several challenges. CBAM is likely to drive up the import costs for hydrogen and other commodities on which the EU depends for its energy transition.

Key Nordic industries likely to be affected by the EU ETS are:

- **Power generation**, particularly coal and gas-fired plants (major greenhouse gas emitters), seeing increased capex need. Meanwhile, renewable energy producers should be ‘winners’.
- **Aviation**. Flights in Europe will be affected as allowances for aviation drop, raising the cost of fuel. With limited alternatives, this will most likely result in higher flight prices.
- **Shipping**. Emissions will be included for the first time, leading to higher fuel costs. From 1 January 2024, vessels >5k tonnage pay for 40% of emissions (70% from 2025, 100% from 2026). For routes within the EU, 100% of the obligation must be met; and between the EU and non-EU ports, 50% must be met.
- **Oil & gas production and refineries** emit significant CO₂. These sectors have already been exposed to carbon prices, but will face higher costs of emissions as allowances shrink.
- **Steel/aluminium producers**. Steel production accounts for 10% of CO₂ emissions in Sweden, and aluminium production accounts for c6% of CO₂ equivalents in Norway. Making steel production zero-emissions will be costly. In Sweden, H2 Green Steel has a budget of USD3bn to produce a new facility of 5m tonnes of annual steel production.
- **Pulp & Paper**. Although less carbon-intensive, the industry still faces costs and an operating impact as an energy consumer for its manufacturing.

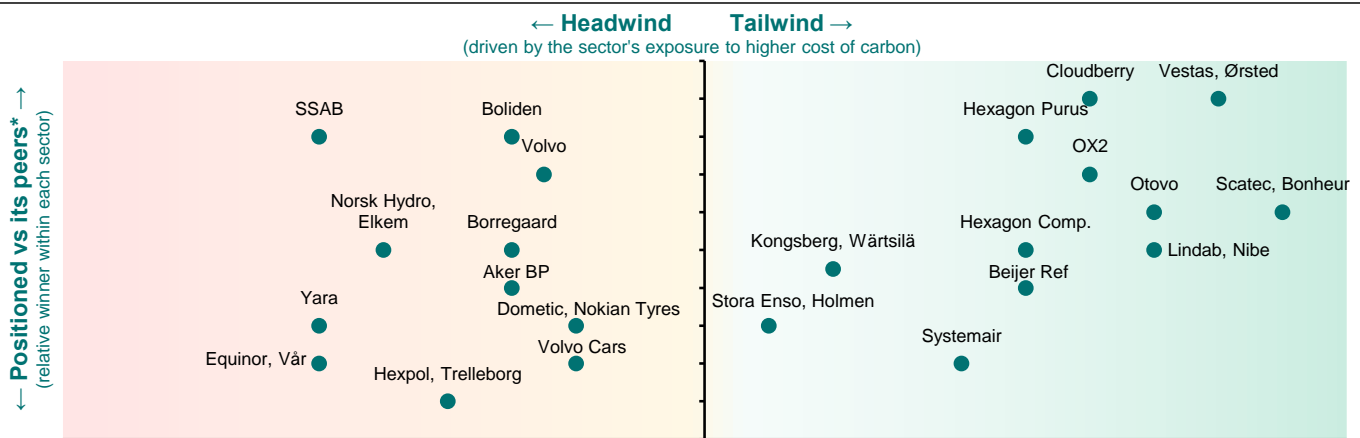
There are also challenges – CBAM likely to drive up import cost of hydrogen and other commodities needed for transition

Nordic sectors most affected by ETS: power, aviation, shipping, oil & gas, steel/aluminium, pulp & paper

There should also be secondary effects on companies, e.g. products with a high steel content and high energy usage could well become more expensive.

Listed Nordic ‘winners’ and ‘relative winners’

Figure 18: Trend no.1: increased cost of carbon – ‘winners’ and ‘relative winners’



Source: DNB Markets

Note: *Y-axis illustrates a company’s position compared to its peer group. Hence the Y-position is not comparable between the companies in the graph unless they are within the same sector.

Among the ‘winners’, we note that several low-carbon companies, particularly producers of – or suppliers to – renewable energy production, eligible for increased revenue from this trend. This should not come as a surprise, given their raison d’être is sustainable solutions for the transition to a low-carbon economy. In the table below, we list what we consider to be the ‘winners’.

‘Winners’ include low-carbon companies, e.g. producers of/suppliers to renewable energy production

Figure 19: Trend no.1: increased cost of carbon – ‘winners’

Company	Sector	Overview
Bonheur	Industrials – capital goods	A Fred. Olsen-owned holding company directly investing in renewables, with four divisions: Renewable Energy, Wind Service, Cruise and Other Investments (first two account for the majority of sales)
Cloudberry	Utilities – renewables	Develops, builds, owns, and operates hydropower and onshore wind energy assets in the Nordics (294MW proportionate capacity in operations and under construction)
Hexagon Purus	Industrials – capital goods	Part of the hydrogen and battery-related value chain, producing high-pressure cylinders for hydrogen storage used for infrastructure and mobility. Serves a wide range of applications from medium/heavy-duty vehicles and buses to ground storage, distribution, maritime, rail and aerospace
OX2	Industrials – capital goods	Swedish renewables developer with a presence in Europe and Australia. OX2 is a ‘pure’ developer and does not hold the electricity-generating assets on its balance sheet. Its project portfolio consists of 41% offshore wind, 36% onshore wind, 21% solar and 3% energy storage
Scatec	Utilities – renewables	Develops, builds, owns, and operates renewable energy assets in emerging markets (4.4GW in operation and under construction globally). 50% of its power production is from hydropower, 49% solar, 1% onshore wind
Vestas	Industrials – capital goods	World’s largest wind turbine manufacturer, building on 40+ years’ experience of designing, manufacturing, installing, developing and servicing wind energy and hybrid projects globally
Ørsted	Utilities – renewables	Develops, builds, owns, and operates renewable energy assets in offshore wind (8.9GW installed capacity) and onshore renewables primarily onshore wind (4.8GW installed capacity)

Source: DNB Markets

In the table below, we list the ‘relative winners’ in sectors facing headwinds but where the companies look robust on a relative basis.

Figure 20: Trend no.1: increased cost of carbon – ‘relative winners’

Company	Sector	Overview	Transition case
Boliden	Materials – metals and mining	High-tech metal company, with its own mines and smelters, mostly in the Nordics. Its key metals are copper, zinc and nickel	Its high-quality metals assets are in demand due to increasing electrification. Also, it has good availability of renewable or low-carbon energy, giving it a carbon footprint far below the industry average
Borregaard	Materials – chemicals	Speciality chemical company operating an advanced biorefinery producing biochemicals, e.g. cellulose, lignin and wood-based vanillin used in various products	Invests substantially in its own energy efficiency and produces biochemicals with a much lower carbon footprint than fossil-fuel-based comparables, helping customers to cut emissions
Equinor	Energy – oil & gas	Major global energy company, producing mostly oil and gas, as well as some renewables. Largest producer on the Norwegian Continental Shelf (c1.3mboed)	Its high exposure to Norwegian production (among least carbon-intensive oil and gas production globally) and investments in CCS give it a lower carbon footprint than peers. Is increasingly shifting towards renewables
Kongsberg Gruppen	Industrials – Capital goods	Industrial conglomerate delivering advanced technological systems primarily to the defence and maritime sectors, as well as the maritime fleet	Invests significantly in emissions reductions from own operations and in technological/digital solutions reducing customers’ emissions, via alternative fuels, design, fuel cells and battery technology in marine transportation
SSAB	Materials – metals and mining	Global steel company, with leading position in high-strength steels and special steel (lighter/thinner)	One of the most carbon-efficient steelmakers aiming to become fossil-free by 2030 (backed by stepwise credible plans based on carbon-free input materials)
Stora Enso	Materials – Paper & forest	Leading provider of renewable products in packaging, biomaterials, and wood construction. About a third of its wood consumption comes from its own 1m hectares of forestland	As well as emission-reduction initiatives in its own operations and role as a carbon-sink, its products and new product technologies are increasingly in demand by wood-based construction and replacing plastics with fibre-based packaging
Volvo	Industrials – Capital goods	One of the world’s largest providers of transport and infrastructure solutions (trucks, buses, construction equipment), power solutions for marine/industry, and financial services to support the purchase/use of its products	Has credible long-term targets to drive the shift to zero-emission vehicles in all divisions
Wärtsilä	Industrials – Capital goods	Global leader in medium-speed engines, but also offers digital and technical optimisation solutions to the marine and energy sectors	Invests in its own carbon neutrality and technological solutions to drive customers’ carbon reduction, particularly in shipping/maritime (scrubbers, LNG, fuel-switching)
Yara	Materials – chemicals/fertilisers	Produces high-quality fertilisers, serving mainly Europe. World’s largest producer of nitrates and NPK, and the second-largest producer of ammonia	Increasing its use of cost-efficient solutions to produce ammonia and speciality green fertilisers using renewable energy, using 75–90% less CO ₂ than with natural gas. It also invests in new technology such as CCS

Source: DNB Markets

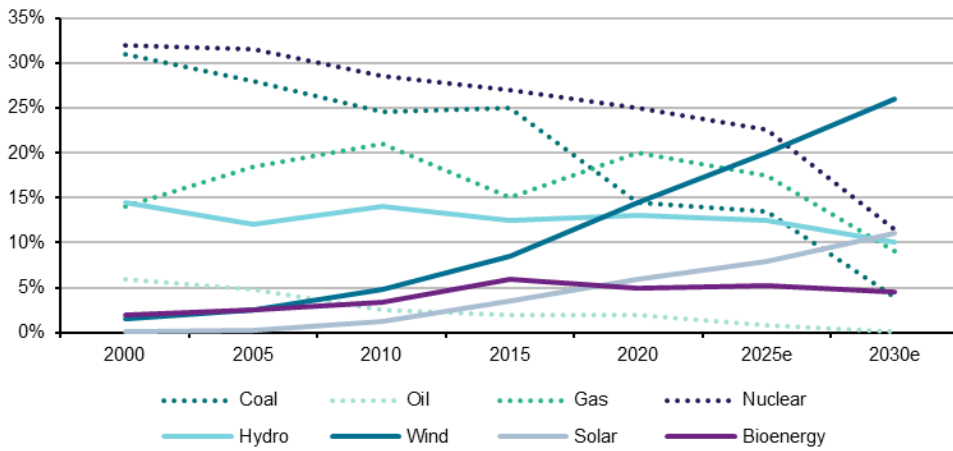
Trend no.2: push for traditional renewables

Central to the transition to renewables is speeding up the permitting of renewables projects, a key bottleneck today. For instance, the Renewable Energy Directive introduces an obligation for member states to identify the necessary land and sea areas for installations to meet national contributions towards the 2030 target. Also, the US has in its IRA plan substantial amounts planned to incentivise new renewable energy projects.

The projected energy mix in Europe should change substantially this decade. c37% of energy consumed in Europe came from renewable sources in 2020, but it is projected by the EU to be c52% by 2030, driven by continued expansion of wind power and solar power.

The permitting of renewables projects needs to be improved

Figure 21: Electricity mix for EU 27



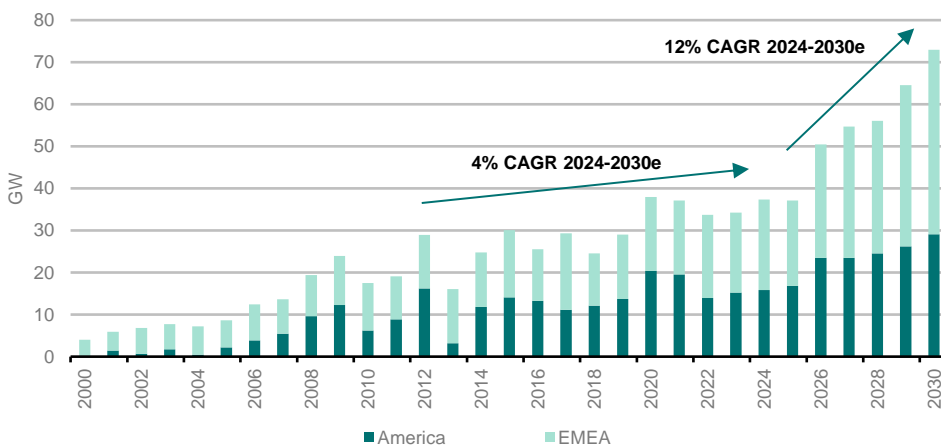
Source: Eurostat, Ember and WindEurope (historical data), European Commission (projections)

Wind

Wind energy contributed 15% of the EU-27's electricity mix in 2020, producing 458 TWh. To achieve a climate-neutral economy, Europe must tap into its vast wind energy potential further, which is up to 33,000TWh (8k onshore, >25k offshore). According to the European Commission's forecasts, wind is expected to become the primary electricity source by 2030, accounting for 25% of all electricity needs and 50% of electricity production.

It is projected by BNEF that wind power installations (in GW) will increase by 14% per year from 2024 to 2030, from earlier growth of 7%. The primary driver is the rapid expansion of offshore wind. Offshore wind installations are expected to be 11GW in 2024 and 38GW by 2030, or annual growth of 23%. By 2030, offshore wind is expected to account for 52% of all new installations in Europe and the Americas.

Figure 22: Wind power - installed capacity per year (GW), EMEA and Americas

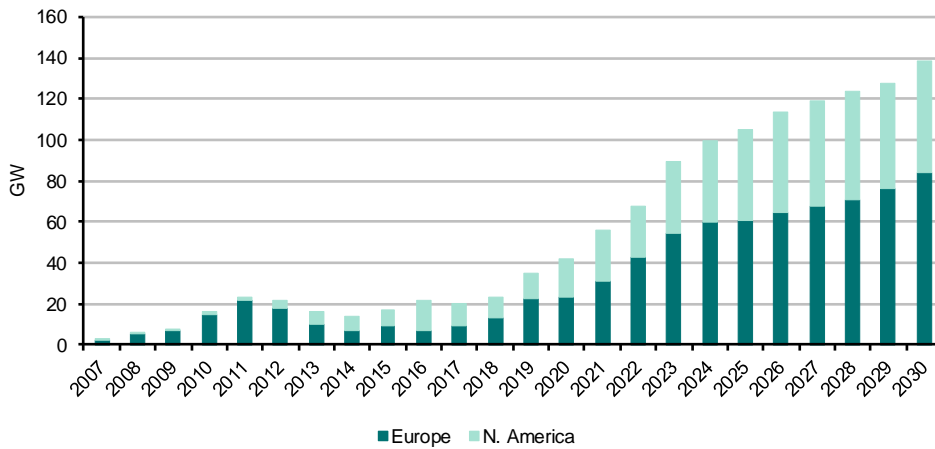


Source: BNEF, DNB Markets (further calculations)

Solar

Solar power should emerge from 'Fit for 55' as one of the EU's primary energy sources. A target of 45% renewable energy by 2030 would correspond to 870GW of solar power installed by the end of the decade. BNEF estimates the annual installation of solar power should be 84GW by 2030e, implying 9% annual growth in GW installed capacity. Solar costs hit an all-time low in 2023, and China is again forecast to dominate the market in 2024.

Figure 23: Solar power – installed capacity per year (GW), Europe and North America



Source: BNEF, DNB Markets (further calculations)

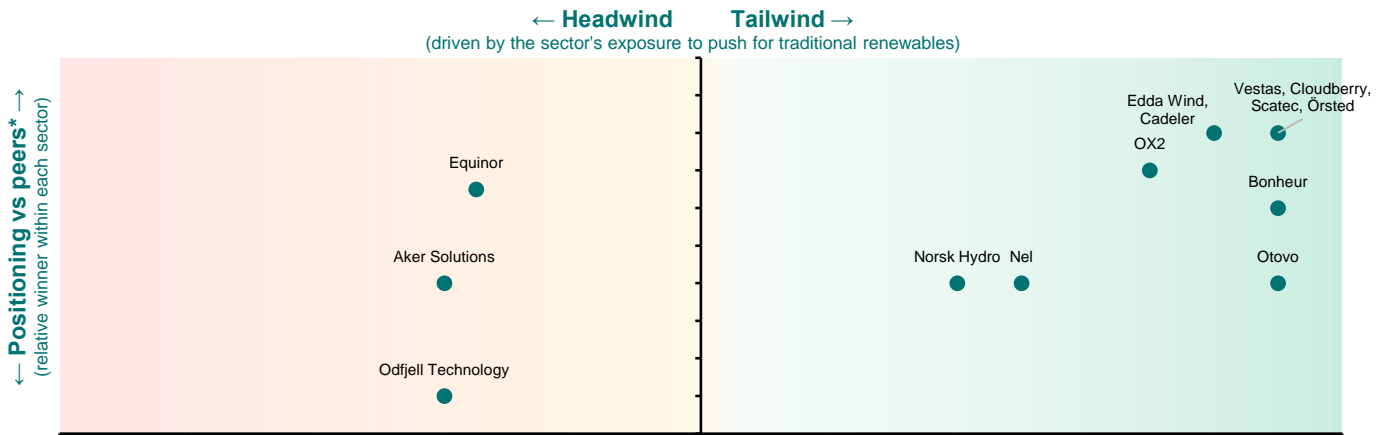
Owing to the intermittent nature of solar power, huge amounts of energy storage are needed to make full use of it – so electricity can be produced when it is sunny and used when it is dark or cloudy. This typically means batteries, but they come with their own issues as they tend to require vast quantities of lithium, which is in high demand with the rise of electric vehicles.

Hydrogen

Hydrogen could also be important in the transition to renewables and essential for the industrial sector. However, it is too expensive to produce today to be competitive. We believe the inflection point will emerge when production costs reach cEUR1–2/kg, which is estimated by BNEF to take place in the late 2020s.

Listed Nordic ‘winners’ and ‘relative winners’

Figure 24: Trend no.2: push for traditional renewables – ‘winners’ and ‘relative winners’ (update with chart)



Source: DNB Markets

Note: *Y-axis illustrates a company's position compared to its peer group. Hence the Y-position is not comparable between the companies in the graph unless they are within the same sector.

Again, it should come as no surprise that producers of – or suppliers to – renewable energy production should benefit. Their raison d’être concerns producing and delivering energy derived from renewable sources. In the table below, we list what we consider to be the ‘winners’.

‘Winners’ here are producers of/suppliers to renewable energy production

Figure 25: Trend no.2: push for traditional renewables: ‘winners’

Company	Sector	Overview
Bonheur	Industrials – capital goods	A Fred. Olsen-owned holding company directly investing in renewables, with four divisions: Renewable Energy, Wind Service, Cruise and Other Investments (first two account for the majority of sales)
Cadeler	Industrials – capital goods	Leading global offshore windfarm vessel contractor, primarily transporting and installing offshore wind turbines and foundations, as well as providing operations and maintenance
Cloudberry	Utilities – renewables	Develops, builds, owns, and operates hydropower and onshore wind energy assets in the Nordics (294MW proportionate capacity in operations and under construction)
Edda Wind	Industrials – transportation	Provides service operation vessels and services to the global offshore wind industry. It has purpose-built Service Operation Vessels (SOV) and Commissioning Service Operation vessels (CSOV)
Otovo	Industrials – capital goods	Owns and operates a digital marketplace for residential solar, batteries, and EV chargers in Europe, with pre-submitted prices from solar panel installers and using satellite data to customise solar systems to specific rooftops. It sells direct and offers subscriptions
OX2	Industrials – capital goods	Swedish renewables developer with a presence in Europe and Australia. OX2 is a ‘pure’ developer and does not hold the electricity-generating assets on its balance sheet. Its project portfolio consists of 41% offshore wind, 36% onshore wind, 21% solar and 3% energy storage
Scatec	Utilities – renewables	Develops, builds, owns, and operates renewable energy assets in emerging markets (4.4GW in operation and under construction globally). 50% of its power production is from hydropower, 49% solar, 1% onshore wind
Vestas	Industrials – capital goods	World’s largest wind turbine manufacturer, building on 40+ years’ experience of designing, manufacturing, installing, developing and servicing wind energy and hybrid projects globally
Ørsted	Utilities – renewables	Develops, builds, owns, and operates renewable energy assets in offshore wind (8.9GW installed capacity) and onshore renewables primarily onshore wind (4.8GW installed capacity)

Source: DNB Markets

In the table below, we list the ‘relative winners’ in sectors facing headwinds but have benefited from renewables production more than peers.

Figure 26: Trend no.2: push for traditional renewables: ‘relative winners’

Company	Sector	Overview	Transition case
Aker Solutions	Energy – oil & gas	Global provider of subsea production systems, offshore engineering and construction and MMO services for the technologies that enable renewable energy production: upstream oil & gas and renewables industries, primarily engineering, hydropower and offshore wind services, offshore wind	Invests in its own carbon neutrality and various technologies that enable renewable energy production: backed by ambitious revenue targets in renewables
Equinor	Energy – oil & gas	Major global energy company, producing primarily oil and gas, as well as some renewables. Largest producer on Norwegian Continental Shelf (c1.3mboed)	Its high exposure to Norwegian production (among the least carbon-intensive oil & gas production globally) and investments in CCS give it a lower carbon footprint than peers. It is increasingly shifting towards renewables
Nel	Industrials – capital goods	Global hydrogen company delivering solutions to produce and distribute hydrogen from renewable energy. Covers the full value chain from production technologies (electrolysers) to fuelling stations	Offers solutions that reduce emissions for end-users in industry and transportation. Invests in reducing hydrogen electrolyser capex and improving utilisation, which ultimately enhance the economics of the hydrogen value chain
Norsk Hydro	Materials – metals & mining	Produces primarily aluminium (2.2mt/year), and is vertically integrated with bauxite and alumina extraction, mainly aluminium smelting, metal recycling, downstream extrusion products and captive hydropower production	As well as a carbon footprint is far below the industry average due to aluminium produced using hydropower, it invests in new products that reduce customers’ emissions e.g. light-weighting and recyclability. Norsk Hydro’s subsidiary Hydro Rein (9.4 TWh/yr) is a key renewables operator

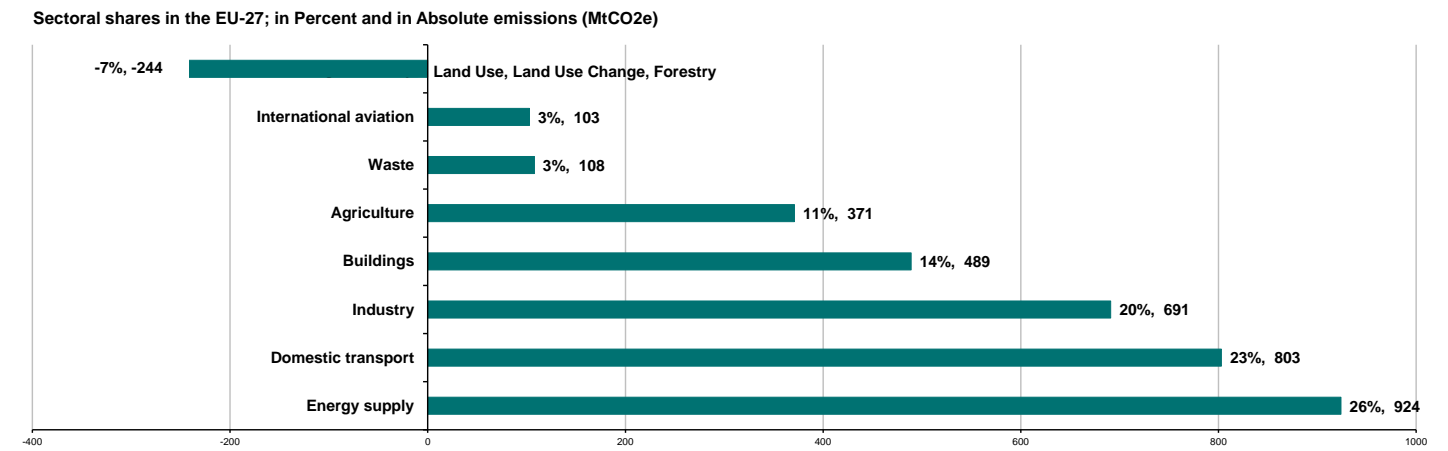
Source: DNB Markets

Trend no.3: push for clean tech

The US IRA and the EU Green Deal both include a clear push for clean tech innovations as drivers of electrification of society and storing/transporting clean energy. They use policy levers, financial and research incentives to drive progress.

One of the largest users of the clean tech necessary for electrification of society will be the transportation sector, which accounts for >20% of the EU’s emissions and c30% of the US’s CO₂ emissions.

Figure 27: CO₂ emissions in Europe (2022)

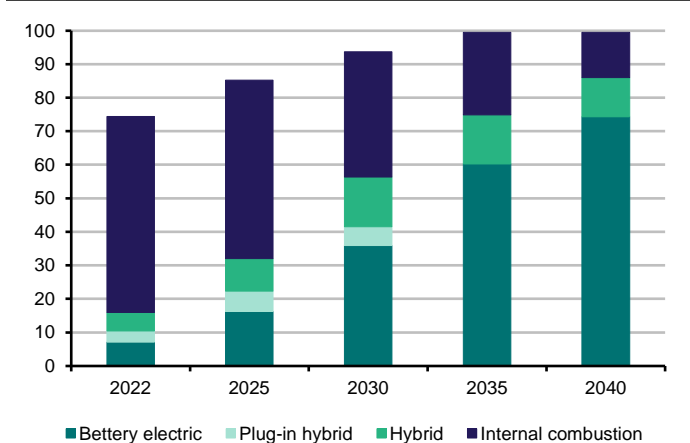


Source: EEA

The push for clean tech for electrification involves incentives for businesses and consumers to make more climate-friendly choices, e.g. investments in electric infrastructure, subsidies of electric purchases, and a change in how energy is taxed. We believe such incentives will have a significant impact on consumer behaviour and increase demand for electric products such as EVs. In 2022, c13.4m cars and lightweight vehicles were using alternative fuel in the EU (5% of the total vehicle count) and the aim is for this figure to be 16% by 2030 and 50% by 2050. Meanwhile, the US IRA has set aside USD7.5bn of 'clean vehicle credits', aiming to incentivise consumers to buy new and used electric vehicles instead of petrol ones.

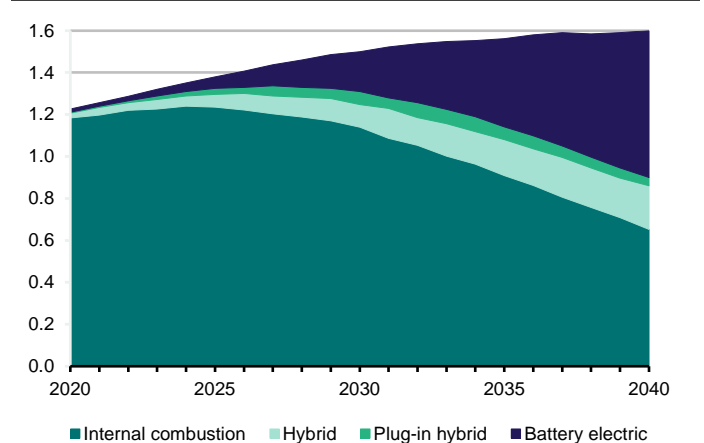
Looking at global light-vehicle sales expectations, BNEF expects EVs and hybrids to account for more than 60% of global sales by 2040e.

Figure 28: Global passenger vehicle sales by drivetrain – Economic Transition Scenario (m)



Source: Bloomberg/NEF

Figure 29: Global passenger vehicle fleet by drivetrain – Economic Transition Scenario (bn)

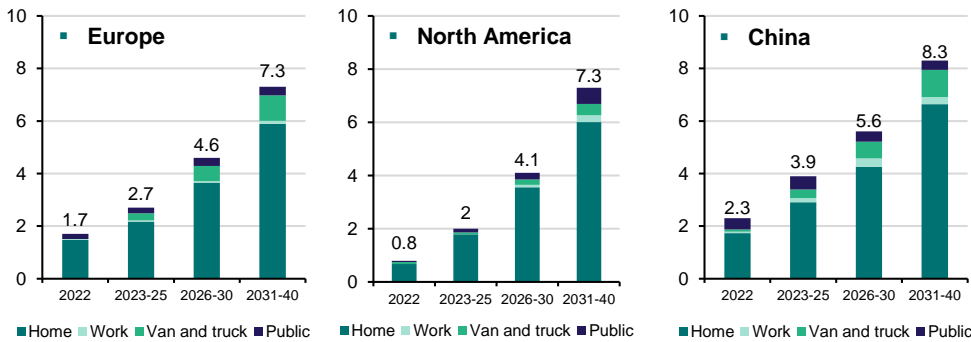


Source: Bloomberg/NEF

To accommodate such a surge in electric vehicles, BNEF estimates that 13m charging points must be installed by 2030, primarily for homes, or more than 4,000 installed daily. It is expected that the total investment in global charging network will exceed USD1trn by 2040, versus just USD9bn in 2022. It expects annual growth to be more than 20% from 2022 to 2030, while Precedence Research expects closer to 30%. It will most likely grow into a high-volume market with price pressure for slow chargers, while high-speed chargers will be more complex and significantly smaller, which could offer interesting opportunities for niche companies such as Nel and Hexagon Purus.

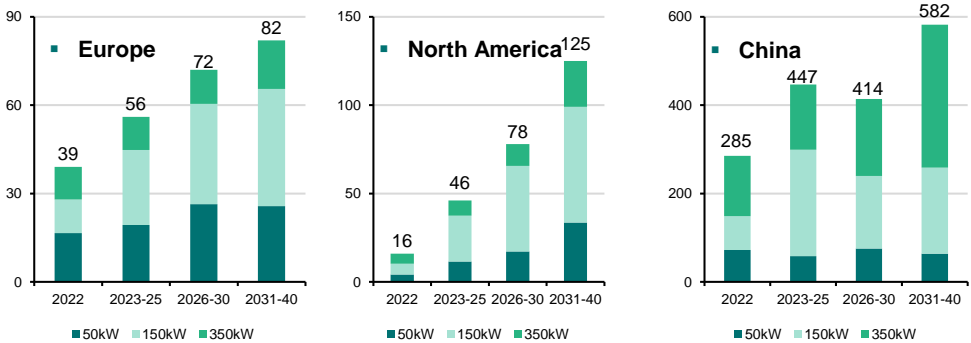
Rapid growth in EV production will also necessitate greater local battery supply. Around 20 gigafactories (combined capacity 600GWh of battery cells produced annually) are required in Europe. It will also increase the need for metals, e.g. lithium, copper, manganese and copper.

Figure 30: Overview of demand growth for EV chargers per region: Slow chargers (7-22kW) in million connectors



Source: BNEF EV Outlook 2023

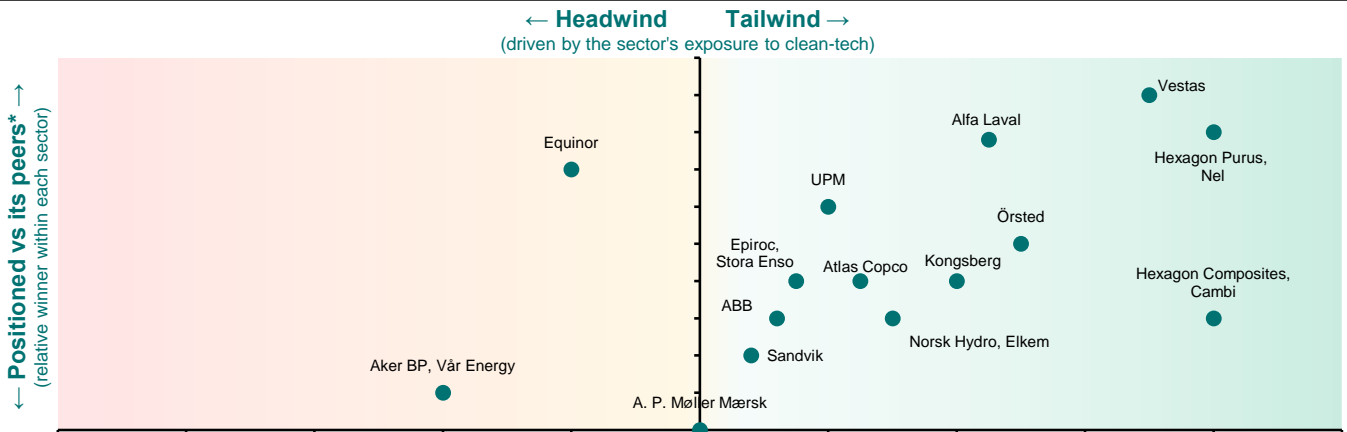
Figure 31: Overview of demand growth of EV chargers per region: Fast chargers for passenger vehicles and vans in thousand connectors



Source: BNEF EV Outlook 2023

Listed Nordic ‘winners’ and ‘relative winners’

Figure 32: Trend no.3: push for clean tech – ‘winners’ and ‘relative winners’



Source: DNB Markets

Note: * Y-axis illustrates a company's position compared to its peer group. Hence the Y-position is not comparable between the companies in the graph unless they are within the same sector.

The ‘winners’ include relatively new and traditional companies in hydrogen, storage, transportation that are set to benefit from the US’s and EU’s strong push for clean tech. In the table below, we list what we consider to be the ‘winners’.

Figure 33: Trend no.3: push for clean tech – ‘winners’

Company	Sector	Overview
Alfa Laval	Industrials – capital goods	Global engineering company focused on fluid handling (pumps, valves), heat transfer (heat exchangers), and separation technologies (separators, decanters). Its material business offers solutions that affect energy efficiency and carbon emissions. A small part of the portfolio also contributes to the re-use/treatment of water
Hexagon Purus	Industrials – capital goods	Part of the hydrogen and battery-related value chain, producing high-pressure cylinders for hydrogen storage used for infrastructure and mobility. Serves a wide range of applications from medium/heavy-duty vehicles and buses to ground storage, distribution, maritime, rail and aerospace
Nel	Industrials – capital goods	Global hydrogen company delivering solutions to produce and distribute hydrogen from renewable energy. Covers the full value-chain from hydrogen production technologies (electrolysers) to fuelling stations
Ørsted	Utilities – renewables	Develops, builds, owns, and operates renewable energy assets in offshore wind (8.9GW installed capacity) and onshore renewables primarily onshore wind (4.8GW installed capacity)
UPM	Materials – paper & forest products	Diverse forest industry group with six business areas: Fibres, Energy, Raflatac, Specialty Papers, Communication Papers and Plywood. It is also a significant owner of external electricity production from hydro and nuclear power plants (generating c14,000GWh of power per year)
Vestas	Industrials – capital goods	World’s largest wind turbine manufacturer, building on 40+ years’ experience of designing, manufacturing, installing, developing and servicing wind energy and hybrid projects globally

Source: DNB Markets

In the table below, we list the ‘relative winners’ in sectors facing headwinds but have benefited from clean-tech innovation and production more than peers.

Figure 34: Trend no.3: push for clean tech – ‘relative winners’

Company	Sector	Overview	Transition case
Equinor	Oil & gas	Major global energy company, producing primarily oil and gas, as well as some renewables. The largest producer on the Norwegian Continental Shelf (c1.3mboed)	Its high exposure to Norwegian production (among least carbon-intensive oil and gas production globally) and investments in CCS make its carbon footprint lower than peers. Is increasingly shifting its focus to renewables

Source: DNB Markets

Trend no.4: push for renovation and energy-efficiency in real estate and construction

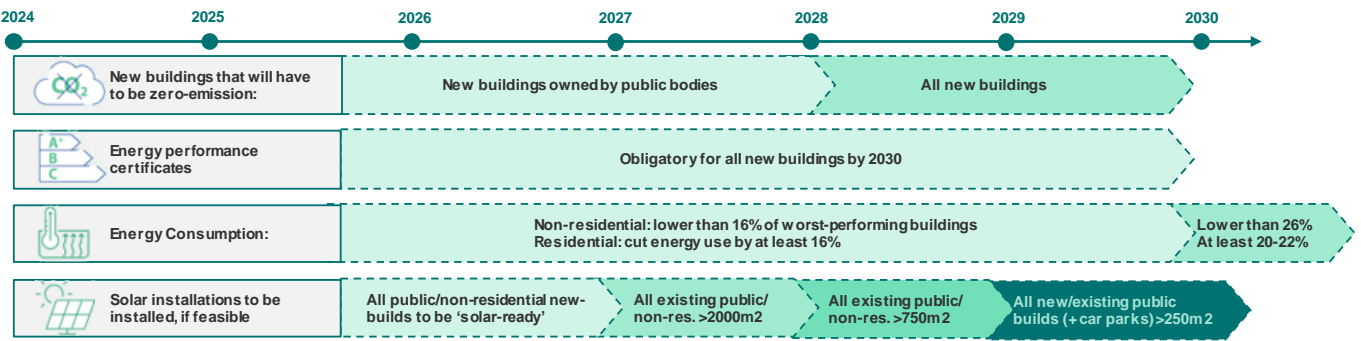
The final key trend is energy efficiency, as the most-efficient energy is that unused. The EU’s focus on energy efficiency has increased profoundly by the RePowerEU initiative (ending dependence on Russian gas imports) and as energy savings and consumption reductions are a crucial step in the EU achieving climate neutrality.

The EU’s target (Energy Efficiency Directive (2023)) is an 11.7% cut in final energy consumption (i.e. the amount of energy consumed by end users) by 2030 – this uses forecasts made in 2020. However, as the EED forces EU member states to define their national contributions reflecting national characteristics, this energy efficiency push gives few concrete signals to specific sectors – with the exception of real estate and construction.

Few concrete signals to specific sectors – with the exception of real estate and construction

The EU’s push to speed up energy efficiency will have a direct impact on the real estate and construction sectors. The potential is obvious: in the EU, the building stock accounts for c40% of energy consumed and c36% of energy-related greenhouse gas emissions. Moreover, the EU estimates that 75% of existing buildings are inefficient in terms of energy and will require energy renovation on a large scale. Therefore, central to the EU Green Deal, the EU is pushing for an increase in the modernisation rate of its building stock of 2–3% a year, implying extensive renovations in more than 35m buildings and a doubling in renovation rates by 2030.

Figure 35: Energy Performance of Buildings Directive, main provisions (as per draft, awaiting final law text)



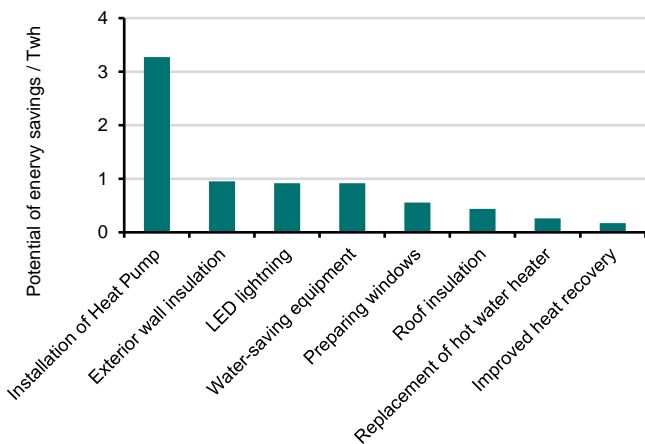
Source: EU Commission (underlying data), DNB Markets (chart structuring)

At the core of these measures is the EU’s Energy Performance in Buildings Directive (EPBD), which sets concrete targets for renovating the worst-performing buildings, EU-wide energy performance standards, and initiatives on roof-top solar and heat-pumps. The EPBD finally achieved political consensus in December 2023, and the final law text will be published in Q2 of 2024. Thus, demand for low-energy and smart-building devices such as heat pumps, cooling systems, solar panels as well as EV-charging systems should grow.

Here, we also find many industrial companies that are critical enablers of the transition, e.g. electrical equipment, software and smart infrastructure technologies that are underlying critical components for a low-carbon and energy efficiency value chain.

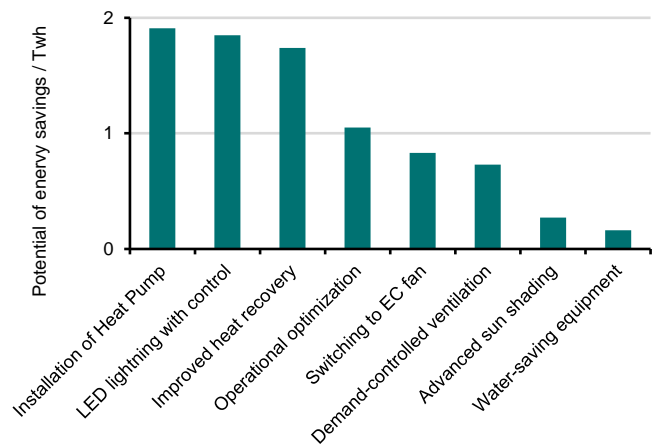
The ‘winning’ sectors from this push will vary across Europe, since optimal energy-efficient technologies depend on temperature and location, as well as building type, age and size. However, in the Nordics, Zero’s estimates suggest the installation of heat pumps is the most cost- and energy-efficient measure, followed by insulation, and replacing windows and doors. The energy-savings potential of such measures should be a key driver of market growth.

Figure 36: Energy savings potential – public real estate in Norway



Source: Miljøstiftelsen ZERO, Norway

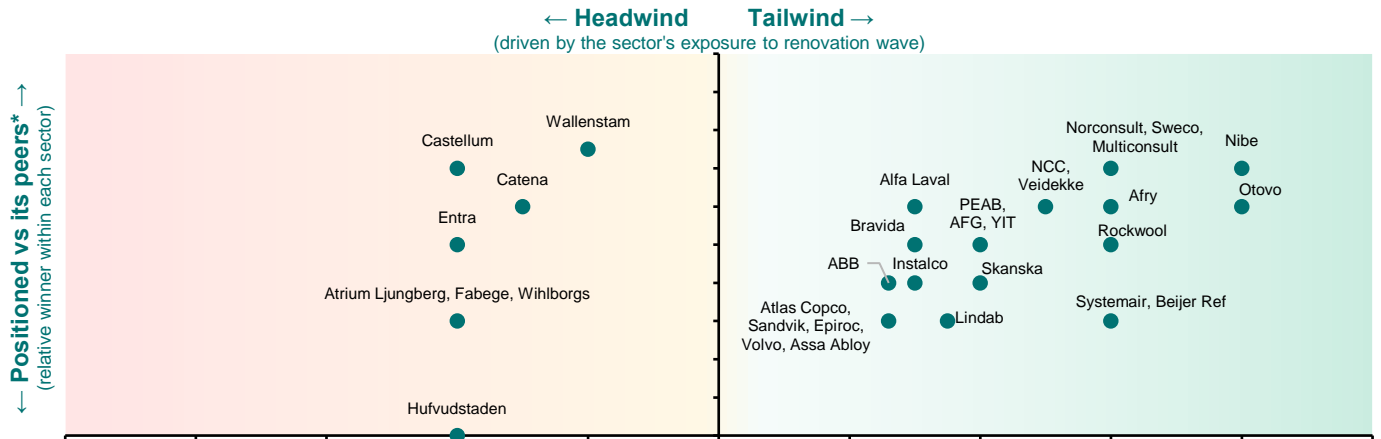
Figure 37: Energy savings potential –commercial real estate in Norway



Source: Miljøstiftelsen ZERO, Norway

Listed Nordic ‘winners’ and ‘relative winners’

Figure 38: Trend no.4: push for renovation and energy efficiency measures in buildings – ‘winners’ and ‘relative winners’



Source: DNB Markets

Note: * Y-axis illustrates a company's position compared to its peer group. Hence the Y-position is not comparable between the companies in the graph unless they are within the same sector.

It is clear the real estate sector needs to increase capex (meaning costs are likely to increase), while parts of the construction and consulting sectors are likely to benefit (e.g. smart buildings, heating/cooling and renovation). In the table below, we list what we consider to be the ‘winners’.

Figure 39: Trend no.4: push for renovation – ‘winners’

Company	Sector	Overview
Alfa Laval	Industrials – capital goods	Global engineering company focused on fluid handling (pumps, valves), heat transfer (heat exchangers), and separation technologies (separators, decanters). Its material operations offer solutions that enhance energy efficiency and carbon emissions. A small part of the portfolio also contributes to the re-use/treatment of water
Multiconsult	Industrials – professional services	Technical consultancy with a pan-Nordic footprint offering engineering advisory and architectural services to a wide variety of areas, e.g. real estate (residential, non-residential), construction, urban planning, oil and gas, renewable energy, water systems and infrastructure (e.g. road, railway)
NCC	Industrials – capital goods	Infrastructure and construction company with a diversified portfolio, building e.g. hospitals, schools, roads, houses, offices and bridges. NCC's integration of sustainable building practices and technologies into its projects positions it well for the growing renovation market segments
Nibe	Industrials – capital goods	Global group that mostly develops and manufactures intelligent, energy-efficient indoor comfort solutions for all types of properties. It is best known for its heat pumps (c40% of sales), while the rest of the group offers other HVAC solutions, heating elements and stoves
Norconsult	Industrials – professional services	Technical consultancy with a pan-Nordic footprint offering engineering advisory and architectural services to a wide variety of areas, e.g. real estate (residential, non-residential), construction, urban planning, oil and gas, renewable energy, water systems and infrastructure (e.g. road, railway)
Otovo	Industrials – capital goods	Owns and operates a digital marketplace for residential solar, batteries, and EV chargers in Europe, including pre-submitted prices from solar panel installers and uses satellite data to customise solar systems to specific rooftops. It sells direct and offers subscriptions
Rockwool	Industrials – capital goods	World's largest supplier of products and systems based on stone wool such as fire-resilient insulation and systems including acoustic ceilings and walls, exterior cladding for buildings, crop solutions and water management
Veidekke	Industrials – capital goods	Construction contractor operating primarily in Norway, Sweden and Denmark, focusing on infrastructure as well as construction and renovation of residential and commercial construction markets. Actively incorporating the sector's ESG-related issues into its operations and following these up with a bottom-up approach
Sweco	Industrials – professional services	Technical consultancy with a pan-Nordic footprint offering engineering advisory and architectural services to a wide variety of areas, e.g. real estate (residential, non-residential), construction, urban planning, oil and gas, renewable energy, water systems and infrastructure (e.g. road, railway)

Source: DNB Markets

Among potential winners within sectors (i.e. sectors that may traditionally face headwind from the boost in construction and renovation, but where certain names stand out as having benefited more from the renovation wave than its peers), we note the following as having the largest relative positive impact and explain why:

In the table below, we list the ‘relative winners’ in sectors facing headwinds but have benefited from the renovation wave more than peers.

Figure 40: Trend no.4: push for renovation – ‘relative winners’

Company	Sector	Overview	Transition case
Castellum	Real estate – management & development	Develops flexible workplaces and smart logistics solutions in attractive Nordic growth regions	One of the sector’s best sustainability profiles, and is well positioned as tenant awareness grows. Ranked no.1 worldwide by GRESB (Global Estate Sustainability Benchmark) for its sustainability work in offices and logistics properties
Catena	Real estate – management & development	Develops, owns, and manages long-term efficient logistics facilities that supply metropolitan regions in Scandinavia. Its tenants operate in various sectors, including logistics, transportation, grocery, and consumer discretionary; however, many are e-commerce companies	Focused on being more energy efficient than most existing buildings/peers, and strives to meet several international environmental certifications (in addition to local requirements) to ensure sustainability qualities
Entra	Real estate – management & development	Real estate company that owns, develops, and manages properties in Norway’s main cities	Portfolio consists of high-quality and energy-efficient asset base of commercial properties, focused on sustainable and environmentally friendly practices including concentration around public transportation hubs. Aims to be an industry leader in developing and managing energy-efficient buildings, appealing to eco-conscious tenants and investors
Wallenstam	Real estate – management & development	Property developer that builds, develops and manages commercial properties in Swedish metropolitan areas. The portfolio includes premises in retail, offices and café/restaurant operations	Focuses on constructing residential properties, and considered the sustainable leader with a focus on energy efficiency and eco-friendly buildings. Also, through a wholly owned wind-power company, it is self-sufficient in renewable energy

Source: DNB Markets

On the horizon: other initiatives to watch

The EU’s Green Deal Industrial Plan and Critical Raw Materials Act

The EU has been under pressure to incentivise clean-tech industries, predominately in response to the US’s IRA. In February 2023, the EU announced its Green Deal Industrial Plan to ensure enough clean-tech production, industrial innovation, and capital flow to meet its climate transition targets by 2030. While the plan was vague, the EU promised that more concrete acts would follow this spring and in March 2023 the European Commission launched the Net Zero Industry Act and the Critical Raw Materials Act. Neither is final law (they are still up for discussion by member states), although key contents so far include:

- Efforts to have clean-tech manufacturing and value-chains within its borders. 40% of the EU’s manufacturing needs for net zero technologies must be made within the EU by 2030. This should be positive for several local manufacturers related to minerals.
- Concrete 2030 targets on EU-localised manufacturing of solar PV, wind, heat pumps, batteries, and electrolysers. In particular, solar and heat pumps have high targets, so that should be positive for companies in those sectors. Nuclear is omitted, although the political sentiment and interest in nuclear development has shifted to become significantly the past two years.
- More critical raw materials to be extracted within the EU. Today, c3% of the EU’s needed minerals are sourced in the EU. Its goal is 10% by 2030. Hence, it is opening up for more EU mining, which might hard to push through politically.

Appendix 1: Transition ‘winners’

Alfa Laval (BUY, TP SEK495)

Business solution from a transition perspective

Alfa Laval is a global engineering company focused on fluid handling (pumps, valves), heat transfer (heat exchangers), and separation technologies (separators, decanters). It offers solutions that reduce environmental impact, helping with energy efficiency and carbon emissions. A small part of the portfolio also contributes to the reuse and treatment of water. It has gradually seen demand shift from conventional industries (O&G and maritime, which are undergoing climate/energy transition) to other technologies of energy transition (heating, cooling, CCS, data centres). Given this, and its position as a key enabler of technologies supporting and undergoing transition, we view Alfa Laval as one of the most promising long-term growth stories in the sector.

Quantified effect

Alfa Laval operates in a market that is expected to grow, driven by environmental regulation and a growing focus on industrial sustainability. We believe it has long-term structural growth potential of 7–8% per year.

Potential risk drivers

- **Cyclical demand.** Although Alfa Laval has a robust presence throughout value chains of various industries, it is dependent on cyclical and volatile end-markets (maritime shipping, oil & gas).
- **Regulatory changes.** Alfa Laval is exposed to sectors that face stricter regulations, such as maritime shipping. The company's growth plans are thus dependent on continued political and regulatory push and capital market funding for growth in energy transition.
- **Commodities.** Alfa Laval is dependent on key minerals and materials including titanium, stainless steel, nickel and copper, for which demand is growing.

Bonheur (BUY, TP NOK290)

Business solution from a transition perspective

Bonheur is the majority Fred. Olsen-owned holding company directly investing in renewables. It has four divisions: Renewable Energy, Wind Service, Cruise and Other Investments, with the first two accounting for the majority of sales. It has built a strong track record in renewables since its first investment in 1996 and is present in several parts of the value chain. We consider it well positioned to grow in onshore wind, offshore wind, floating wind, and floating solar, which we believe is a strength from a transition perspective.

Quantified effect

- **Sector.** We believe the market outlook for renewables in the UK and Nordics, specifically in onshore and offshore wind, will continue to improve in the years ahead. We expect high single-digit growth by 2030 for onshore wind, and much steeper growth for offshore wind.
- **Company.** We see growth prospects for Bonheur that mirror those of the global market.

Potential risk drivers

- **Regulatory changes.** Offshore wind power is highly dependent on government policies (permission for grid connection and land-use, biodiversity and nature laws, subsidies for and taxation of renewables) and is exposed to risks associated with public opposition to wind and other renewables.
- **Technology advancements and raw materials.** Turbine size growth and other technological advancements could outgrow the capacity of Bonheur, e.g. related to turbine installation vessels. A potential lack of raw materials is also a risk for this sector.

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Cadeler (BUY, TP NOK72)

Business solution from a transition perspective

Cadeler is a leading offshore windfarm vessel contractor headquartered in Denmark. It operates four jack-up installation vessels and has six under construction. It mainly transports and installs offshore wind turbines and foundations; it also provides operations, maintenance and other related services to the global offshore wind industry. As we consider Cadeler to be at the forefront of the offshore wind market, with vessels (newbuild and upgraded vessels) more efficient than the current fleet and able to install the next generations of offshore wind turbines.

Quantified effect

- Offshore wind capacity is set to grow meaningfully in the years to come with BNEF forecasting 133GW installed capacity outside China in 2030, versus 35GW in 2023. In addition, turbines and foundations are increasing in size and moving further from shore, which requires high-specification installation where Cadeler is the market leader controlling ~1/3 of the global fleet. Combined with an expected shortage of capable installation vessels, Cadeler is well placed for significant growth in the years to come driven by newbuilds being delivered in 2024–2027 and higher dayrates.

Potential risk drivers

- **Regulatory changes.** Offshore wind power is highly dependent on government policies, with respect to subsidies and the regulation of land use.
- **Competition.** The offshore windfarm installation value chain is highly competitive, and competition could intensify if supply increased materially.
- **Larger turbines:** If offshore wind turbines (and foundations) continue to grow in size beyond the installation capacity of Cadeler's vessels, it could reduce demand for its vessels. Still, Cadeler has the most capable vessels on order today.

Cloudberry (HOLD, TP NOK10)

Business solution from a transition perspective

Cloudberry develops, builds, owns, and operates hydropower and onshore wind energy assets in the Nordics (294MW of proportionate capacity in operations and under construction).

Quantified effect

- **Sector.** We see strong underlying market fundamentals for onshore renewables in the Nordics, with third-party data (Volue) forecasting 2023–2030 market growth of 44% for onshore wind, 179% for solar, and 5% for hydropower.
- **Company.** With a strong track record in hydropower and onshore wind, a presence across the Nordics (with generally high/stable power price areas), and strong growth capabilities, we believe Cloudberry has an array of growth opportunities.

Potential risk drivers

- **Regulatory changes.** Its renewable energy production is dependent on government policies (e.g. permission for grid connection and land use, as well as the taxation of renewables), which is not very diversified given Cloudberry's presence in just three Nordic countries.
- **Power price changes.** With significant merchant power-price exposure, Cloudberry is vulnerable to low power prices. A high cost of capital affects the level of renewable investment.

Edda Wind (BUY, TP NOK35)

Business solution from a transition perspective

Edda Wind is a pure provider of service operation vessels and services to the global offshore wind industry. It has purpose-built Service Operation Vessels (SOV) and Commissioning Service Operation vessels (CSOV). We consider it well placed in the energy transition given its solid track record (2015) and its position as an early mover in offshore wind.

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Quantified effect

- Offshore wind capacity is set to grow meaningfully, with BNEF forecasting 133GW installed capacity outside China in 2030 (35GW in 2023). Also, turbines and foundations are growing in size and moving further from shore, adding a preference for C/SOVs over competing personnel transportation. Edda Wind is the market leader for purpose-built C/SOVs with a large newbuild programme (deliveries 2024–2026), positioning it for high growth in the years to come, enhanced by an improved competitive situation as subsea vessels previously active in the offshore wind walk-to-work market are increasingly returning to oil & gas work.

Potential risk drivers

- **Regulatory changes.** Offshore wind power is highly dependent on government policies, with respect to subsidies and the regulation of land use.
- **Competition.** The offshore windfarm installation value chain is highly competitive, and competition could intensify if supply increased materially.
- **Larger turbines.** If offshore wind turbines (and foundations) continue to grow in size beyond the installation capacity of Edda Wind's vessels, it could reduce demand for its vessels. Still, Edda Wind has the most capable vessels on order today.

Hexagon Purus (BUY, TP NOK11)

Business solution from a transition perspective

Spun off from Hexagon Composites in 2020, Hexagon Purus manufactures energy storage solutions, offering high-pressure cylinders for hydrogen used for infrastructure and mobility applications and associated systems. It also makes systems for heavy-duty battery-electric vehicles (BEVs). This makes it a key part of the hydrogen and battery-related value chain. Its products serve a wide range of applications from medium/heavy-duty vehicles and transit buses to ground storage, distribution, maritime, rail and aerospace.

Quantified effect

- **Sector.** Hexagon Purus operates in a market generally expected to see significant growth, driven by strong political effect and subsidies for clean technology. BNEF estimates the market for commercial EVs to grow by 3.8x by 2030 and the market for heavy-duty FCEVs to grow by 13.7x (albeit from a low base) over the same period.
- **Company.** We see growth prospects for Hexagon Purus that mirror those of the global market.

Potential risk drivers

- **Public support.** Hexagon Purus's operations and customers operate in relatively less-established markets that are dependent on public policies and subsidies near/medium-term (and potentially longer). Its growth plans are thus dependent on continued public push and capital market funding for growth in energy transition.
- **Competition.** Despite its strong track record and market-leading manufacturing process, we see intensifying competition that could affect the company negatively.

Multiconsult (BUY, TP NOK160)

Business solution from a transition perspective

Multiconsult is a technical consultancy with a pan-Nordic footprint offering engineering advisory and architectural services to a long list of areas such as real estate (residential, non-residential), construction, urban planning, oil & gas, renewable energy, water systems and infrastructure (roads, railways). The sectors and clients it is exposed to are set to undergo structural change and substantial growth in the coming years, driven by urbanisation and a need for smart-city solutions, renovation waves, materials and resources efficiency, increased demand for renewable energy and related infrastructure. We believe it is well positioned to take advantage of these transition trends.

Quantified effect

- We estimate significant growth in several key sectors that drive consultancy growth, potentially doubling the real-estate renovation rate by 2030 and further growth in renewables.

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Potential risk drivers

- **Regulatory changes.** Although the growth outlook for certain sectors looks stable, it is exposed to certain sectors (e.g. renewables) that are highly dependent on government policies, with respect to subsidies and the regulation of land use.
- **Competition.** Increased competition on projects and for talented manpower from national and international competitors could affect the technical consultancy market.
- **Cyclical sectors.** Consultancies are exposed to several areas of the economy, where cyclical downturns would likely hit profits.

NCC (BUY, TP SEK150)

Business solution from a transition perspective

NCC is a Swedish infrastructure and construction company, with a strong Nordic presence and diversified portfolio, building e.g. hospitals, schools, roads, houses, offices and bridges. Revenues are split between five areas: Building Sweden, Building Nordics, Infrastructure, Industry and Property Development. NCC has shown a commitment to innovation and sustainability by integrating sustainable building practices and technologies into its projects, which could be a competitive advantage in a market increasingly focused on environmental responsibility. Increasing demand for sustainable and green building practices, as well as further expansions within renovation segments, presents an opportunity for NCC to expand its eco-friendly offerings and tap into a growing market segment.

Quantified effect

- We estimate significant growth in several key sectors that drive construction growth, potentially doubling the real-estate renovation rate by 2030, and further growth in construction within infrastructure and renewables.

Potential risk drivers

- **Regulatory changes.** Although the growth outlook looks stable for some sectors, it is exposed to other sectors (e.g. renewables) that are highly dependent on government policies, with respect to subsidies and the regulation of land use.
- **Competition.** The construction industry is highly competitive, with local and international names, meaning there is a risk NCC could lose market share to competitors.
- **Cyclical sectors including raw-material costs.** NCC is vulnerable to economic downturns, which can reduce demand for construction and real estate development services. Sharply increasing raw-material costs affect margins in ongoing projects and the Construction and Building segments.

NEL (SELL, TP NOK3.5)

Business solution from a transition perspective

Nel is a global hydrogen company delivering solutions to produce and distribute hydrogen from renewable energy. Nel's solutions cover the entire value chain from hydrogen production technologies (electrolysers) to fuelling stations, and the company holds a market-leading position, with roots dating back more than 90 years.

It is headquartered in Norway and has manufacturing plants in Norway (alkaline electrolysers), the US (PEM electrolysers) and Denmark (fuelling stations), with capacity expansions underway in Norway and the US and plans for a new gigafactory in the US.

As demand for clean, green hydrogen increases, Nel offers solutions that reduce emissions for end-users in industry and transportation. The company is investing in reducing hydrogen electrolyser capex and improving utilisation, which should ultimately enhance the economics of the hydrogen value chain.

Quantified effect

- Nel operates in a market expected to see significant growth on strong political effects and subsidies for clean technology. BNEF estimates the market for commercial EVs to grow by

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3.8x by 2030 and the market for heavy-duty FCEVs to grow by 13.7x (albeit from a low level) over the same period.

Potential risk drivers

- **Political support.** Nel owns operations and customers are operating in less established markets expected to remain dependent on policies and subsidies near- to medium-term (and potentially even longer). Delays or a lack of subsidies for green hydrogen could increase risk, and the company's growth plans are thus dependent on a continued public push and capital market funding for growth within energy transition.
- **Competition.** Despite Nel being well placed for industrial access, we see a risk of oversupply of electrolyser production capacity. The cost-cutting focus in green hydrogen is likely to put further pressure on margins. Moreover, over time, we expect the proposed government support for green hydrogen to be phased out, which could hurt its profitability.

Nibe (HOLD, TP SEK50)

Business solution from a transition perspective

Nibe is a global group that mostly develops and manufactures intelligent, energy-efficient indoor comfort solutions for all types of properties. It is best known for heat pumps (c40% of sales), and the rest of the group is other HVAC solutions, heating elements and stoves. We believe its production and development of solutions that help to cut emissions and promote energy-efficiency position it well for increased carbon costs and in the energy-efficiency of real estate and construction. The greatest opportunity for high market penetration is in heat pumps and HVAC, which are produced by its largest division Climate Solutions sales (65% of 2023), c75% of EBIT). The greatest potential is in new markets, we believe, particularly outside the Nordics, due to greater political and public will for sustainable heating.

Quantified effect

- The Climate Solutions division is at the forefront of market sustainability and energy-efficiency, e.g. a geothermal heat pump can cut energy consumption by 80% and be run on renewable energy. International estimates are for a c40% increase in global demand for energy by 2040 (base year 2018), indicating scope for growing use of renewable energy production. The penetration rate of heat pumps globally remains low and we see the potential (particularly in Europe) for it to increase to a significant level, with the potential for double-digit market growth over the coming decade.

Potential risk drivers

- **Regulatory changes.** Lowered future CO₂ ambitions and/or a less-favourable regulatory landscape for heat pumps would hurt Climate Solutions. In some markets (e.g. the US and Germany), there are tax reductions for consumers installing heat pumps, making the investment in a new and more environmental heat solution more affordable. If such tax reductions were reduced or cancelled, it could hurt demand short-term.
- **Energy prices.** If oil and gas prices are low, transitioning to heat pumps would likely be more difficult, since it would affect the payback period for the consumer.
- **Grid and technology change.** Few patents (combined with many new heat pump entrants with high investment ambitions in recent years) and the emergence of new technologies beyond Nibe's area of expertise could put its market position at risk. Long-term, the risk of high access to low-cost green energy through the grid to consumers could limit the need for heat pumps.

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Norconsult (BUY, TP NOK31.5)

Business solution from a transition perspective

Norconsult is a technical consultancy with a pan-Nordic footprint offering engineering advisory and architectural services to a long list of areas such as real estate (residential, non-residential), construction, urban planning, oil & gas, renewable energy, water systems and infrastructure (roads, railways). The sectors and clients it is exposed to are set to undergo structural change and substantial growth in the coming years, driven by urbanisation and a need for smart-city solutions, renovation waves, materials and resources efficiency, increased demand for renewable energy and related infrastructure. We believe it is well positioned to take advantage of these transition trends.

Quantified effect

- We estimate significant growth in several key sectors that drive consultancy growth, potentially doubling the real-estate renovation rate by 2030 and further growth in renewables.

Potential risk drivers

- **Regulatory changes.** Although the growth outlook for certain sectors looks stable, it is exposed to certain sectors (e.g. renewables) that are highly dependent on government policies, with respect to subsidies and the regulation of land use.
- **Competition.** Increased competition on projects and for talented manpower from national and international competitors could affect the technical consultancy market.
- **Cyclical sectors.** Consultancies are exposed to several areas of the economy, where cyclical downturns would likely hit profits.

Otovo (HOLD, TP NOK2.6)

Business solution from a transition perspective

Otovo is a Norwegian solar energy company that installs solar panels and batteries helping homeowners to produce solar energy from their rooftops. The company delivers a market platform that connects customers with installers of solar panels, shortening the link between private customers and installers and decentralising local solar power production in its operating markets (Norway, Sweden, France, Spain, Italy, and Poland).

Quantified effect

- **Sector.** We believe Europe's market for residential solar (particularly in northern Europe) will decline from its peak in 2022, due to lower power prices in light of a weak business case for consumers unless we see meaningful changes to subsidies.
- **Company.** Competition is tough in residential solar, making it challenging to achieve a strong position in large markets such as Germany. Despite this, we consider the company well positioned and forecast a 5% market share by 2030 compared to today.

Potential risk drivers

- **Customer growth.** Delayed growth trajectory or implementation of new regulations for rooftop residential solar, such as the Energy Performance in Buildings Directive, which is an incentivising driver for rooftop solar for commercial and residential buildings since it requires all new and public builds to be 'solar ready' by 2030.
- **Raw materials.** The sector is exposed to continued value-chain disruption, a lack of skilled installers and equipment, as well as a lack of raw materials and components.

OX2 (BUY, TP SEK75)

Business solution from a transition perspective

Founded in 2004, OX2 is a Swedish renewables developer of onshore and offshore wind, solar power and energy storage, with a presence in Europe and Australia. It has c496 employees across 10 countries. OX2 is a 'pure' developer and does not hold the electricity-generating assets on its balance sheet. Its project portfolio consists of 41% offshore wind, 36% onshore wind, 21% solar and 3% energy storage, of which 66% is in an early stage of project development. In 2023, OX2 sold 4,429MW renewable capacity. We consider it well positioned

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with both energy asset development and permit process experience to profit from structural renewables growth.

Quantified effect

- **Sector.** We see strong underlying market fundamentals for onshore renewables in the Nordics, with third-party data (Volue) suggesting 2023–2030 market growth of 44% for onshore wind and 179% for solar.
- **Company.** With a strong track record from onshore wind that can be applied to OX2's other technologies, a presence across Northern Europe and Australia (with significant demand for new renewable capacity), and strong growth capabilities, we believe OX2 has good growth opportunities.

Potential risk drivers

- **Regulatory changes.** Although the growth outlook looks stable for some sectors, it is exposed to other sectors (e.g. renewables) that are highly dependent on government policies, with respect to subsidies and the regulation of land use.
- **Costs and raw materials.** Wind turbines (making up the largest share of wind-park capex) are expensive to develop, and contain a significant amount of metals, making their manufacture highly energy-intensive.

Rockwool (BUY, TP DKK2,500)

Business solution from a transition perspective

Rockwool is the world's largest supplier of products and systems based on stone wool, such as fire-resilient insulation and systems including acoustic ceilings and walls, exterior cladding for buildings, crop solutions and water management. It is at the forefront of stone wool production in terms of innovation and manufacturing efficiency. It has 51 manufacturing facilities globally, and employs c12,000 people across 40 countries. Its insulation solutions significantly reduce carbon emissions for end-users in residential and non-residential buildings primarily via increased energy efficiency during heating/cooling. It is non-combustible, inherently circular and fully recyclable, and reduces noise pollution. With the EU's push for building renovation, we believe demand for energy-efficient insulation such as Rockwool's can drive transition.

Quantified effect

- We estimate significant growth in demand for renovations and energy-efficiency solutions as the EU seeks to double the renovation rate of its building stock. Given Rockwool's focus on climate change adaptation and mitigation, as well as on its own recyclability of products (c57% revenue taxonomy alignment), we expect the company to continue to outperform the underlying construction market long-term.

Potential risk drivers

- **Regulatory change slowdown.** Although the growth outlook for certain sectors looks stable, the EU could become less committed to reducing emissions from buildings, or land on a less favourable regulation on energy performance of buildings.
- **Regulatory change tightened.** New building codes and more stringent fire safety regulations in Rockwool's markets, increasing competition from new insulation technologies.
- **Economic downturn.** Higher energy cost inflation (energy cost exposure is c19% of sales) and a prolonged decline in renovation demand could be a negative, although renovation is normally resilient in an economic downturn.

Scatec (HOLD, TP NOK72)

Business solution from a transition perspective

Scatec develops, builds, owns, and operates renewable energy assets in emerging markets. It has 4.4GW in operations and under construction across four continents. In 2023, 43% of its power production was from hydro, 54% from solar, and 3% from onshore wind.

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Quantified effect

- Scatec operates in several emerging markets of varying degrees of maturity. As energy consumption in emerging markets typically grows faster than in more developed economies, we see strong long-term growth opportunities for Scatec in solar and hydropower.

Potential risk drivers

- **Governance and social challenges.** As Scatec operates in developing countries, we believe there could be a material risk in terms of social and governance issues relating to procurement and corruption. Such challenges require continuing mitigation efforts from the company as they potentially cause operating risk.
- **Commodities.** Scatec is dependent on key commodities for which demand is growing.

Sweco (BUY, TP SEK137)

Business solution from a transition perspective

Sweco is a technical consultancy with a pan-Nordic footprint offering engineering advisory and architectural services to a long list of areas such as real estate (residential, non-residential), construction, urban planning, oil & gas, renewable energy, water systems and infrastructure (roads, railways). The sectors and clients it is exposed to are set to undergo structural change and substantial growth in the coming years, driven by urbanisation and a need for smart-city solutions, renovation waves, materials and resources efficiency, increased demand for renewable energy and related infrastructure. We believe it is well positioned to take advantage of these transition trends.

Quantified effect

- We estimate significant growth in several key sectors that drive consultancy growth, potentially doubling the real-estate renovation rate by 2030 and further growth in renewables.

Potential risk drivers

- **Regulatory changes.** Although the growth outlook for certain sectors looks stable, it is exposed to certain sectors (e.g. renewables) that are highly dependent on government policies, with respect to subsidies and the regulation of land use.
- **Competition.** Increased competition on projects and for talented manpower from national and international competitors could affect the technical consultancy market.
- **Cyclical sectors.** Consultancies are exposed to several areas of the economy, where cyclical downturns would likely hit profits.

UPM (BUY, TP EUR44)

Business solution from a transition perspective

UPM is a diverse forest industry group with six business areas: Fibres, Energy, Raflatac, Specialty Papers, Communication Papers and Plywood, and is also a pioneer in the green biomolecular area (biofuels, biochemicals). UPM is consequently a frontrunner in the forest industry that provides renewable solutions for various end-users. Much of its wood consumption comes from its own forests, making it a substantial carbon sink. It is also a significant owner of external electricity production from hydro and nuclear power plants, which generate c14,000GWh of power annually. Most of the planned growth investments are outside traditional forestry industries, particularly in renewable chemicals/fuel.

Quantified effect

- With a promising demand outlook underpinned by structural factors and limited supply growth, we believe pricing power will be strong. Higher energy prices than our base case could support group earnings, as UPM is significantly net long on electricity. Potential partnerships for the next biofuel investment could crystallise significant value.

Potential risk drivers

- **Cyclical demand.** Although UPM has a robust presence throughout value chains of various industries, changes to macro and demand conditions affecting pulp prices could delay growth and weaken margins through price reductions.

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- **Regulatory changes.** The forestry sector could face increased scrutiny due to the importance of forestland as carbon sinks. The nuclear power sector is under continued scrutiny, although recent upswings in political sentiment might be to UPM's advantage.
- **Climate risk.** More long-term, changing weather patterns are causing volatility in the wood supply chain.

Veidekke (HOLD, TP NOK120)

Business solution from a transition perspective

Veidekke is a Norwegian construction contractor operating primarily in Norway, Sweden and Denmark. It started building roads in 1936, and has expanded into other infrastructure segments such as bridges and tunnels, while also gaining significant exposure to construction and renovation of residential and commercial construction markets. In our view, Veidekke is actively incorporating the sector's ESG-related issues into its operations and following these up with a bottom-up approach. We believe it is delivering ESG services at a very high and professional level. The company is actively working on several ESG-related issues: worker safety, female recruitment, and the environmental impact of its operations, including waste minimisation, recycling energy consumption, etc.

Quantified effect

- We estimate significant growth in several key sectors that drive construction growth, potentially doubling the real-estate renovation rate by 2030, and further growth in construction within infrastructure and renewables.

Potential risk drivers

- **Regulatory changes.** Although the growth outlook looks stable for some sectors, it is exposed to other sectors (e.g. renewables) that are highly dependent on government policies, with respect to subsidies and the regulation of land use.
- **Competition.** Increased competition for projects by peers (national and international) in tighter markets.
- **Cyclical sectors including raw-material costs.** Construction is macro-driven and interest rate-sensitive. Cost inflation hurts profitability, putting pressure on Veidekke's Construction and Industry margins. Sharply increasing raw-material costs affect margins in ongoing projects and the Construction and Building segments.

Vestas (BUY, TP DKK242)

Business solution from a transition perspective

As the world's largest wind turbine OEM, Vestas should be a relative 'winner' from the transition (to reduce global CO₂ emissions and attain long-term net zero targets) and growth in global energy investments (growing global middle class, growing GDP) over the coming decades.

Quantified effect

- The global wind market is set to grow by high single-digits (offshore wind, which Vestas has limited exposure to, should grow much more quickly) over the coming decades, and we see similar growth prospects for Vestas.

Potential risk drivers

- Lower long-term global CO₂ reduction targets, which could hurt global build-out plans.
- Competitive risks from other wind turbine OEMs (e.g. in China) and other renewable technologies (solar, hydro etc).
- Project execution risk, with a heightened execution risk for offshore wind (where technology that is advancing more quickly than onshore wind).

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Ørsted (HOLD, TP DKK405)

Business solution from a transition perspective

Ørsted develops, builds, owns, and operates renewable energy assets, with an integrated business model. It has a leading position in offshore wind (8.9GW of installed capacity) and a strong track record in onshore renewables (4.8GW of installed capacity). We consider it well placed to capitalise on the global energy transition, with an extensive track record as an early mover in offshore wind.

Quantified effect

- **Sector.** The global offshore wind market (excluding China) – to which Ørsted is most exposed – looks set to grow by 3.8x by 2030e. We believe growth for onshore wind and solar will be lower, but still meaningful.
- **Company.** We expect Ørsted to benefit from the strong underlying market growth in offshore wind and other renewables, and consider it well placed to achieve its 2030 target of 35–38GW of installed capacity (c120–140% increase from current installed c16GW). However, we expect the lion's share of added capacity to be at lower margins than seen historically.

Potential risk drivers

- **Offshore exposure.** Offshore wind accounts for much of its activity, making it very exposed to an area considered more costly and risky than onshore wind due to location, access to market, dependence on government-supported funding.
- **Regulatory changes.** Ørsted is highly exposed to government regulations, e.g. for land use, permitting, subsidies, and the taxation of renewables.

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Appendix 2: Transition ‘relative winners’

Aker Solutions (HOLD, TP NOK40)

Company description

Aker Solutions is a global provider of subsea production systems, offshore engineering and construction and MMO services for the upstream oil & gas and renewables industries, primarily within offshore wind.

Transition case or business solution from a transition perspective

- Aker Solutions invests in its own carbon neutrality as well as in various technologies enabling renewable energy production: engineering, hydropower and offshore wind services, backed by ambitious revenue targets within renewables.

Boliden (BUY, TP SEK380)

Company description

Boliden is a high-tech metal company, with its own mines and smelters, most of which are in the Nordics. Boliden’s key metals are copper, zinc and nickel.

Transition case or business solution from a transition perspective

- Boliden’s high-quality metals assets are in demand due to increasing electrification. Moreover, Boliden has good availability of renewable- or low-carbon energy, resulting in a carbon footprint considerably below the industry average.

Borregaard (BUY, TP NOK200)

Company description

Borregaard is a specialty chemical company that operates an advanced biorefinery producing biochemicals, such as cellulose, lignin and wood-based vanillin used in a variety of products.

Transition case or business solution from a transition perspective

- Borregaard invests substantially in its own energy efficiency and produces biochemicals with a substantially lower carbon footprint than fossil-fuel-based comparables, helping customers to cut emissions.

Castellum (BUY, TP SEK136)

Company description

Castellum is a real estate company that develops flexible workplaces and smart logistics solutions in attractive Nordic growth regions. Operations are mainly found in the Nordics, where the company aims to develop real estate projects around major growth regions.

Transition case or business solution from a transition perspective

- In our view, Castellum has one of the sector’s best sustainability profiles, and is well-positioned as tenant awareness grows. It is ranked no.1 worldwide by GRESB (Global Estate Sustainability Benchmark) for its sustainability work in offices and logistics properties.

Catena (BUY, TP SEK500)

Company description

Catena develops, owns, and manages long-term efficient logistics facilities that supply metropolitan regions in Scandinavia. Its tenants operate in various sectors, including logistics, transport, grocery, and consumer discretionary. However, a large part of the customer base consists of e-commerce companies.

Transition case or business solution from a transition perspective

- Catena shows strong focus on achieving greater energy efficiency than most existing buildings/peers, and strives to meet several international environmental certifications (in addition to local requirements) to ensure sustainability qualities.

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Entra (HOLD, TP NOK115)

Company description

Entra is a real estate company that owns, develops, and manages properties in Norway's main cities.

Transition case or business solution from a transition perspective

- Entra's portfolio consists of a high-quality and energy-efficient asset base of commercial properties, with solid focus on sustainable and environmentally friendly practices including concentration around public transportation hubs. Entra's objective is to be an industry leader in developing and managing energy-efficient buildings, appealing to eco-conscious tenants and investors.

Equinor (HOLD, TP NOK280)

Company description

Equinor is a major global energy company, producing primarily oil and gas, as well as some renewables. The company is the largest producer on the Norwegian Continental Shelf (c1.3 mboed).

Transition case or business solution from a transition perspective

- Equinor's high exposure to Norwegian production (among the least carbon-intensive oil and gas production globally), combined with investments in CCS, has given it a lower carbon footprint than peers. Moreover, it is increasingly shifting its focus to renewables.

Kongsberg Gruppen (BUY, TP NOK680)

Company description

Kongsberg Gruppen is an industrial conglomerate delivering advanced technological systems to primarily the defence- and maritime industries, and the maritime fleet.

Transition case or business solution from a transition perspective

- Kongsberg invests significantly in emissions reductions from own operations, and in technological and digital solutions reducing customers' carbon emissions, such as via alternative fuels, design, fuel cells and battery technology in marine transportation.

Norsk Hydro (SELL, TP NOK50)

Company description

Norsk Hydro is a materials company producing primary aluminium (2.2mt/y), and is vertically integrated with bauxite and alumina extraction, primary aluminium smelting, metal recycling, downstream extrusion products and captive hydropower production.

Transition case or business solution from a transition perspective

- In addition to a carbon footprint that is considerably below the industry average due to aluminium produced using hydropower, Norsk Hydro invests in new products that reduce customers' emissions such as light-weighting and recyclability. Norsk Hydro's subsidiary Hydro Rein (9.4 TWh/yr) is a key renewables operator

SSAB (BUY, TP SEK105)

Company description

SSAB is a global steel company, with a leading position within high-strength steels as well as special steel of lighter and thinner quality.

Transition case or business solution from a transition perspective

- SSAB is one of the most carbon-efficient steelmakers, with an ambition to become fossil-free by 2030 – backed by a credible plan based on carbon-free input materials.

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Stora Enso (BUY, TP EUR16)

Company description

Stora Enso is a leading provider of renewable products in packaging, biomaterials, and wood construction. About one-third of its wood consumption comes from its own 1m hectares of forestland.

Transition case or business solution from a transition perspective

- In addition to emissions-reduction initiatives in own operations and a role as carbon-sinks, Stora Enso's existing products and new product technologies increase in demand by wood-based construction and the replacement of plastics with fibre-based alternatives in packaging.

Volvo (BUY, TP SEK335)

Company description

Volvo is one of the world's largest providers of transport and infrastructure solutions such as trucks, buses, construction equipment, power solutions for marine and industrial applications, and financial services to support the purchase and use of its products (not the same company as Volvo Cars).

Transition case or business solution from a transition perspective

- Volvo has credible long-term targets to drive the shift to zero-emission vehicles in all its business segments.

Wallenstam (SELL, TP SEK40)

Company description

Wallenstam is a property developer that builds, develops, and manages commercial properties in Swedish metropolitan areas.

Transition case or business solution from a transition perspective

- The company focuses on new construction of residential properties, and is considered the sustainable leader with strong focus on energy efficiency and eco-friendly buildings. Moreover, through a wholly-owned wind-power company, Wallenstam is self-sufficient in renewable energy.

Wärtsilä (BUY, TP EUR17)

Company description

Wärtsilä is a global leader in medium-speed engines, but also offers digital and technical optimisation solutions to marine- and energy sectors.

Transition case or business solution from a transition perspective

- Wärtsilä invests in its own carbon neutrality and in technological solutions that drive customers' carbon reductions, particularly within the shipping and maritime industries, e.g. scrubbers, LNG and fuel-switching.

Yara (BUY, TP NOK425)

Company description

Yara produces high-quality fertilisers that predominantly serve the European market. It is the world's largest producer of nitrates and NPK and second-largest producer of ammonia.

Transition case or business solution from a transition perspective

- Yara is increasing the use of cost-efficient solutions to produce ammonia and specialty green fertilisers through use of renewable energy, implying 75–90% less CO₂ versus natural gas. It also invests in new technology such as CCS.

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