The Green Bond

Your insight into sustainable finance



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The Green Bond Editorial Team
Contacts at SEB

Letter to the reader

The transition is rolling and it's becoming clear that, against the backdrop of emerging transition beneficiaries, the risk of stranded assets is rising. Institutions and individuals who plan their cash flow and investment strategies around historical facts will have to face new priorities from their clients, from regulators, as well as from financiers. All institutions need to analyze this and make up a transition path - and be determined in how to communicate and execute it. Consolidated action through an annual review of National Determined Contributions (NDCs) - and a major relief with China and the US following up on their cochairmanship of the G20 Sustainable Finance Working Group - with a climate pact in Glasgow, are some of the really positive outcomes of COP26. However, it all comes down to action. At SEB, we have just announced that we will reduce our fossil lending by 45 to 60% until 2030 and we expect to do that in a close collaboration with our clients. The signals we get from the industries - their targets and commitments - provide comfort that this is doable and, actually, the right thing to do not only for the society, but also from the perspective of risk. Hence, we expect other banks to do the same. When looking into the sustainability activity inside finance, we have during 2021 seen a lot of focus on compliance and understanding various stakeholders' expectations. This has also been followed up with risk assessments and integration. In 2022, we expect for all of this to turn into business and trying to understand how this new paradigm will impact valuations and cash flows. We expect the "old economy" to make major investments in regaining market presence and

we expect regulators to use guarantees as a vehicle to make the new economy bankable faster. Additionally, it becomes challenging to see how lending and investments can be done without a dual purpose. But we still have challenges - how do we ensure that the developing country dialogue moves away from the old carbon debt discussion and into a future platform discussion? At the end of the day wealth changes - and it has a tendency to benefit those supporting the future rather than stomping around in what is now the history (sorry! - I know this is all too cynical - but we need to move on). Our focus for 2022 will be on a close collaboration with our clients to identify re-pricing opportunities and create models around integration - and thereby be well positioned to support our clients in Beta products (like green bonds) as well as Alpha products (like M&A).As always we have the privilege of a number of external contributions - this time in the form of an interview with Sweden's Chief Negotiator on Climate, and articles submitted by SEI, the Coalition for Rainforest Nations, and a join contribution by a steel producer SSAB, mining company LKAB and Volvo Cars.

Enjoy your reading.

Christopher Flensborg

Head of Climate and Sustainable Finance christopher.flensborg@seb.se

Transition update

No silver bullet

The COP26 meeting was in our view at best a qualified success. A number of pledges were agreed upon, including on coal, methane and deforestation. According to <u>Climate Action Tracker</u>, a network of independent scientific organizations, the new pledges (assuming they are fully realized) reduces the most likely temperature increase in 2100 from 2.4 degrees to 2.1 degrees, so it's a step in the right direction, but clearly not a sufficient step. However, the COP26 did not address the elephant in the room: the lack of investment.

This is not to diminish from the event in Glasgow, which was never designed to deliver concrete initiatives to boost investment. Events like the COP26 are about how political players are positioning on the field, not about focusing on the ball, which in this case would be the investment resulting from the selected formation. Success is not measured in actual spending decisions, but rather by analysing whether the new formation is more likely to deliver them. There were some signs of progress in this respect, most notably in the bilateral agreement between the US and China to cooperate on climate risks. However, what was needed was not a tweaking of the formation but a complete overhaul to reverse the widening gap between pledges and reality, and from that perspective the meeting was not successful.

Government plans appear to be inconsistent: they want to stop producing fossil energy and they don't want consumers to pay high energy prices, but they also don't want to spend what it costs to provide an alternative to fossil fuels. This will end with at least one of the objectives failing unless the investment in the transition to a zeroemission economy is ramped up very fast.

The release of Q3 data on global renewable energy investment did nothing to dispel this impression. Spending was slightly lower than in Q2, and 2021 is shaping up to be another lost year in the transition race; after the first three quarters we are on track for investment of just below USD 300tr for the calendar year, pretty much the same as every year since the growth suddenly stopped around 10 years ago.



Figure 1 Total clean energy investments

Source: BNEF, SEB Climate & Sustainable Finance Research

Thomas Thygesen thomas.thygesen@seb.dk Elizabeth Mathiesen elizabeth.mathiesen@seb.dk Obviously, as the cost of renewable energy has come down since then, you get more MWhs for the same amount of dollars, but it is also worth noting that if we had stayed on the rising trajectory from the preceding decade, we would have seen a much bigger decline in the cost due to the learning curve effect: the more you invest in a disruptive new technology, the cheaper and more effective it becomes. Thus, the past decade really was a lost opportunity and as a result there is less time left to do the job.

Energy supply shortages persist

However, we think 2022 will be the year when that pattern changes, and part of the reason is that the cost of doing nothing keeps getting increasingly obvious. One of the key things that works as a lever in this process is the global shortage of energy, which emerged second half of 2021 and has not abated yet.

Figure 2 European LNG futures



Source: Macrobond, SEB Climate & Sustainable Finance Research

This is a particular challenge in Europe, where LNG comes from a limited group of suppliers. Following an initial decline in spot prices of LNG after reassurances of an increase in the supply from Russia, prices have now jumped back to the peak, which means they have increased 5x since the start of the year. And while futures suggest prices will come down substantially next year, long-term gas contracts are still more than twice as high as at the start of the year.

China has responded to energy shortages by ramping up both the imports and production of coal and by curtailing the most energy-intensive production sectors like steel. In this way consumers are protected from the impact of higher prices, but adding more coal is a stop-gap measure that will make it harder for China to reach the medium-term emission targets they have set for themselves. However, the real lesson from all this is the extreme importance of reliable energy supplies, which dominates most other economic considerations. Populations will not tolerate extreme prices or rolling supply outages, and governments will do what it takes to supply what they need.

Figure 3 China coal import



Source: Macrobond, SEB Climate & Sustainable Finance Research

Serious underinvestment

The big risk here is that if governments do not ramp up other energy supplies as they try to cut back on fossil energy, then the money will start flowing back into fossil energy production and development. This was highlighted in the IEA's World Energy Outlook report published in October, which was released in Q4. One of the key observations in the report was thus that the world's investment in fossil energy production has already aligned with the <u>IEA's zero emission scenario</u> for the next 10 years, but that the annual investment in renewable energy is around USD 2.5tr too low to fit with the same scenario.

In other words, according to the IEA, the current sum of all energy investment is simply too low to secure an adequate supply even for a net-zero scenario. For the next one to two years, there is most likely till some capacity reserves in fossil energy like OPEC's unused production facilities, but within a couple of years that will be exhausted, and at that point the lack of energy will be a huge problem. Most likely, the result will not be that we just accept that. Instead, the more realistic outcome is that all countries will do like China and invest in the fastest way to lift energy production, which is the system we already have based on fossil fuels.

Figure 4 Oil and natural gas production investment



Source: IEA World Energy Outlook

There is an alternative, but it will require lots of capital – fast. Arguably, the severity of the climate crisis is partly due to political decisions – first, the decision to abandon nuclear power in the 1980s, which was due to safety concerns, and more recently the failure to accelerate the development of renewable energy, especially in the past decade when governments focused on reducing deficits instead after the financial crisis.



Figure 5 Clean energy & infrastructure investments

Source: IEA World Energy Outlook

This means it is no longer enough to return to the 'normal' technology diffusion patterns of the past. In order to make up for the lost time, we need to accelerate the speed of diffusion it to twice that level. As we reported in the last issue of the Green Bond, we estimate that this will require an increase in annual investment of around USD 4trn on all aspects of the transition compared with today's level.

Figure 6 Electrification + digitalisation = corporate capex super cycle



Source: SEB Climate & Sustainable Finance Research

Energy production is the engine in this process; without strong assurances that zero-emission electricity and other types of clean energy will be available, it will be difficult to get energy users to deploy their capital for major investment in the electrification of their production processes.

Shifting the diffusion to a faster trajectory is not impossible, but it will require the front-loading of very substantial investments to kickstart the technology cycle. As a result, 2022 is shaping up to be a pivotal year for the transition process. There is a window of opportunity in the energy shortages: if investment in clean energy supplies are ramped up substantially and fast, it may kickstart the transition away from fossil fuels and allow us to live with lower investment in this area. However, if nothing happens and energy shortages are allowed to become endemic, then the window will close as another generation of fossil fuel production equipment absorbs the capital that could have been deployed for transition.

2022: Window of opportunity

We think political leaders finally understand that the energy crisis along with the extreme monetary support after the pandemic offer them a once-in-a-lifetime to get back on track for a faster transition. Due to the volatile nature of renewable energy supplies that was demonstrated this summer, this will most likely involve a broader mix of energy sources. China's decision to build 150 new nuclear plants over the coming 15 years is an example of more concrete and pragmatic initiatives we expect to proliferate. China is essentially single-handedly trying to revive a technology cycle that has been dormant for almost 40 years. The advantages over coal are evident from an emission perspective if the safety issues can be controlled.

The stability of the output will also serve to anchor the unpredictable output from renewables along with massive investment in storage. This is a controversial decision from a European perspective as nuclear power currently is the subject of an intense political debate, and we do not claim to know the best answer. However, it is increasingly clear that renewable energy will have to be supplemented by investments in other energy technologies that increase the stability of electricity output of we are to electrify all parts of our economy.

Financing a new energy system

From a funding perspective, the window is certainly wide open for governments that want to drive a faster transition. Most Western governments can tap the bond markets for long-term funding at historically low negative real yields, even at very long-time horizons.

This suggests there is a shortage of safe assets in the system and thus a pent-up supply of capital that is willing to accept very low returns. Even highly indebted governments should be able to fit an increased investment level within aa sustainable debt trajectory if debt is raised at a yield that is several %-points below the nominal GDP growth rate.



Figure 7 Nuclear s-curve

25 November 2021

But governments do not have to shoulder the full capital burden alone. Pension funds also suffer from the shortage of safe income streams and will likely be more than willing help shift a significant part of the funding for new infrastructure projects off the government's balance sheet, provided that the government reduces the risk in other ways like guaranteeing the price of the output.

However, while investors clearly are keen to help finance a change of energy infrastructure, there is a widening gap between the money put up for 'green' investment by capital markets and the actual investment in new energy production that it supports. In 2021, total sustainable finance debt raised is likely to exceed USD 1.5tr, up from virtually zero a decade ago, but total investment in the zero-emission energy is less than one third of that and as noted above has not changed at all during the same period.

One problem is that Use of Proceeds instruments like the original green bond can fund both capex and opex spending and do not require any additionality. Green government bonds, for instance, mostly cover operating expenses that were already on the budget rather than new investment projects that would not have been made otherwise. A second problem is that performance-based instruments like Sustainability-Linked Bonds (SLBs) or Loans (SLL) are not intended to fund specific projects but focus on improvements in the company-wide sustainability performance. From a transition perspective, it could thus improve transparency and thereby possibly also impact if it was made clearer if capital is raised for capex or opex purposes in Use of Proceeds instruments, and borrowers include investment related targets in their general purpose financing instruments' KPIs.

The only sure-fire way to speed up the transition to a new energy system is to build it yourself. Direct investment in and financing of major investment projects have a direct effect, but they have other drawbacks. First of all, to really make a difference or create additionality, you have to accept a lower expected return than the broader market (unless you can persuade the government to sweeten the deal). Furthermore, direct investments also come with a much more liquidity risk compared with listed assets.

How about the rest of the value chain?

The reason why government leadership is so important is their traditional role as providers of or at the least regulators of basic infrastructure that support entire private sector value chains. Governments provided the highway networks for the automobile revolution, for instance, and made sure that telephone lines were extended to the whole population at the same price, whereupon the private sector seized on the chance to transform this foundation into something new. In the energy transition, if governments can provide the necessary zero-emission energy, then the private sector is likely to start investing in new ways of using it.

But even at that appoint, a complete transition will require not just lots of capital, but also a high degree of coordination and collaboration on the side of energy users.

Figure 8 provides an illustration of the role of different actors in the transition, from the providers of zero-emission energy over producers of capital equipment that currently require fossil energy and onwards to the users of such equipment and the buyers of their services in the less energy-intensive sectors



Figure 8 Transition framework - the role of different actors

Source: SEB Climate & Sustainable Finance Research

All the different elements across the value chain have to come together at the right time; if just one fails, the process will fail. So if you want to fully decarbonize shipping, for instance, it means that you not only have ample zeroemission fuel for new engine types, you also need the new engine types to be ready, new ship designs to accommodate the new engine types to be built, port facilities across the world with the ability to deliver new energy inputs and if you want to go all the way, zeroemission steel and other inputs for the production processes. And it all has to come together at the same time when the technology is just ready

In the automotive sector, the first energy using sector to reach the tipping point, the disruptive nature of such a shift is increasingly clear. EVs show the same learning curve characteristics as other disruptive technologies, so their price per unit of performance has already collapsed since Toyota launched the world's first hybrid vehicle in 1997, so they are now superior to combustion engine vehicles at the same price and it is likely to continue lower.

Figure 9 EV share of total auto sales



Source: Macrobond, SEB Climate & Sustainable Finance Research

In Europe, the EV share of all vehicles sold has doubled three times since the tipping point in 2017 and almost tripled in the past 18 months so it now stands above 10%. If you extrapolate such trends, it does not look unrealistic that EVs will reach 100% of sales before the end of the decade, but only if the whole value chain moves at the same pace. Right now, there is not enough zero-emission electricity to power the vehicles, and there are not enough chargers to give them access to electricity, and our total EV production capacity is not even close to being able to produce all the cars that are sold every year. If you fix some, but not all of these issues, it will not be possible to complete the shift to EV dominance in this decade.

Figure 10 EV chargers



Source: Macrobond, SEB Climate & Sustainable Finance Research

Financing energy users' transition

The main implication for capital markets is thus that we should prepare for a surge in transition investment, led by the major powers of the world. The question for many investors is what capital markets can do to accelerate this process. So far, the investor community appears to be hoping for a 'silver bullet' that could solve all their problems, in other words the idea that an ESG or lowemission portfolio could outperform the market AND accelerate the transition AND reduce reputational risk, all at the same time. We think this idea must be replaced with something more realistic.

The first part of the silver bullet story centres on the claim that a portfolio with a higher average ESG rating or lower average GHG emissions than the benchmark will deliver higher returns. There are many studies looking at these issues and there is little or no evidence of outperformance linked to the level or change in ESG scores or GHG emissions when controlling for other factors. To the extent that they do outperform, it appears to be because they are a proxy for growth/quality exposures. Figure 11 is an illustration of just that; the relative return of the MSCI World ESG Leaders index looks very much like a scaled down version of the excess return for the MSCI Growth index.





Source: Macrobond, SEB Climate & Sustainable Finance Research

A recent study from <u>Morningstar</u> also confirmed that the most popular ESG funds contain a lot of exposure to US tech stocks, which generally have very low emissions, but also high valuations and more dependency on low interest rates. This is not to say that such a strategy is not useful, it may provide a similar return but doing less harm to the world for investors that want to invest in accordance with their values. It is just not likely to generate systematic outperformance. That will require a bottom-up approach where ESG factors are assessed for their financial materiality, just like SEB's SEAM framework does. The second part of the silver bullet story, that an ESG/low footprint portfolio will also help to accelerate the transition to a more sustainable economy, also has some issues. The idea is that companies with low emissions/high ESG score will get a lower cost of capital and therefore will invest even more than otherwise, but it has two serious flaws.

The first is that even if they did allocate more of their capital to companies that drive the transition, the cost of capital would not change enough to make a meaningful difference. In general, profitability and growth prospects are much more important than the cost of capital for investment decisions. The second and potentially more damaging problem is that these portfolios really do not allocate capital to companies that invest in the transition, because these will need the capital before they have reduced their emissions.

Renewable energy companies and the companies that produce equipment and develop supporting technologies, do not suffer from a shortage of capital either. However, the interest in capital- and energy-intensive transition companies is much more muted, as reflected in their generally very low valuation. Investors may have understood that as a group, they face the unpleasant combination of major capital needs for investment and high obsolete asset risk and they do not offer any immediate solace in the shape of low emissions. Indeed, in the first 5-10 years, there may be no real decline in average emissions, even if significant early investments lay the ground for a later scaling up of a new capital stock.



Figure 12 Stylized scenario for emissions in successful transition

So, strategies that focus on today's emission levels are likely to exclude the companies that are most engaged in the transition and thus provide the potential benefit from a lower cost of capital to the wrong parts of the market. In fact, if you follow the EU's climate benchmark portfolio rules and you have to reduce emissions every year, you will systematically be eliminating the companies that need capital the most, only to let you buy them back once the journey to zero emissions has been completed.

It is hard to see any mechanical way to overcome this problem unless we can find a credible way to identify companies with credible transition plans and negative marginal emissions.

In listed equity space, we think it will be necessary to separate the concepts of sustainability, transition and alpha.

'Sustainability' portfolios are motivated by 'do no harm' arguments; they will provide a quality portfolio with less exposure to negative reputational risks and relatively low tracking error but will not deliver systematic excess returns or a faster transition.

Transition' portfolios have higher risk and larger tracking error, and they will require fundamental stock-picking skills to identify the successful companies in these segments (the three top boxes in Figure 8) and avoid the ones left holding worthless obsolete assets.

Finally, 'alpha' portfolios seeking to outperform the market over time should in our view focus on the 'deep input providers, which contains the companies that will be selling to both winners and losers in the transition story, but this will not contribute to a faster transition.





Source: Macrobond, SEB Climate & Sustainable Finance Research

Sustainable Debt Market Update

Share of sustainability-themed bonds reaches double-digits in four key markets

Early autumn 2021 update

After slowing down over the summer, the sustainable debt market saw strong growth in September and October with more than USD 303bn in new transactions. This brings the YTD volume of sustainable bonds and loans to USD 1,329bn, firmly putting 2021 on track to exceed USD 1.5trin cumulative transactions. Looking at quarterly numbers, sustainable debt transactions grew 66% to USD 339.5bn in Q3 2021 compared with the same quarter in 2020.



Figure 14 Cumulative sustainable debt transactions

Source: Bloomberg New Energy Finance 31 October 2021

Product update

In September and October, sustainability-themed bonds showed growth of 38% YOY to USD 166bn and sustainability-themed loans increased with 45% YOY to USD 49bn. This was driven mostly by sustainability-linked bonds and loans which grew by 132% YOY to USD 21.9 bn and 292% YOY to USD 43.9bn, respectively. Looking at Q3, the market of labelled bonds grew with 59% YOY to USD 265.6bn and loans with 66% YOY to USD 73.9bn. A look at monthly debt transactions in 2021 also shows that sustainability-linked bonds and loans were particularly strong in Q2 whereas issuances of social bonds have been decreasing in the second half of the year. Conversely, the share of green bonds has increased since then. As outlined below, sovereign issuers may be behind the relative decline of social bonds and growth in green bonds since the summer months of 2021.

Figure 15 Sustainable debt market by product type



Source: Bloomberg New Energy Finance 31 October 2021

Filip Carlsson filip.carlsson@seb.se

Gregor Vulturius, PhD gregor.vulturius@seb.se

Figure 16 Sustainable debt market by month in 2021



Source: Bloomberg New Energy Finance 31 October 2021

Regional update

In September and October, most sustainable debt transactions were recorded in Europe (excluding the Nordics) with USD 132.1 bn (up 31% YOY), North America with USD 55.7bn (up 62% YOY) and Asia with 42.95bn (up 79% YOY). These three markets are also on top of the YTD lead table. While sustainable debt transactions in the Nordics were down 22% YOY in the first two months of Q3, September saw an increase of 56% to USD 15.6bn. Notable transactions behind this surge include sustainability-linked loans by Danish utility Ørsted borrowing USD 2.3bn, Norwegian food and beverage company Mowi AS raising 2.1bn, and Swedish telecommunications company Ericsson borrowing USD 2bn.

Figure 17 Sustainable debt market by product type



Source: Bloomberg New Energy Finance 31 October 2021

Corporate sector update

Sustainability-themed debt also increased among corporates, reaching USD 529.6bn this year so far. Between September and October, corporates raised USD 94.6bn (up 78% YOY) in labelled bonds and loans and for Q3 the record was US 134.8bn (up 85% YOY). The sectors with the strongest growth in last two months were technology with USD 5.4bn (up from no transactions in September and October last year), industry with USD 11bn (up 261% YOY), consumer staples with USD 11.2bn (up 181% YOY), energy with USD 8.3bn (up 135% YOY), materials with USD 10.9bn (up 144% YOY). Strong growth was also recorded in all other sectors except for health care with 1.7bn (down 40% YOY) and communications with USD 1.15bn (down 74% YOY).





Source: Bloomberg New Energy Finance 31 October 2021

Use of proceeds

Green Bonds

The market for bonds earmarked for green investments saw its strongest ever quarter in Q3 with USD 155.7bn in new issuances, up 48% from the same period last year. September and October saw cumulative issuances of green bonds of USD 165.6bn (up 77% YOY). YTD, more than USD 527.6bn of green bonds have been issued, up from USD 257.55bn in the same period.

Figure 19 Green bond market by sector



Source: Bloomberg New Energy Finance 31 October 2021

Sovereigns, supranational institutions, and agencies (SSA) remained the largest group of issuers of green bonds with USD 92.2bn (up 151 %YOY) in September and October and USD 57.9bn (up 49% YOY) in Q3.

The most notable transactions in this market segment came from the EU which issued its first and the largest-ever green bond of USD 13.9bn (EUR 12bn) in October. The transaction was the first in the EU's green bond program which anticipates the issuance of up to EUR 250bn in green bonds between 2021 and 2026. The UK also issued its first green bond of USD 13.7bn (GBP 10bn) in September followed by a second issuance of USD 8.3bn (GBP 6bn) in October.

Financial institutions raised a total of USD 38.6bn (up 35% YOY) and USD 45.6bn (up 33% YOY) in September-October and in Q3, respectively. The largest transactions in this sector in September and October originated from the Industrial & Commercial Bank of China which raised a total USD 4.2bn through five green bonds, followed by a single issuance by ING of USD 1.45bn and two issuances of USD 0.6bn each by Dutch lender CPT NV.

The corporate sector also saw lasting strong growth in green bonds with USD 28.6bn (up 22% YOY) in September and October and USD 46.6bn (up 70% YOY) in Q3. Notable transactions included three green bonds worth a combined USD 2.7bn by food and beverage company Mondelēz. The proceeds of the company's inaugural green bonds are earmarked to fund projects in sourcing sustainable ingredients, reducing waste in packaging and tackling climate change.

Social Bonds

Growth in social bonds since the outbreak of Covid-19 came to an end the second half of 2021. While Q3 still saw total issuance increased by 22% YOY to USD 36.65bn, new issuances in September and October fell sharply with 57% YOY to USD 24.6bn. However, growth trends differed between market segments.

While SSA's continued to be the largest issuer of social bonds with a combined deal volume of USD 17.5bn in September and October, total issuance declined 65% compared to same period last year. In the absence of any issuance from the EU, the largest sovereign issuer of social bonds was France which raised a total of USD 8.91bn in social bonds in September and October. Looking at Q3, SSA raised USD 25.4bn (up 6% YOY).

Financial institutions bucked the general market trend and recorded a slight increase in issuance of 12% YOY to USD 6.6bn in the nineth and tenth month of this year. Growth was even stronger in Q3 with USD 8.3bn (up 100% YOY). In September, Portuguese Bank BCP issued its inaugural social and labelled bond worth USD 0.6bn.

The corporate sector only saw four transactions of social bonds in September and October. Total issuance fell by 57% YOY to USD 0.5bn in that period but increased with 60% YOY to USD 2.9bn in Q3.

Figure 20 Social bond market by sector



Source: Bloomberg New Energy Finance 31 October 2021

Sustainability Bonds

Growth in sustainability bonds slowed in the second half of year. In Q3, total issuance grew by 70% YOY to USD 47.9bn, compared to Q2 when issuance had grown by 240% YOY and reached USD 57.6bn. Between September and October, SSA claimed the largest share of the market with USD 32.5bn (up 83% YOY) and USD 30.8bn (up 159% YOY) of new transactions in September to October and Q3, respectively.

Momentum for sustainability bonds differed between financial institutions and corporates. The former recorded a YOY decline of 5% and USD 6.3bn of new issuances in September and October whereas the latter saw a YOY increase of 31% to USD 3.4bn of new issuances. However, the picture changes when looking at Q3. In that period, financials logged an increase of 66% YOY and USD 12.5bn of new transactions and corporates logged a decline of 47% YOY and USD 4.6 in new transactions.



Figure 21 Sustainability bond market by sector

Source: Bloomberg New Energy Finance 31 October 2021

Notable issuances included six sustainability bonds totalling USD 0.24 bn by South Korean car manufacturer Hyundai and the Indonesian government's maiden sale of eurodenominated bonds to fund its efforts to achieve sustainable development goals. The EUR 0.5bn (USD 0.59bn) sustainability bond was the first SDG bond issued by a sovereign in Southeast Asia. CICERO and IISD classified the framework as "Medium Green", noting its strong potential for medium-to-long-term green development, and gave a "Good" rating to the framework's overall governance.

Green Loans

Note on data: The green loan market is a private market with limited access to information. We use the loans listed in the Bloomberg Terminal and Bloomberg New Energy Finance which we think provides a good reflection of the overall market.

The downward trend in green loan transactions continued in the second half of the year. However, there are signs that the decline is starting to slow. Looking at September and October, the market for green loans was down 27% YOY, recording USD 5bn in transactions. In comparison, green loans were down 73% YOY in July and August. Figures for Q3 also suggested that the drop in green loans may have stopped – at least for the moment. The third quarter of 2021 saw almost the same volume of green loans compared to the same quarter last year (USD 15bn vs. 15.2bn).

Figure 22 Green loan market by sector



0% 2013 2014 2015 2016 2017 2018 2019 2020 YTD 31 Oct 2021

Source: Bloomberg New Energy Finance 31 October 2021

10%

The halt in green loan decline can be mostly attributed to relatively stronger lending activities by corporates and financial institutions. Corporates borrowed USD 4.45bn (down 23% YOY) and USD 11.7bn (down 1% YOY) in green loans in September to October and Q3, respectively. Financial institutions borrowed USD 0.6bn (down 49% YOY) and USD 3.3bn (up 8% YOY) of green loans in September to October and Q3, respectively.

Performance-based

Sustainability-linked bonds

The market for sustainability-linked bonds continued its rapid growth in the second half of 2021 with YTD cumulative issuance standing at USD 80.4bn (up almost 10 times YOY).





Source: Bloomberg New Energy Finance 31 October 2021

In September and October, Europe (excluding the Nordics) led the leader board with USD 12.4bn in new issuances, followed by North America with USD 3.8bn, Asia with USD 2.5bn, Oceania with USD 1.85bn, South America with USD 1.2bn and the Nordics with USD 0.2bn.

Figure 24 Corporate sustainability-linked bond market



Source: Bloomberg New Energy Finance 31 October 2021

The market for sustainability-linked bonds continues to be dominated by corporates accounting for 90% of total issuance this year. In September and October, diversity increased with more sectors taking a share of the market. While utilities continued to the lead with 31% (USD 6.2bn) of the total market, industrials claimed 23% (USD 4.4bn), materials claimed 16% (USD 3.1bn), consumer staples claimed 12% (USD 2.4bn), energy claimed 8% (USD 1.6bn), consumer discretionary claimed 6% (USD 1.3bn) and technology claimed 4% (USD 0.75bn). Notable transactions include Europcar which raised EUR 0.5bn (USD 0.59) in new capital linked to reducing carbon emissions from its fleet and the share of low-emission vehicles. Furthermore, Indian JSW Steel issued a USD 0.5bn bond tied to a targeted 23% reduction in carbon intensity by 2030. The company's sustainability-linked bond framework was reviewed by DNV.

Sustainability-linked loans (SLL)

Note on data: The sustainability-linked loan market, whereby the loan margin is typically linked to a set of targets or an ESG score, is a private market with limited access to information. We use the loans listed in Bloomberg New Energy Finance which we think provides a good reflection of the overall market.

Figure 25 Sustainability-linked loan market by region



Source: Bloomberg New Energy Finance 31 October 2021

Sustainability-linked loans grew with 132% YOY to USD 43.95bn in September and October and with 168% YOY to USD 58.9bn in Q3. YTD, more than USD 308bn in performance-based loans have been transacted.

However, growth trends diverge strongly between different regions. Europe (excluding the Nordics) recorded a decline of 29% YOY to USD 7.85bn and of 51% YOY to USD 8.8bn in September to October and in Q3, respectively. In comparison, transactions in North America have shot up with 275% YOY to USD 23.7bn in September and October and with 1312% YOY in Q3. Asia also saw strong growth of 273% YOY to USD 3.1bn in September and October and 584% YOY to USD 3.4bn. The strongest YOY growth was recorded in the Nordics which saw an increase of more than 5000% to USD 6.6bn in September and October and with 900% YOY to USD 4.5bn in Q3.

Figure 26 Corporate sustainability-linked loan market



Source: Bloomberg New Energy Finance 31 October 2021

Corporates account for more than 86% of sustainabilitylinked loan transactions in September and October. In that period, companies in the consumer discretionary sector dominated the market with 46% market share and USD 17.4bn in new loans.

A total of USD 15.4bn of these loans came from the automobile manufacturer Ford. As the first auto manufacturer in North America, Ford linked three revolving credit lines to sustainability-linked performance metrics. These metrics include the reduction of greenhouse gas emissions from the company's manufacturing plants in line with the Paris Agreement 1.5-degree target, the increase of renewable electricity consumed in Ford's global manufacturing plants, and the lowering of Ford of Europe's CO₂ tailpipe emissions per passenger vehicle.

Currency analysis

Labelled bonds across all currencies stands for 3.2% of the entire market YTD, up from 1.7% in 2020. For bonds issued in SEK 24.1% of all bonds issued so far 2021 carry a green, social, sustainability or sustainability-linked label, compared to 16.2% in 2020.

The share of sustainability-themed bonds of the total EUR dominated bond market also grew from 6.5% in 2020 to 11.4% until early November this year. Furthermore, 12.2% of all GBP dominated bonds issued so far in 2021 carry a sustainability label. Remarkably, even the market for AUD dominated bonds records a double-digit share of green, social, sustainability or sustainability-linked issuances.





Source: Bloomberg New Energy Finance 4 November 2021

SEB sets new climate ambitions and goals as part of its sustainability strategy

SEB

SEB's sustainability strategy going forward outlines the bank's role in the transition towards a sustainable society, including supporting our customers in their climate transition and reducing SEB's fossil exposure. As part of this strategy, SEB has set new ambitions and goals within the climate area that we will share transparently and continuously to allow our stakeholders to follow our progress. The ambitions and goals consist of a *Carbon Exposure Index*, *a Sustainability Activity Index*, and a *Transition Ratio*.

The *Carbon Exposure Index* is a goal to reduce the fossil credit exposure within our energy portfolio by 45-60% by 2030. The *Sustainability Activity* Index tracks the development within sustainability-related lending, sustainable finance advisory, sustainable investment products and venture capital investments within Greentech, with an ambition to increase average activity six to eight times by 2030. The *Transition Ratio* reflects how our customers transition in line with the Paris Agreement.

As a bank, we have the power, opportunity, and responsibility to impact the world we operate in. SEB wants to be a leading catalyst in the sustainability transition. We have an ambition to accelerate the pace towards a sustainable future for people, businesses and society, and we believe we can make the greatest positive impact for the climate by partnering with our customers and supporting them on their transition journeys. As the next step in our sustainability strategy, we have set growth ambitions for our sustainable products, advisory services and investments, while at the same time laying out a clear and concrete path for the reduction of our fossil credit exposure. Johan Torgeby President and CEO of SEB

Hans Beyer Chief Sustainability Officer of SEB

The updated sustainability strategy is part of SEB's business plan for 2022-2024 and a cornerstone of SEB's 2030 strategy. With an initial focus on climate-related issues, the sustainability strategy broadens the scope of SEB's sustainability work, clarifies SEB's role in the transition, and further integrates sustainability in products, processes, and decisions. It also includes new ambitions and goals, on which we will provide regular updates.

SEB's new climate-related ambitions and goals

Carbon Exposure Index – "The Brown": The *Carbon Exposure Index* is a volume-based metric capturing our fossil fuel credit exposure. SEB's goal is to reduce the fossil credit exposure within the bank's energy portfolio, which includes power generation and distribution as well as oil and gas, by 45-60% by 2030 compared with a 2019 baseline. The *Carbon Exposure Index* means that we will be in line with or outperforming the strictest 1.5 degreealigned climate scenario assumptions provided by The Network of Central Banks and Supervisors for Greening the Financial System (NGFS).

Sustainability Activity Index – "The Green": The Sustainability Activity Index is a volume-based metric capturing our sustainability activity, measuring volumes for sustainability-related lending, sustainable finance advisory, venture capital investments within Greentech and Article 9 financial investment products' share of assets under management. The ambition is to increase average activity six to eight times by 2030 compared with a 2021 baseline.

Figure 28 Johan Torgeby. President and CEO, SEB



Source: SEB

Transition Ratio – "The Future": We will transition together with our customers as reflected in a Transition Ratio, which is a volume-based ratio based on our internal Customer Sustainability Classification Model. This means that we are assessing our own and our customers' climate impact and alignment towards the goals set out in the Paris Agreement, by classifying our credit portfolio. By using this tool, we get a better understanding of our customers' transition journeys and can support them in reducing their carbon footprints. We aim to have completed the classification of our credit portfolio during 2022.

SEB, which developed its first specific sustainability strategy in 2009, has in recent years continued to strengthen the guidelines within the climate area. In 2019, SEB signed the UN initiative Principles for Responsible Banking, which means that we have committed to continuously adapt our business strategy to align and contribute to the UN Sustainable Development Goals and the Paris Agreement. We have also committed to a number of other important international undertakings that support the sustainability transition, such as the Net Zero Banking Alliance, the Net Zero Asset Managers Initiative and the Poseidon Principles. In February 2021, SEB adopted an updated sector policy on fossil fuels that sharpened the bank's guidelines to include more areas and clearer standpoints, including a roadmap for how SEB will phase out its exposure to coal and to unconventional oil. The same month, SEB's fund company SEB Investment Management strengthened its sustainability policy, which included implementing uniform exclusion criteria for all funds managed by SEB and that all funds exclude fossil fuels.

We now raise our ambition level further and take the next step in doing what we can to accelerate the transition. As a bank, we have an important role to play in supporting our corporate customers in their contribution to a more sustainable society, as well as providing savings and investment opportunities to channel the vast investments required to make the transition happen. Figure 29 To learn more about SEB's sustainability strategy and the new ambitions and goals, please tune in to the digital event Accelerating change – partnering for a sustainable transition <u>http://www.sebgroup.com/accelerating</u>



Source: SEB

SEB External Sustainability Advisory Board

The importance of academic anchoring and outside-in perspectives cannot be exaggerated when it comes to matters concerning sustainability, and neither can our need to understand the direction and speed of sustainabilityrelated changes.

For this reason, SEB has established an external sustainability advisory board with leading experts within the sustainability field. The purpose of the board, SEB External Sustainability Advisory Board, is to provide SEB with insight in matters concerning sustainability from experts outside the financial industry, in order to make the bank better prepared to meet the sustainability challenges of today and tomorrow. SEB External Sustainability Advisory Board consists of:

Bo Becker, Professor of Finance, Stockholm School of Economics

Gretchen C. Daily, Professor of Environmental Science, Stanford University

Carl Folke, Professor of Natural Resource Management, Stockholm Resilience Center

Tomas Nauclér, Global Co-Leader of Sustainability, McKinsey

The aim with SEB External Sustainability Advisory Board is to allow SEB to discuss and test theses, theories and ideas concerning different subjects within sustainability with experts representing diverse experience and professions within this field. This will help SEB increase its knowledge and awareness, and make the bank better equipped to identify future challenges and opportunities.

COP26: Interview with Sweden's Chief Climate negotiator



Government Offices of Sweden Ministry of the Environment Mattias Frumerie Head of Delegation to UNFCCC at Swedish Ministry of Environment

Gregor Vulturius, PhD Advisor Climate & Sustainable Finance at SEB

Gregor Vulturius: The final declaration of COP26 – the Glasgow Pact – calls upon countries to phase-down coal use and to phase-out inefficient subsidies for fossil fuels. How significant is it that for first time ever a COP declaration explicitly urges countries to end their support for fossil fuels?

Mattias Frumerie: I think it is significant because it gives us a vehicle to assess how countries are delivering on coal and subsidies. Obviously, there were quite intensive discussions on the particular wording at the end of the negotiations in Glasgow. There are diverging opinions among countries how quickly to implement a phase down of coal consumption and a phase out of fossil fuel subsidies. Since we now have these two issues in the final text, it makes it easier to follow up on how we as parties are delivering on this approach. It will give the global community the opportunity to apply pressure on parties that are not implementing this approach.



Figure 30 Mattias Frumerie, Head of Delegation to UNFCCC at Swedish Ministry of Environment

Source: Jessica Gow/TT

Gregor Vulturius: Do you believe that we will see changes in the attitudes on fossil fuels of the likes of China and India going forward?

Mattias Frumerie: I think that the changes are coming and that they are manifest not only in the final decision of COP26 but also in other kinds of initiatives and declarations that were launched during the two weeks of negotiations. Sweden is part of the Beyond Oil & Gas Alliance which was launched by Costa Rica and Denmark. Countries in the alliance commit to not granting licenses for new fossil fuel exploration. There is also a declaration for the Clean Energy Transition in which countries commit to not providing finance for fossil fuel investments. Obviously, fossil fuel financing is not decreasing quickly enough, and we need to take bolder and quicker steps but at least there is a foundation. Additionally, Sweden and other Nordic countries in the last couple of years have been pushing for a quicker phase-out of World Bank lending to fossil fuel projects. Sweden has also stopped any kind of support for fossil fuels in its bilateral financing. Furthermore, we also see action taken by private financial institutions to support transition activities. Thus, alongside the formal decision taken at COP26, there is significant movement to reduce financing for the use and exploration of fossil fuels which must be accelerated and broadened to involve all relevant actors

Gregor Vulturius: One of the main targets of the UK government, which hosted COP26 together with Italy, was to "consign coal to history". Irrespective of long-term targets, what do governments, corporates and the financial sector need to do right now to achieve this goal?

Mattias Frumerie: For governments it means setting regulatory frameworks in place that on the one hand reduce the use of fossil fuels and on the other hand incentivize the use of renewable energy. We also need to improve energy efficiency given the constant rise in energy demand. I think that Swedish actors have good solutions to offer when it comes to industry transition and large-scale energy efficiency projects that can be put in place globally. Corporates and financial institutions also play an important role by providing the right type of technological and financial solutions. Importantly, countries have made the commitment to ensure that financial flows are aligned with the goals of limiting global warming and of adapting to climate change impacts. This commitment is enshrined in Article 2.1c of the Paris Agreement. Some of the outcomes from COP26 will accelerate actions on this commitment. For example, there will an input into COP27 on aligning financial flows to the Paris Agreement.

Gregor Vulturius: You are already mentioned the necessary build-out of renewable energy. There was a lot of attention on net-zero targets and the reduction of coal use and fossil fuel subsidies at COP26. But was has happened in terms of accelerating renewable energy projects and investments at this year's summit?

Mattias Frumerie: In terms of the decisions that are taken at COP meetings, we usually don't focus on specific sectors or technologies. In the same paragraph of the Glasgow Pact which mentions the phasing-down of coal power and the phase-out of inefficient fossil fuel subsidies, there is also a commitment to scale up renewable energy. However, it is true that most of the decisions at COP26 were not sector specific.

Nevertheless, several relevant initiatives have been launched at the meeting in parallel to the multilateral negotiations. For example, there was a specific day at COP26 – November 4th – which focused on energy when several sectorial commitments were made to highlight renewable energy solutions. Furthermore, the UK government launched ahead of COP26 the Energy Transition Council were countries come together to support each other in the energy transition. Another example is an initiative by several countries which will make financing available to South Africa to support the country in its energy transition. I think we will see more examples of these type of country compacts in the future which will help developing countries in their efforts for a just transition.

Figure 31 COP26 Net Zero 2050



Source: Christopher Furlong/Getty Images

Gregor Vulturius: Without asking you to be political, could you try to explain what is meant by "inefficient" fossil fuel subsidies?

Mattias Frumerie: The Swedish government would have liked that the word "inefficient" to be dropped from the final declaration. However, the wording "inefficient" subsidies reflects standard language used for example by the G20. I have not seen an assessment as to what could be deemed "inefficient" or "efficient" subsidies of fossil fuels.

Figure 32 Delegates huddle at closing plenary of COP26



Source: Photo by UN Climate Change: Kiara Worth

Gregor Vulturius: The Glasgow Pact reaffirms the goal of the Paris Agreement which is to hold the increase in the global average temperature to well below 2 °C above preindustrial levels and to pursue efforts to limit the temperature increase to 1.5 °C. It also requests countries to revisit and strengthen the 2030 targets in their Nationally Determined Contributions (NDCs) as necessary to align with the Paris Agreement temperature goal by the end of 2022. What do you think is the moment now for countries to improve their existing NDCs, given that we know that that these plans are not getting us to 1.5 degrees?

Mattias Frumerie: I really believe that this is one of the key outcomes of COP26. We have now a process in place to both keep up the pressure on ourselves and on others to deliver more ambitious commitments and to implement these commitments. In the EU for example, we are currently negotiating the "Fit for 55 Package" which aims at reducing emissions by at least 55% by 2030. From a Swedish perspective, we wanted this to be the "Fit for 65 Package". It might be difficult to increase ambitions, but it is worth exploring opportunities to do so. Importantly, the invitation to increase ambitions is given to all countries. At COP27 next year we will have the first opportunity to see how well this new annual mechanism works. There will be a high-level event were countries can showcase what they have accomplished and more importantly where are the gaps and how they can be closed. I think that we will see the UNFCCC become an area where we compare notes on

implementation. We have been focusing very much on the negotiations of the rulebook of the Paris Agreement in the last few years. Maybe we will move away from negotiations and look at how we can support each other in the implementation of the targets that we decided.

From a Swedish perspective, I believe we have a lot to contribute on how to set up the regulatory framework, how to provide financing and how you can drive the transition. For example, we have the Leadership Group for Industrial Transition which was launched a couple of years by the Swedish Prime Minister and the Indian Prime Minister to showcase public-private collaboration. Bringing these types of examples to COP shows how you can be successful in the transition and that there are big opportunities. We highlight both the urgency and the need to act quickly, as well as showing how a just transition and the SDGs can be achieved.

Gregor Vulturius: What influence have sectorial initiatives like the Glasgow Financial Alliance for Net Zero or the declaration to end deforestation on the negotiations between countries?

Mattias Frumerie: From a formal perspective, the initiatives that you mentioned as well as the many pavilions at the COP are not part of the negotiations. There were many of us negotiators that said that we would have gotten a better outcome if the sense of urgency and willingness to act from those outside the formal discussions could have been brought into the negotiation rooms. However, there are countries that argue that whatever is said outside the formal process is nothing that we should consider in the negotiations. In the case of the Glasgow Financial Alliance for Net Zero, many of us negotiators believed that this a good example of how the financial industry can contribute, but others said that the alliance should have no impact on the negotiations because it wasn't formally part of the UNFCCC process. Nevertheless, while efforts inside and outside the negotiations are still parallel processes, my hope is that we can bring them closer together and that opportunities highlighted outside the negotiation rooms encourage us inside to take even bolder steps.

Gregor Vulturius: What are the main conclusions that the private sector should draw from the negotiations in Glasgow? Are there any specific sectors or regions where societal and regulatory pressure to reduce emissions will increase? And what significant decision have been taken at COP26 to promote private-sector action to reduce emissions?

Mattias Frumerie: I believe that the new agreement on creating a market for trading carbon emission reductions between countries and private actors under Article 6 of the Paris Agreement will be of interest to many corporates. We also agreed on a new transparency framework for emission reporting which sets out quite detailed reporting guidelines at the national level. This new framework will likely influence what emission data countries are going to collect from the private sector. On a more general level, I expect that the annual review of NDCs will increase pressure on countries to set in place more ambitious policies and regulatory frameworks. This in turn will also increase pressure on business to align their emissions and investment flows. I hope that the decisions that are taken at the global level will quickly translate into decisions at the national level in Sweden, the EU, China or the US.

Gregor Vulturius: You spoke earlier about the opportunity for Sweden to showcase its regulatory framework to achieve the Paris Agreement. The hallmark of the Sweden's climate policy is arguably its carbon tax. At COP26, both European Commission President Ursula von der Leyen and German Chancellor Angela Merkel urged delegates at COP26 to put a price on carbon emissions. Where are we on this issue in the negotiations?

Mattias Frumerie: Many of the Swedish businesses that we meet at the COP highlighted carbon pricing as the single most effective regulatory vehicle for driving down emissions. However, pricing carbon is not part of the negotiations per se and there no real space for it to discuss it as of now. However, carbon pricing is one the elements of the EU's strategy in the negotiations on setting a new target for climate finance in 2024. At COP26, negotiations on the new climate finance target were launched. My hope is that in the coming two years, there will a space to discuss the usefulness and the need for setting a price on carbon. While there might not be a global price in the foreseeable future, we could maybe see countries setting individual prices which could improve efficient climate action globally.

Oil and Gas Transitions: Taking stock of the COP26 and the EU's energy crisis





Gökçe Mete Research Fellow at the Stockholm Environment Institute gokce.mete@sei.org

Adriana Chavarria-Flores Programme Officer at Climate Strategies adriana.chavarria@climatestrategies.org

Andrzej Blachowicz Managing Director at Climate Strategies andrzej.blachowicz@climatestrategies.org

Limiting global warming to 1.5 °C above pre-industrial levels and setting the world on track to meet the goals of the Paris Agreement, requires an unprecedent level of ambition, political will, investment and international collaboration. Not only to drastically cut down greenhouse gas (GHG) emissions, but also to ensure a just transition for both developed and developing countries. In its roadmap to reach <u>net-zero emissions by 2050</u>, the IEA stressed that in order to limited global warming to 1.5 °C, global coal demand is halved by 2030 and all unabated coal and oil power plants are retired by 2040.

Commitments by countries to phase out fossil fuels were softened at the end COP26 due to opposition from major producing countries. The Glasgow Climate Pact¹ only spoke of a phase down of unabated coal. Oil and gas didn't even make it the final agreement of COP26. However, the agreement to phase-out inefficient fossil fuel subsidies is a step in the right direction as oil and gas transition is the next frontier for climate mitigation.

Energy crises in Europe is a result of wellknown oil and gas price volatility

As many economies re-opened after the Covid-19 lockdowns, gas demand and consumption rose sharply in 2021, causing skyrocketing energy prices. In Europe, natural gas prices have risen by 400% since January². The situation is worsened by gas supply shortages particularly from Russia, low renewable output, nuclear maintenance outages, and all-time high CO_2 prices in Europe.

The combination of these factors led to record-breaking electricity prices in the third quarter of 2021, which compared to the same quarter of 2020 increased 145% in all European markets, and 669% in the Nord Pool market³. The current crisis exposes the difficulty of financing renewables across the EU⁴. Policies under the EU Green Deal like the Fit for 55 package may also push CO₂ prices higher and exacerbate the crisis further.

The sooner countries move away from fossil fuels, the sooner they can exit the price volatility trap, which is particularly high for oil and gas. Oil and gas price volatility not only impacts the consumers or importing countries. Exporters who are highly dependent on fossil fuels for state revenues and foreign exchange earnings can experience fiscal crisis due to crashes in oil prices, as happened during the spring of 2020 in Russia and Nigeria.

Subsidies prevent reflecting the true cost of oil and gas

Today in every country, oil and gas are subsidised to cut down the prices paid by end-consumers, either through direct subsidies or via tax breaks. A recent analysis by the International Monetary Fund (IMF)⁵ found that the fossil fuel industry benefits from subsidies of a whopping USD 11mn every minute.

¹ <u>https://unfccc.int/sites/default/files/resource/cma3_auv_2_cover%20decision.pdf</u>

² <u>https://www.reuters.com/business/energy/bleak-house-why-europe-faces-steep-winter-energy-bills-2021-10-08/</u>

³ <u>https://aleasoft.com/increases-european-electricity-markets-prices-third-quarter-2021-energy-crisis/</u>

⁴ <u>https://oecdecoscope.blog/2021/10/22/at-the-cross-roads-of-a-low-carbon-transition-what-can-we-learn-from-the-current-energy-crisis/</u>

⁵ https://www.imf.org/en/Publications/WP/Issues/2021/09/23/Still-Not-Getting-Energy-Prices-Right-A-Global-and-Country-Update-of-Fossil-Fuel-Subsidies-466004

Figure 33 Gökçe Mete, Research Fellow at the Stockholm Environment Institute



Source: Stockholm Environment Institute

In 2020, fossil fuel prices were at least 50% below their true cost for 99% of coal, 52% of diesel and 47% of natural gas. As noted by the IMF, a global reform on cutting subsidies to fossil fuels could reduce the world's CO_2 emissions by one-third.

Fossil fuel subsidy removal has long been on the G20 agenda, but not yet translated into effective policies. As mentioned above, the need to phase-out 'inefficient fossil fuel subsidies' was also included in the final text of COP26's Glasgow Climate Pact. albeit without a firm date.

Until now, subsidies have created incentives for the continuation of oil and gas activities and deviated the attention from the true potential and value of renewables. Despite promising a green recovery, the world's major economies have spent 41% of all public money they committed to energy-producing and consuming activities on fossil fuels, compared to 37% on clean energy since 2020⁶.

As renewable energy grows, investments in fossil fuels are becoming an increasing liability

Over the last decade, the cost of electricity from solar photovoltaics fell by 82% and the costs of onshore and offshore wind decreased by 39% and 29% respectively⁷. Renewables have the economic potential to push fossil fuels out of electricity generation as quickly as 2035 and out of total energy supply by 2050⁸. The IEA's roadmap also foresees a steep decline in fossil fuel demand due to policy's focus on climate change. Their analysis suggests that unabated coal demand may decline by 98% (less than 1% of total energy use) in 2050, gas demand by 55% (to 1,750 billion cubic metres) and oil demand by 75% (to 24 million barrels per day)⁹. This indicates that those assets will soon be stranded.

Additionality, renewable energy investments are already delivering significantly higher returns than fossil fuels in several developed countries and renewable energy prices have been less volatile during the Covid-19 pandemic. Over a five-year period, returns from green energy investments in Germany and France were as high as 178.2% compared with -20.7% for fossil fuels. In the UK renewables yielded 75.4% returns compared to only 8.8% for fossil fuels. In the US, renewables generated returns of 200.3% while fossil fuels generated 97.2%¹⁰.

Those countries who take the lead will benefit the most from a managed and orderly transition. There are several social benefits from the shift to a low-carbon society alongside the economic advantages, and Petrostates are those most prone to risks from an unmanaged transition¹¹, particularly in developing countries. The longer investments in fossil fuel assets and infrastructure continue in these counties, the greater the risk of stranded assets and capital losses. International cooperation is key for these countries to leapfrog.

At COP26, 34 countries and four development institutions including the European Investment Bank and the East African Development Bank, committed to stopping public financing for fossil fuel projects abroad by the end of 2022¹², and to steer their spending into clean energy instead. This is a major step in the right direction.

⁶ <u>https://www.energypolicytracker.org/</u>

⁷ https://www.irena.org/publications/2020/Jun/Renewable-Power-Costs-in-2019

⁸ https://carbontracker.org/reports/the-skys-the-limit-solar-wind/

⁹ https://www.iea.org/reports/net-zero-by-2050

¹⁰ <u>https://www.forbes.com/sites/davidrvetter/2020/05/28/just-how-good-an-investment-is-renewable-energy-new-study-reveals-all/?sh=1678b3c4d278</u>

¹¹ <u>https://carbontracker.org/reports/petrostates-energy-transition-report/</u>

¹² https://ukcop26.org/statement-on-international-public-support-for-the-clean-energy-transition/

There is no room for disconnected oil and gas production and climate targets: Lessons from the North Sea

The energy crisis in Europe comes on top of mounting climate impacts that worsen floods or heatwaves. This highlights that there is no more room for incoherence between climate ambitions and actions.

A managed and just transition is needed from oil and gas globally. This is an unprecedented and complex task, but countries like those in the North Sea region have the greatest potential to become first movers and can play an important role in the transition. The region is home to high income oil and gas producing countries, with the right financing landscape and technological capability to transition away from fossils fuels, as well as the resources to do so while minimising social costs¹³.

SEI and Climate Strategies are leading an evidence-based programme, Oil and Gas Transitions¹⁴ – together with the University of Edinburgh, the University of Oslo and Aalborg

University – looking at opportunities, barriers and coproduced pathways for oil and gas just transitions in the UK, Norway and Denmark. These countries are expected to spearhead the transition of this sector and can offer lessons to the rest of the world. The world will be watching them closely.

Currently, only Denmark has set an end-date to oil and gas production by 2050. The decision is a result of close cooperation between the government and the industry and a widespread buy-in among key stakeholders of the society. And compared to the UK and Norway, Denmark lacks a strong national or even regional 'oil and gas identity', today¹⁵. Furthermore, measures have been put in place in Denmark to manage the unwanted socio-economic impacts of the transition, by creating economic opportunities in the first of a kind Energy Islands located in the North Sea¹⁶, and through an optimistic outlook for skills transfer in biogas, offshore wind and green hydrogen projects¹⁷.



Figure 34 Offshore drilling rigs in Scotland

Source: Jason Alden / Bloomberg Creative Photos / Getty Images

¹³ <u>https://productiongap.org/2020report/</u>

¹⁴ https://oilandgastransitions.org/

¹⁵ https://oilandgastransitions.org/wp-content/uploads/2021/11/Denmark-Oil-and-Gas-Report.pdf

¹⁶ https://ens.dk/en/our-responsibilities/wind-power/energy-islands/denmarks-energy-islands

¹⁷ https://oilandgastransitions.org/wp-content/uploads/2021/11/Denmark-Oil-and-Gas-Report.pdf

While Denmark's decision to phase out oil and gas may have been mostly motivated by economic rather than moral arguments, its leaders are outspoken about their intention to inspire other countries to follow their steps. At COP26, Denmark launched the Beyond Oil and Gas Alliance (BOGA)¹⁸ initiative alongside the government of Costa Rica, and joined by France, Greenland, Ireland, Sweden, Wales, and the Canadian province of Quebec. California and New Zealand also signed on BOGA as associate members. This is the first international coalition of countries committed to ending oil and gas production and collectively giving up on future oil and gas revenues. Nevertheless, the group still lacks major producers, including the UK and Norway in the case of the North Sea.

The UK's oil and gas reserves are in a predictable decline, and production already peaked around 2000. At the same time, the country's renewables are already outcompeting coal and gas fuelled electricity. The COP26 presidency, however, has neither taken a leadership role on ending subsidies for fossil fuels nor a decision to end future North Sea licensing rounds. Stronger cooperation between England's central government and Scotland are urgently needed to bridge the gap between high-level policy intentions and local level practical delivery¹⁹. Several policies and roadmaps were announced between 2020 and 2021, including the Levelling Up Fund, the Lifetime Skills Guarantee and the North Sea Transition Deal. However, if the Maximising Economic Recovery (MER) policy of the UK prevails, these instruments will remain insufficient in supporting one another and fall short of supporting workers and communities for achieving a just transition²⁰.

In Norway, the notion of an end to oil and gas production has been the domain of political fiction. Change here is unlikely to be quick. The oil and gas sector is a major source of Norway's national wealth and a pillar of its welfare state, and transitioning out of it will mean transforming the entire Norwegian economy²¹. Thus, opposition to an end to oil and gas exploration and production remains high. Furthermore, the political and social debate remains permeated by the "green paradox" which describes the argument made that Norway produces the cleanest oil and gas producers and less clean countries would fill the gap if the country stopped producing. At the same time, Norway is responsible for carbon leakage – claiming high renewable energy consumption nationally but exporting oil and gas emissions internationally²².

Figure 35 Event of the Oil and Gas Transitions research project at COP26



Source: Stockholm Environment Institute

¹⁸ https://beyondoilandgasalliance.com/

¹⁹ https://oilandgastransitions.org/wp-content/uploads/2021/11/UK-North-Sea-Oil-and-Gas-Report.pdf

²⁰ https://oilandgastransitions.org/wp-content/uploads/2021/11/UK-North-Sea-Oil-and-Gas-Report.pdf

²¹ https://oilandgastransitions.org/wp-content/uploads/2021/11/Norway-Oil-and-Gas-Report.pdf

²² https://oilandgastransitions.org/wp-content/uploads/2021/11/Norway-Oil-and-Gas-Report.pdf

However, the space for debate is now opening up, and pressure particularly from civil society is increasing. This was demonstrated in the face of 2021 elections, where Norway's oil rose to the top of the debate agenda as fears around the climate crisis grew among voters²³.

Public-private cooperation is needed to achieve a managed and just transition

The current energy crisis and COP26 commitments should be taken as a unique window of opportunity for policymakers, industry leaders and the financial sector to bolster and accelerate the oil and gas transition. The objective should be to effectively manage a just and timely phase out of fossil fuels.

It is important to note that oil and gas cannot be fully replaced with currently available technologies. There are not enough renewables, CCS technologies (for production of synthetic fuels for instance) or fossil free/ low-carbon hydrogen supply. Hence, public sector, companies, investors, and financial institutions should act in partnership, supported by science and research to accelerate decarbonization projects and make an impact in the real economy.

The EU's announcement to invest over EUR 1.1bn from the Innovation Fund to support breakthrough technologies in energy-intensive industries, hydrogen, carbon capture, use and storage, and renewable energy is a welcome initiative in the right direction. These projects are in some of the countries most impacted by the current energy crises Belgium, Italy, Finland, France, the Netherlands, Norway, Spain, and Sweden.

The challenge in developing countries remains largely unaddressed. Poor nations have the potential to become some of the greatest beneficiaries from a managed and orderly transition away from oil and gas, as they have the largest ratio of solar and wind potential to energy demand, but investment is lacking. Both knowledge transfer and financial support will be key for them to achieve a just transition and benefit from the promises of a 1.5 °C world.

²³ https://www.ft.com/content/1e2e6665-112b-4317-bdf5-366a915b15c6

COP26 rulebook on international carbon credits – The Good, the Bad and the Ugly

Kevin Conrad

kevin@cfrn.org

Federica Bietta

federica@cfrn.org



Coalition for Rainforest Nations

COP26 is over and there is disagreement about its successes and failures, with much of the debate around the so-called Article 6 "rulebook". Article 6 deals with how countries can "pursue voluntary cooperation in the implementation of their nationally determined contributions to allow for higher ambition in their mitigation and adaption actions..." Thus, it's rulebook will govern the international transfer of emissions reductions (carbon credits) and the creation of a new carbon crediting mechanism under the Paris Agreement. The precedents set under Article 6 should be a guide for the global carbon markets, both compliance and voluntary. Unfortunately, there was more bad than good in the decisions around Article 6, but buyers of carbon credits can overcome this by holding themselves to higher standards.

- The Good COP26 mandated corresponding adjustments for the international transfer of emissions reductions coming from the Paris Agreement's carbon crediting mechanism. Some are calling this the sustainable development mechanism, but it hasn't been formally named.
- The Bad Negotiators made three bad decisions. First, they failed to formally acknowledge in Article 6 the REDD+ Mechanism that was created in Article 5.
 Second, carbon credits created under the Kyoto Protocol's Clean Development Mechanism (CDM) can be carried over into the Paris Agreement's sustainable development mechanism. Finally, in a nice sleight of hand, the adaptation financing for developing countries will be paid for by developing countries.

 The Ugly – All of these shortfalls result from the lack of voice and respect given to lower income countries and small island states during the negotiations. These countries have not created this crisis and are already experiencing the worst outcomes but were given little or no respect.

Executive Director of The Coalition for Rainforest Nations

Managing Director of The Coalition for Rainforest Nations

COP26 sent a clear message on the double counting of internationally transferred carbon credits by requiring corresponding adjustments for the international transfer of emission reductions, when the activity (project or program) that generated them has been recognized by the country. Simply put, the host country must add the emissions reductions transferred abroad back into its NDC. This adjustment helps ensure that there is no double counting of emissions reductions. While this requirement only pertains to transfers of carbon credits from the new mechanism created under Article 6.4, best practice for purchasers of carbon credits should be to insist on a corresponding adjustment if their purchase is intended to offset their own GHG emissions. This should create a two-tiered market, credits with and without a corresponding adjustment.

It is mind numbing that COP26 devoted a half-a-day to the critical issue of preserving and restoring tropical rainforests, but failed to acknowledge in its decisions on Article 6 the critical role the UNFCCC REDD+ Mechanism can play in mobilizing finance to address deforestation. The beginning and end of COP26 were like parallel universes.

Figure 36 Some key elements of the Article 6 rulebook

- Article 6 helps define "Cooperative Approaches" between countries by recognizing that
 - Parties may "choose to pursue voluntary cooperation cooperation in the implementation of their nationally determined contributions to allow for higher ambition in their mitigation and adaptation actions"
- 6.2 Governs the use of Internationally Transferred Mitigation Outcomes (ITMOS) between Parties (Countries) to help achieve their NDCs and the must
 - a corresponding adjustment
 - represent mitigation from 2021 onwards
- 6.4 Creates a new carbon crediting mechanism to replace Clean Development Mechanism
 - · Activities and projects must be approved by host country
 - Requires corresponding adjustments
 - Allows for the use of CDM credits with vintages as old as 2013
 - Share of Proceeds to pay for adaptation comes from countries putting 5% of the emissions reductions into an Adaptation Fund

Source: Coalition of Rainforest Nations

The public and private sector committed \$19.2 billion over multiple years to address deforestation. They must realize that this amount doesn't come close to meeting the funding needed to make rainforests worth more alive than dead. If properly supported, the REDD+ Mechanism can help fill this gap. The measurement, reporting and verification requirements for the REDD+ Mechanism were spelled out by 21 decisions at COP meetings and it was then enshrined into Article 5 of the Paris Agreement. The UNFCCC REDD+ Mechanism is designed to preserve and restore rainforests across an entire country and should not be confused with individual projects labelled REDD that are issued from the VERRA standard. As a national program, it can provide the scale needed and addresses and the issue of leakage of deforestation out of a project's area to other locations within a country. Additionally, the mechanism employs actual historical emissions to calculate the baseline against which emission reductions are measured. This is opposed to REDD projects that the use counter-factual estimates that in many cases show ever increasing emissions. Preventing possible emissions based upon a counter-factual baseline won't end deforestation and makes a sham of them being used as carbon offsets.

It was agreed upon that 5% of carbon credits issued under the new Article 6.4 mechanism will be put into an Adaptation Fund. This so-called "Share of Proceeds" effectively makes developing countries self-finance their adaptation and is another sign of how developed countries continue to fail in their promises of providing aid to those countries most impacted by the changing climate. Developing countries will effectively be sharing what is already theirs. Allowing for the potential transfer of legacy carbon credits from the Clean Development Mechanism from vintages as early as 2013 was a clear mistake. CDM was created under the Kyoto Protocol, which is superseded by the Paris Agreement. The environmental integrity of these credits is questionable at best and many deem them to have created little or no impact on emissions. Additionally, some estimates believe as many as 300 million credits could be transferred. While there has been much talk about the growth in final demand for carbon credits, the retirements are likely to remain under 150 million in 2021. Finally, it makes little sense for entities to use carbon credits coming from emissions reductions that supposedly occurred eight years ago to offset today's emissions. With that approach, we can never get to a net-zero world. A reasonable outcome would be to allow vintages 3 to 4 years old, with that shrinking as measurement, reporting and verification methods improve.

Many of the shortcomings at COP26 resulted from the failure to hear the collective voice of lower income economies and small island countries. These countries did not cause the problem and are already experiencing the worst impacts of climate change. The power of the larger, and in many cases, wealthier "developing" countries such as China, Brazil, and India, which are the largest issuers of CDM credits, drowned out the voices of the African Congo, Caribbean, and Pacific Island states. This was clearly the case with non-acknowledgement of REDD+, limited additional adaptation finance and agreement to transfer CDM into the Paris Agreement mechanism.



Figure 37 Saving Rainforests: A must for the future



Source: IPCC, WWF and Coalition of Rainforest Nations

What should buyers of carbon credits do post COP26? Amplify the good decisions and don't use the bad outcomes as an excuse to purchase low quality carbon credits. Thus:

- Only purchase carbon credits from independent standards that require a corresponding adjustment.
- Help fulfil vision of COP26 of ending deforestation by 2030 but focus on carbon credits that are fully compliant with all elements of the Paris Agreement.
- Refuse to purchase any CDM credits transferred into the Paris era carbon markets.

Following these rules can ensure that they are having a real and measurable impact on the battle for 1.5° .

Interview with LKAB, SSAB and Volvo Cars on value chain transition



LKAB: Grete Solvang Stoltz Senior Vice President HR and Sustainable development grete.solvang.stoltz@lkab.com

SSAB: Christina Friborg christina.friborg@ssab.com

Volvo Cars: Christina Zander christina.zander@volvocars.com

A transition to a zero-emission value chain will only work if it is synchronized across whole chain.

If we consider EVs, for instance, successful transition will require that everything from zero-emission primary energy through sustainable materials to chargers and electric engines are ready at the same time. If one component is missing, the transition is likely to stall. Regulators understand this and will also require reporting on lifecycle emissions for the whole value chain.

As a result, transition is likely to involve what we call 'virtual vertical integration' or collaboration between independent companies on a common project. One of the first attempts at creating such a fossil-free supply chain has come from LKAB, Vattenfall, SSAB and Volvo Cars – a value chain collaboration stretching from the mining of primary metals to the car on the road.

Electric vehicles are obviously a key part of the decarbonization process. Traditional vehicles powered by combustion engines have a big direct carbon footprint. However, from a supply chain perspective, EVs also have challenges. For an EV, the emissions from producing the vehicle are around 70% higher²⁴. To make EVs truly green, you need to clean up the inputs too. The steel industry constitutes around 7% of all CO_2 emissions globally and the emissions are a direct product of burning coal and coke in the blast furnaces process²⁵. Steel is used in every part of the society and the demand is rising. A significant part of production emissions from new vehicles come from production of steel and iron.

In 2016, SSAB initiated the HYBRIT-project together with LKAB and Vattenfall, an initiative that aims to revolutionize steelmaking, building on sustainability roots that go further back in time. Using HYBRIT technology, SSAB aims to replace coking coal, traditionally needed for ore-based steelmaking, with fossil-free electricity and hydrogen. LKAB will supply iron ore mined with zero-emission technology and Vattenfall will supply both collaborators with electricity.

The result will be the world's first fossil-free steelmaking technology, with virtually no carbon footprint. Back in June 2021 Volvo Cars teamed up with SSAB to jointly explore fossil-free steel for use in the automotive industry. To get a better understanding of the challenges involved, we conducted interviews with some of the key actors in the collaboration and asked them about their motivation and ambitions.

²⁴ <u>https://www.media.volvocars.com/global/en-gb/media/pressreleases/289951/volvo-cars-calls-for-more-clean-energy-investment-to-realise-full-climate-potential-of-electric-cars</u>

²⁵ https://www.ssab.com/fossil-free-steel/faqs-the-big-questions-answered

Interview with LKAB

Why was it important for LKAB to be leader in decarbonization and is this part of a broader journey towards sustainability? How did this start?

Innovation and technical advances have been the basis for our business for a very long time and our approach has always been to look at the whole value chain – not just at our own benefit. Metals and minerals are vital to almost every part of our society – from infrastructure to mobile phones. You cannot have a carbon-free world without carbon-free metal and minerals, so it is only natural for us to drive this change.

From a business perspective, do you think zero emission mining will be a competitive edge? Will customers pay a premium?

When fully implemented, our transition will enable LKAB's customers around the world to reduce their carbon emissions collectively by more than 35 million tons every year. We are in no doubt that the market initially will be willing to pay a price premium. But over time, carbon-free will become the new normal and the premium element will disappear. That is why we put such emphasis on scale and productivity in designing this. We are not taking gradual steps or looking at just one part of our operations, we are engineering what our entire system will look like 20-25 years from now.

LKAB is a part of a broader alliance to decarbonize the value chain. How important is it that you have partners that can commit to purchasing zero emission output upfront?

If we want to continue to be a profitable and competitive company in the future, with both social and environmental license to operate, we need to address these issues and continue the journey to future-proof our business. There is no other way. Even though we're already the most climate efficient company in our business, more needs to be done. But we cannot do this alone, we depend on our customers and our suppliers just as they depend on us. The road to zero-emission will not be possible if we do not partner up and address the challenge and the opportunities together. So, our alliances are extremely important to us and for decarbonization as a goal.

There is a lot of debate among investors whether sacrificing return is needed for sustainability. In your view, will transitioning to become a more sustainable company involve a lower return on capital?

Our returns depend on our ability to stay competitive. That means providing products with clear customer benefits, increasing our productivity, and broadening our business by looking at opportunities to increase resource-efficiency along the value chain. For us, sustainability is not a tradeoff, it is business strategic.

Zero emission mining is a radical concept. Did LKAB as a whole have to reset the priorities or is disruptive innovation part of the DNA?

We have a proud history of radical concepts. From the creation of a railroad to completely new methods of mining underground, and the development iron ore pellets. Our journey to carbon-free represents our most comprehensive transformation yet, but we are fully committed.

What has been the biggest challenge in this journey? Cost, investor perceptions, financing, finding buyers?

We are facing the greatest transformation in LKAB's 130year history. There are numerous challenges along the way. We are facing substantial investments in the coming 15-20 years, so financing is obviously a key issue. A prerequisite is that we stay competitive in our current business and production structure as well as the future one, but also that we continue to attract external investors. But the biggest challenge we envision is time and acceptance for all the permits needed for the whole value-chain. From new wind-power to grid connections to environmental permits for mines and all the new processing plants together with the people and competence to make it all happen without too much delay.

Is the access to sustainable financing an important factor for LKAB? Do you think it will play a bigger role in the coming years?

The transformation that we are part of driving requires significant investments, and being able to influence how capital is used by giving investors the opportunity to join us on our journey goes hand in hand with our way of considering the value-chain as a whole.

Interview with SSAB

Why was it important for SSAB to participate in this collaboration and what exactly does "the company" expect to achieve from being the leader in this process?

SSAB's sustainability journey started in 2016. SSAB is the biggest emitter in Sweden with 10% of total emissions and 7% in Finland. Steel production from iron ore has until now required significant input of coal for heating. It is possible to produce steel with lower emissions from scrap, but the demand for steel is much higher than the availability of scrap: still 75% of the steel demand that needs to be produced by iron ore. So SSAB have modernized production facilities and made iron ore-based production as CO_2 efficient and effective as possible. Comparing SSAB emissions with the average in Europe, our emissions are 6% lower. Compared with other regions, the gap becomes higher.

However, even this best practice still emits around 1.6 tons of CO_2 for every ton of steel. We felt this was not ambitious enough and wanted to understand if there was another way of doing it. Looking at direct reduction techniques that had been used before, we started experimenting to see whether natural gas could be replaced by hydrogen – effectively replacing CO2 with H20 emissions. And the more we experimented, the more it looked like it could be done in practice.

Transforming a steel company is not only about removing carbon but there are many other dimensions.

Why is it a collaboration across the value chain

Transforming a steel company is not only regarding the removing carbon but there is a lot of other dimensions.

For SSAB the blast furnaces are the key issue. Changing from coal to hydrogen cuts emissions significantly, but in order to produce fossil-free steel, the input needs to be fossil free as well. So we reached out to LKAB that supplies iron ore and Vattenfall that supplies energy and the three companies formed HYBRIT.

From a business perspective, do you think this will be a competitive edge?

This started as a reputational initiative but is now a question of the survival of the business: this is a "transformation project" and we ALL have to be on board. Peers reacted and now rushing towards the same goal once SSAB could show pilot plant was working.

When it comes to the required investments, our current facilities will need replacement sooner or later independent of their carbon emission. So the investment in fossil free steel should be seen in the light of the general investment in steel production. A continuous capital replacement limits the large implementation costs.

Will it be more costly to use zero-emission steel?

It ultimately depends on the cost of emitting CO₂. For every ton of steel, we produce, on average we emit 1.3 million tons – including our US operations using scrap as input. This would be terribly expensive if the cost of emissions went up. ETS prices will determine this.

It is also likely that buyers are willing to pay a bit more as this is a premium product with a limited supply. Initially there will likely be more costumers/interest than supply as we only have one pilot plant.

Interview with Volvo Cars

Why was it important for Volvo Cars to secure delivery of zero-emission steel and what do you expect to achieve from being a leader in this process?

Sustainability has been in Volvo Cars DNA for a long time. It has been a core value since 1970's and is a good fit with our company brand. Some years ago, we set ourselves the ambition to of becoming a climate neutral company by 2040, and we have been very adamant on setting ambitious and tangible targets for 2025 to guide us on the first part of the journey. We are in the deciding decade to steer things in the right direction.

The first step was to focus on emissions in our company's own operations and the next has been to focus on the tailpipe emissions of our cars. As a result, we are in the progress of moving to a fully electric range of vehicles. By 2025 we aim for half our sales to be fully electric vehicles and the other half hybrids. By 2030 we aim to be a fully electric car company.

What are the main challenges that remain after the shift to EVs?

Eliminating tailpipe emissions will remove around 75% of the total carbon footprint of our cars, but 25% of the emissions will happen in other parts of the supply chain. After the shift to an EV range, this is the biggest remaining challenge.

The collaboration with SSAB is about how we create the best possible supply base that can support us. We all share the same view of the world and the need to address the climate emergency.

We need to make a life-cycle assessment of the car covering the entire value chain. We focus on three areas due to their impact on the carbon footprint in the supply chain.

- 1. Batteries: We see a great total transition based on the fact that using renewable energy addresses the tailpipe side. The tailpipe is where the bulk of the emissions from an internal combustion engine is generated. While batteries help eliminate these emissions, the production phase is more CO_2 intense due to the batteries and that needs to be addressed. We need a clear strategy to limit this CO_2 footprint.
- 2. Aluminum: We want to address it by using aluminum produced with lower CO₂ intensity.
- Steel: Steel is a big piece of the car in terms of the weight. We want to address this together with the suppliers (one of which is SSAB in the HYBRIT project). Ensuring access to technological shift.

Do you imagine there will be a shortage of low emission steel and aluminium in the beginning or do you expect production to vamp up quickly?

We must look at the overall picture. Within automotive we are keen to make that transition as quickly as possible, but we also have to ensure that quality and qualifications are in place. Scaling production of zero-emission steel will take time and that's why it makes sense to plan years ahead. Initially, demand may well exceed supply.

From a business perspective, do you think this will be a competitive edge? Will car buyers pay for having zero-emission cars?

There is definitely a consumer demand for vehicles that are truly consistent with the move to a sustainable economy and there is also regulatory pressure that push in the same direction. From that perspective it makes sense to pursue a strategy that looks beyond the direct tailpipe emissions.

There is a lot of debate among investors whether you must sacrifice returns in a 'green' portfolio. In your view, will the focus on sustainability involve a lower return on capital? We do not see this as an either/or scenario. The motivation combines our product strategy, our values and our views of the world, and we are working with suppliers to meet higher criteria on cost, quality and technological advantage.

The Green Bond Editorial Team

Thomas Thygesen Head of Strategy, Head of Research Climate & Sustainable Finance thomas.thygesen@seb.dk

Elizabeth Mathiesen Senior Strategist Equity Strategy Research elizabeth.mathiesen@seb.dk

Gregor Vulturius, PhD Advisor Climate & Sustainable Finance <u>gregor.vulturius@seb.se</u>

Lina Apsheva Analyst Climate & Sustainable Finance <u>lina.apsheva@seb.se</u> Tine Vist Quantitative Strategist Equity Strategy Research tine.vist@seb.dk

Lene Boe Nielsen Quantitative Strategist Equity Strategy Research lene.boe@seb.dk

Filip Carlsson Junior Quantitative Strategist Macro & FICC Research filip.carlsson@seb.se

Contacts at SEB

Hans Beyer Chief Sustainability Officer of SEB hans.beyer@seb.se

Christopher Flensborg Head Climate & Sustainable Finance christopher.flensborg@seb.se

SEB Norway: Ben Powell Head Climate & Sustainable Finance in Norway benjamin.powell@seb.no

SEB Finland: Anssi Kiviniemi Head of Sustainability in Finland anssi.kiviniemi@seb.fi

SEB Germany: Alexandra Themistocli Head of Sustainable Banking in Germany alexandra.themistocli@seb.de

SEB UK: Renato Beltran Client Executive, LC&FI renato.beltran@seb.co.uk

SEB Hong Kong: Carol Au-Yeung Client Executive, Financial Institutions Coverage carol.au.yeung@seb.se

SEB Singapore: Eng Kiat Ong Financial Institution Coverage Singapore eng-kiat.ong@seb.se The Climate & Sustainable Finance Team greenbonds@seb.se

SEB Denmark: Lars Eibeholm Head of Sustainable Banking in Denmark lars.eibeholm@seb.dk

SEB USA: John Arne Wang General Manager john.wang@sebny.com

SEB Baltics: Aušra Šamšonienė Sustainability Officer, Baltics ausra.samsoniene@seb.lt

Viktors Toropovs Sustainability Officer in Latvia viktors.toropovs@seb.lv

Audrius Rutkauskas Sustainability Officer in Lithuania audrius.rutkauskas@seb.lt

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