SustainaWeekly

The coming global boom in solar and wind

- **Economist:** **Wind and solar combined reached 10.5% of global power generation last year. Indeed, solar and wind contributed 75% of the global new power generation capacity installed. Growth is expected to even accelerate further during the coming years given policy initiatives in China, the US and Europe.**

- **Strategist:** **With the growing importance of ESG, we take a closer look whether indeed investors are incorporating ESG considerations into investment strategies. We show that while the majority of investors incorporate ESG, that is not true when looking at assets under management.**

- **ESG in figures:** **In a regular section of our weekly, we present a chart book on some of the key indicators for ESG financing and the energy transition.**

In this week's SustainaWeekly, we start by looking into recent global trends in power generation, while assessing the outlook for the coming years. Solar and wind contributed 75% of the global new power generation capacity installed last year. Looking ahead, we judge that these trends will not only continue, but will likely accelerate given important policy initiatives in China, the US and the EU. Indeed, Europe's need to become independent from fossil fuel imports from Russia has made politicians and businesses even more convinced about the need for further investments in renewable energy sources. We go on to take a closer look at whether investors are incorporating ESG considerations into investment strategies. We show that while the majority of investors incorporate ESG, that is not true when looking at assets under management, implying that a lot of funds within an asset manager do not integrate their own ESG assessment frameworks. This could be due to the passive approach of some funds, which makes ESG integration potentially harder.

Enjoy the read and, as always, let us know if you have any feedback!

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Solar and wind: steady growth so far and there is more to come

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- **Wind and solar combined reached 10.5% of global power generation**
- **Solar and wind contributed 75% of the global new power generation capacity installed in 2021**
- **Growth is expected to even accelerate further during the coming years**

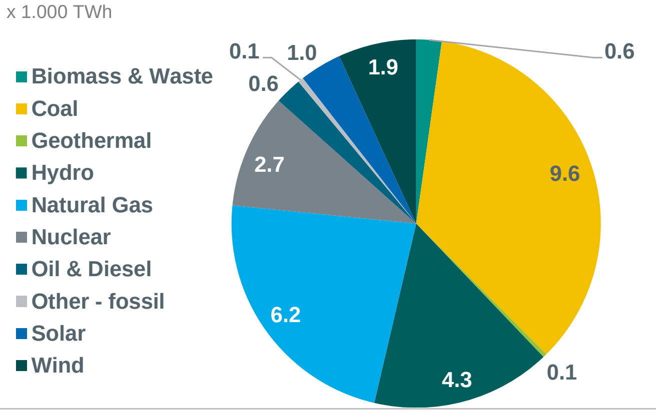
Several weeks ago, we wrote about the implications of the war on the energy transition. We showed that the impact could be a negative in the near term but that we expect a positive effect in the medium term. The partial replacement of gas with coal triggered more carbon emissions in the near term. A trend which was not only noted within Europe but also in other regions like Asia. However, Europe's dependence on Russia for fossil fuel imports also made politicians and businesses even more convinced about the need for further investments in renewable energy sources. In this article we look into global trends in power generation.

Solar and wind growing rapidly

In 2021 around 27.300 TWh of power was produced globally. With this rise in global power generation, the trend of the last decade has picked up again after the temporary pause in growth in the 2020 COVID-19 year. By far the biggest growth in power generation was seen in China, followed by other Asian countries. China alone is now responsible for 30% of global electricity generation. This does not come as a surprise as also half of global electricity demand comes from Asia.

The share of coal in the mix has declined to 35% from around 40% a decade ago. But recent developments have halted this trend. In fact, the contribution to the electricity mix of coal and natural gas remained relatively stable in the last three years (respectively 35% and 23%). A trend that has continued is the rise of renewable energy, especially solar and wind. In 2021, with a level of nearly 3.000 TWh, wind and solar accounted for a combined 10.5% of the global power generation according to a Bloomberg New Energy Finance (BNEF) trend report.

Global power generation by technology in 2021



Source: BNEF

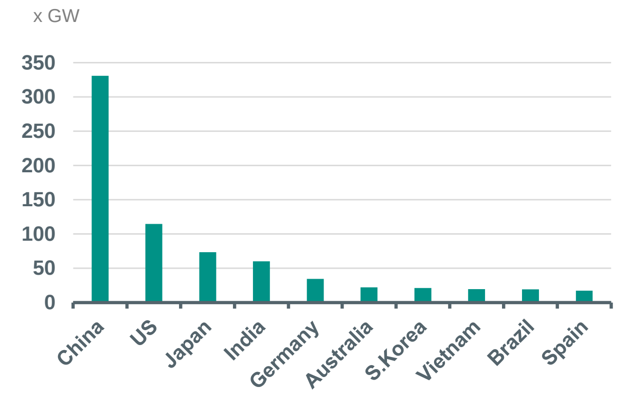
Solar and wind are getting traction in more and more countries

Global power generating capacity has grown rapidly in recent years. In 2021, total global installed capacity has reached a new record high of 7.9 TW (BNEF). This is almost twice as much as 15 years earlier (4 TW in 2006). Although the majority of solar power generation was still in a selective number of countries, more and more growth is noted in other countries too. While a decade ago, most solar production was seen in developed countries, emerging markets – especially in Asia – have picked up in growth. In fact, the biggest solar capacity producers currently are Asian: China (33% of global capacity), Japan (9%) and India (7%). From outside of Asia, only the US (11%) is able to join in this group of solar leaders. Nevertheless, there is a strong growth visible in the number of countries, which install more than 1 MW of solar energy per year. In 2021, 112 countries had installed more than 1 MW of solar, compared to 55 countries in 2012.

China is also dominant in capacity additions in wind power generation (+270 GW in the last 10 years). The US (+92 GW) and Germany (+35 GW) are following, but these countries do not even come close to the additions recorded in China. It also became clear again that wind installations are concentrated in a small number of countries. As a result, almost 90% of the wind capacity is located in just 10 countries. Unlike with solar, the number of countries with more than 1 MW of installed wind capacity per year rose only marginally.

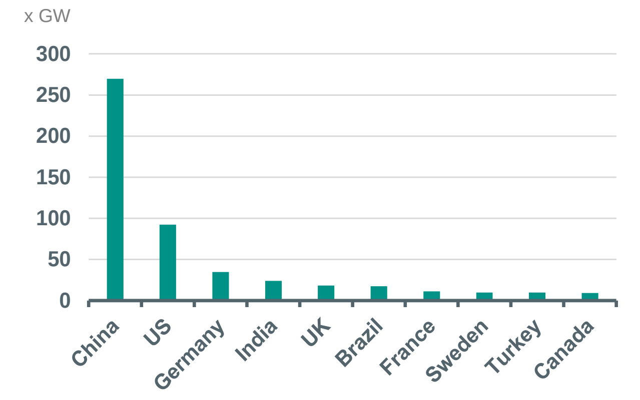
Of the new power generating capacity installed in 2021 (> 300 GW), 75% was added by solar (50%) and wind (25%). According to estimates from SolarPower Europe, the combined installed capacity of solar and wind was even more than 80%. Hydro, another renewable energy source, also added another 7% to the total percentage of newly capacity installed. Coal (4%) and natural gas (11%) were just a fraction of the additions seen a decade ago (combined 50% at a minimum), although it was 25% of the capacity additions in emerging markets.

Top 10 solar capacity additions (2012-2021)



Source: BNEF

Top 10 wind capacity additions (2012-2021)

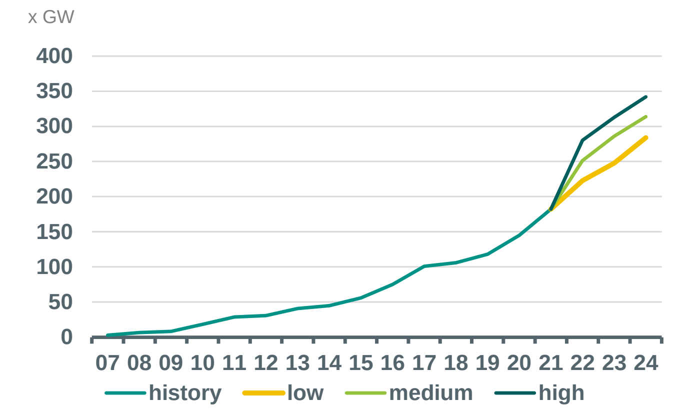


Source: BNEF

Growth expected to accelerate even further in the coming years

The installed capacity of solar PV increased again by around 20% in 2021, similar to the growth in 2020 according to SolarPower Europe. This brings the installed capacity of solar at 167.8 GW in 2021. For PV growth during the coming years, BNEF provides three scenario's (see graph below). In the low case, the current growth of global PV new build will continue to grow at a similar pace. However, in a high case, a strong acceleration can be expected in the coming years. With European politicians searching for the Russian gas dependence (see article in the ***Sustainaweekly*** of 10 October) and other global policy initiatives, we judge that the investments in solar and will get an extra boost, which makes the medium or even the high case more likely. In the mid-scenario, BNEF expects new-build PV to rise to 460 GW annually in 2030.

Global PV new build



Source: BNEF

For wind energy, a similar picture can be drawn. BNEF expects the cumulative installations to grow from 53 GW in 2021 to 504GW in 2035. Also here, China will play the biggest role. But the UK, the US and Germany will follow. The Netherlands is expect to follow at 6th place with regards to the biggest investors in wind energy. Such an accelerated growth is necessary to keep track with the Net Zero Scenarios of the International Energy Agency (IEA). In order to reach net zero emissions, 7.900 GW of installed wind capacity is necessary in 2030, versus 1.870 GW in 2021. Although more than 90% of the current global capacity is onshore at this moment, the biggest growth can be expected for offshore wind. On top of that, especially after 2030, the number of projects in floating wind is also expected to pick up. This should lead to a cumulative 5.9 GW by 2030 and 25.2 GW in 2035.

All in all, policy support is still the biggest driver for investments in renewables, even though direct subsidies in some countries have dropped significantly. Support is not only seen here in Europe, where the EU Fit-for-55 and the RePowerEU plans stimulate more investments in renewable energy. But also in the Chinese Five-Year Plan (June 2022) and the US Inflation Reduction Act (August 2022), ambitions for large investments in renewable energy were set out. These ambitions make us believe that the acceleration of the build of renewable energy sources – mainly solar and wind – will not run out of steam in the coming years.

Majority of funds do not incorporate ESG into investment decisions

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- **With the growing importance of ESG, we take a closer look whether indeed investors are incorporating ESG considerations into investment strategies and if yes, how**
- **We show that while the majority of investors incorporate ESG, that is not true when looking at Assets under Management (AuM), implying that a lot of funds within an asset manager do not integrate their own ESG assessment frameworks**
- **This could be due to the passive approach of some funds, which makes ESG integration potentially harder**
- **While also fear that returns will be hampered could be seen as a potential reason, we do not believe this is in reality in a fact**
- **For investors that incorporate ESG, the most common strategies are ESG integration and stewardship**
- **We also see a growing number of investors focused on the decarbonization pathway of their portfolios**

Do investors incorporate ESG into investment decisions?

A recent survey by global data provider FTSE Russell (see here) indicates that 88% of the asset owners implement sustainable investment strategies. That is a whooping 35 percentage points increase compared to 2018. That is in line with another finding of the survey, that shows that investors see climate issues now as “business as usual”: all respondents have indicated that they are concerned with the investment impact of climate risks into their portfolios. One might therefore say that ESG is now a “must” input when assessing investment decisions, but that might not necessarily be the case.

Another survey by Morningstar, the financial services firm that provides research on firm behaviour, shows that actually when it comes to assets under management (AuM), the story is a bit different. The firm concludes that most investors (71%) indicate that less than half of their organization’s total AuM takes into account ESG considerations (see here). That is despite the fact that 85% have said that they see ESG as material (risk) to their overall portfolio, with also around 50% saying it is “very material”.

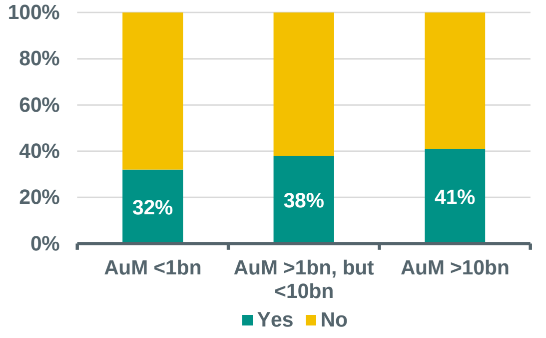
That allows us to conclude the following: while investors see ESG as a key risk to their portfolio, and have themselves either developed or adopted strategies to integrate ESG into investment decisions, not all of their funds (in fact actually, a majority of their AuM) is not following them.

One potential explanation for this could be due to the fact that a big chunk of the investors’ funds are usually placed in more passive strategies, such as index tracking. And indeed, around 60% of the largest global investors (that is, with AuM above USD 10bn) seem to have more than a fifth of their portfolio allocated to index strategies. Looking at passive investments in general, this figure can be even higher, with for example around 30% of AuM of mutual funds allocated to passive investments according to PwC. It is harder to incorporate ESG in passive strategies, as funds are usually committed to follow a certain benchmark, which may or may not be ESG-focused. Hence, even though an investor might have developed an ESG framework internally, it may not be applicable for its passive investments.

We use ETFs as proxy for passive investments as the majority tends to be have a passive strategy (around 95-98% of US ETFs are labelled as “passive”, see here) and based on that, we try to estimate how many of those follow an ESG strategy. From the Fixed Income ETFs in Europe that fall under the Sustainable Finance Disclosure Regulation (SFDR), only around 30% has been classified as either Article 8 or 9 (light or dark green funds, respectively). That compares to around 45% of all non-ETFs Fixed Income funds out there. Looking at AuM makes that share even smaller, with only around 15% of the ETF’s AuM being to some extent focused on ESG.

Most of investors' AuM do not incorporate ESG into investment decisions…

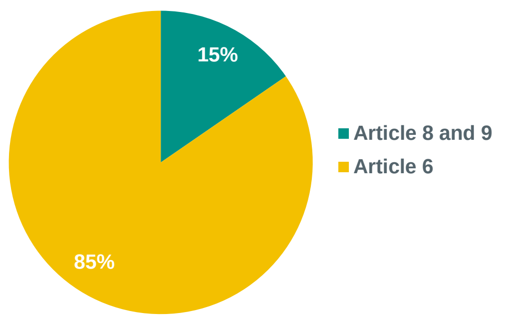
Do you take into account ESG conditions when investing?



Source: Morningstar

…Which could be due to the challenge of incorporating ESG into passive strategies

ETFs share by Assets under Management (AuM)



Source: Bloomberg, ABN AMRO Group Economics. Note: Article classification as per Sustainable Finance Disclosure Regulation (SFDR).ETFs with asset focus on Fixed Income.

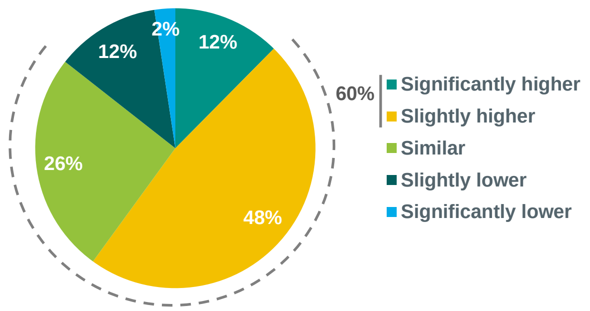
Morningstar also sees the (negative) impact on returns as one of the reasons of why ESG strategies are not being pursued, with almost 40% of investors citing this as one of the barriers to ESG implementation. This could therefore be another reason of why ESG strategies appear not to being applied to all of an investor's funds. The same survey finds that 16% of investors also see their organizations' approach to ESG as hampering financial returns.

We have previously argued (see **here**) that while ESG-friendly companies might at the moment fail to deliver good returns, ESG strategies tend to outperform in the long-term. We have also previously shown (see **here**) that companies with better ESG credentials (proxied by the Sustainalytics ESG risk rating) have a statistically significant effect on corporate bond pricing, i.e. better ESG credentials result in lower credit spreads. But is that also the case in practice?

A PwC survey (see **here**) has shown that 60% of investors said they record higher returns on their ESG investments compared to non-ESG ones, and only 14% mentioned they actually had a negative impact on returns. Also more than half has mentioned it took less than 3 years for these better returns to materialize. We therefore do not believe that the perceived negative impact on returns should be seen as a real barrier to implement ESG strategies. While investments returns may be impacted by market nuisances in the short-term, in the long-term, those tend to yield better returns.

ESG investments yield better returns in the long-term

ESG investments have yielded _____ returns in comparison to their non-ESG equivalents.



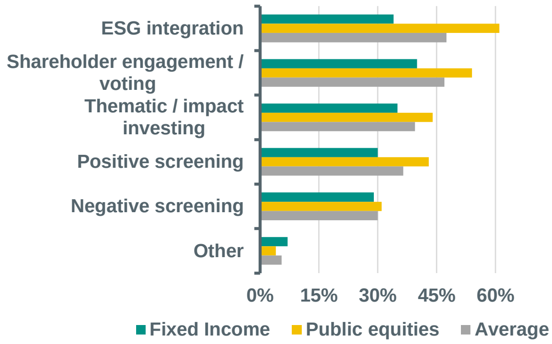
Source: PwC

How is ESG being incorporated into investment decisions?

We now take a closer look at how investors are currently integrating ESG into investment decisions. The FTSE Russell survey indicates that for Fixed Income investors, the most common ESG strategies pursued are (i) stewardship (40%), which involves actively engaging with the company in order to drive positive changes related to ESG, and (ii) the thematic / impact investing (35%). Within equities, however, most investors integrate ESG in the form of (i) ESG integration (61%), which involves incorporating material ESG factors (risks and opportunities) that are likely to affect a company's operation and performance into traditional fundamental analysis, and (ii) stewardship (54%). Overall, therefore, we can say that on average the mostly used strategies are ESG integration and stewardship.

Most investors use ESG integration or stewardship

How are you implementing or considering implementing sustainable investment in active equity and fixed income allocations? (multi-pick)



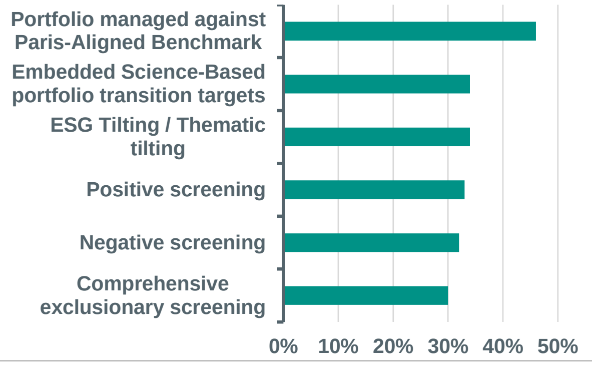
Source: FTSE Russell

The same survey also shows that only 24% of investors currently include climate/sustainability factors into their Strategic Asset Allocation (SAA) models or frameworks (although 44% mentions they are currently considering internally how to do so). The survey also shows that only 4% says they do not incorporate sustainability within SAA models / frameworks, but are also not working on doing so, and that is compared to 24% last year. Therefore, clearly ESG incorporation has been spreading over the years.

Interestingly, a survey by State Street Global Advisors (see here) has shown that most of the investors (46%) manage portfolios against Paris-Aligned Benchmarks. That is, they have a clear focus on the climate / carbon footprint of their portfolios and aim to decarbonize them at a pace aligned with the Paris Agreement. The use of science-based transition targets for the portfolio are also mentioned to be used by 34% of the respondents. This aligns well with findings from our own survey (see here), which shows that investors are increasingly taking into account decarbonization pathways and/or targets from issuers when analysing ESG instruments.

Several investors have strategies focused on the decarbonization of their portfolios…

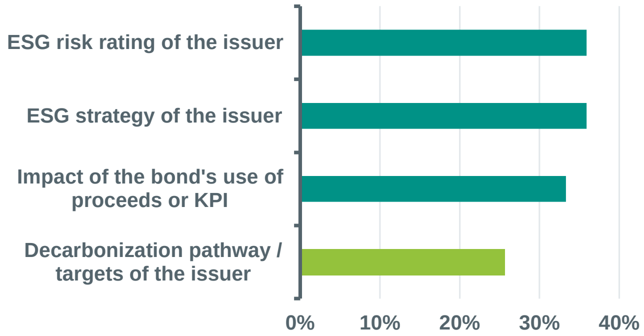
If you are currently incorporating ESG considerations in your fixed income portfolio, which approaches are you using? (multi-pick)



Source: Morningstar

…Which aligns with investors increasing focus on issuers' decarbonization pathways

When analysing ESG instruments, which of the following criteria would you judge as most relevant? (multi-pick)



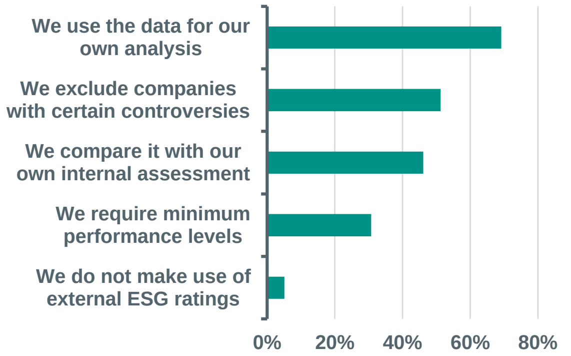
Source: ABN AMRO Group Economics

In terms of data used for ESG incorporation, Morningstar's survey shows that most of the respondents use proxy advisors (32%), which matches with the fact that a lot of investors use stewardship as ESG strategies. However, the survey also shows that investors use ESG data providers (29%), investment consultants (28%) and ESG rating providers (28%). These can be applied for either screening policies (for example, by directly excluding a company that does not satisfy a certain

ESG risk rating) or for ESG integration, where the data provided by external sources can be, for example, integrated into materiality assessment and/or ESG scorecards. We think the latter is usually the case, not only because we previously demonstrated that ESG integration is more frequently used than screening as an investment strategy, but also because our own survey has previously indicated that the majority of investors use ESG risk ratings for their own analysis, rather than as a "blind" input.

ESG risk ratings are often used as input for ESG integration strategies

How does your organization use external ESG ratings? (multi-pick)

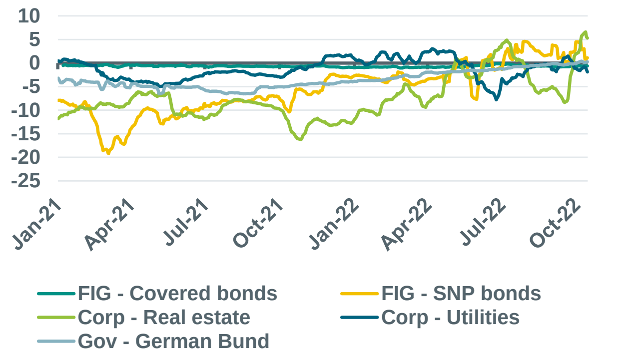


Source: ABN AMRO Group Economics

ESG in figures

ABN AMRO Secondary Greenium Indicator

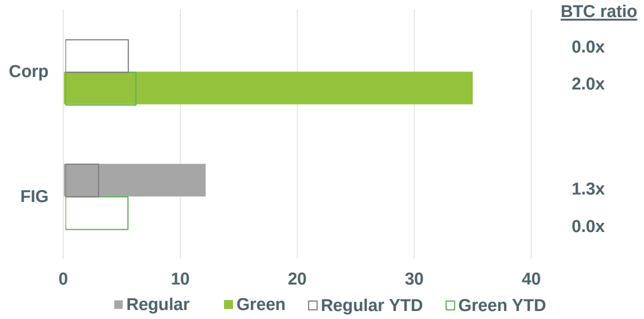
Delta (green I-spread – regular I-spread)



Note: Secondary Greenium indicator for Corp and FIG considers at least five pairs of bonds from the same issuer and same maturity year (except for Corp real estate, where only 3 pairs were identified). German Bund takes into account the 2030s and 2031s green and regular bonds. Delta refers to the 5-day moving average between green and regular I-spread. Source: Bloomberg, ABN AMRO Group Economics

ABN AMRO Weekly Primary Greenium Indicator

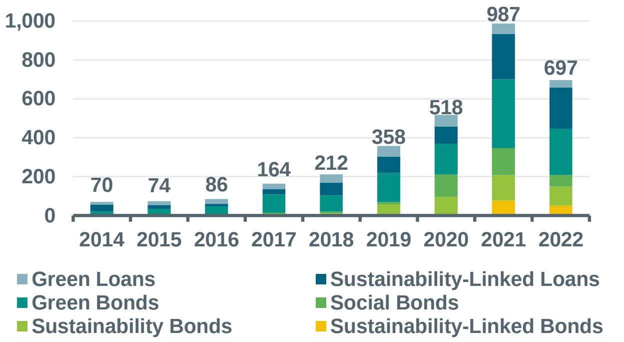
NIP in bps



Note: Data until 21-10-22. BTC = Bid-to-cover orderbook ratio. Source: Bloomberg, ABN AMRO Group Economics.

Sustainable debt market overview

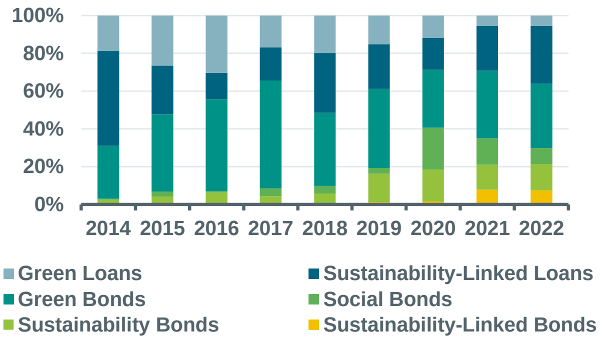
EUR bn



Source: Bloomberg, ABN AMRO Group Economics

Breakdown of sustainable debt by type

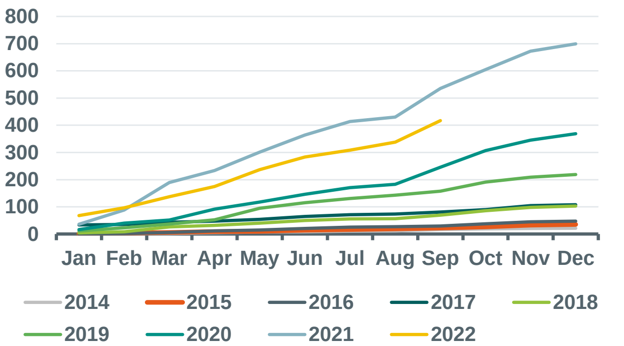
% of total



Source: Bloomberg, ABN AMRO Group Economics

YTD ESG bond issuance

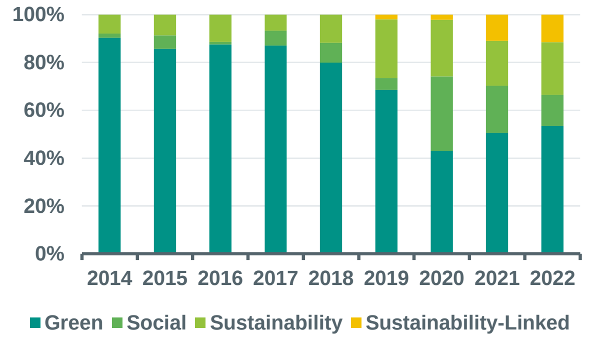
EUR bn



Source: Bloomberg, ABN AMRO Group Economics

Breakdown of ESG bond issuance by type

% of total

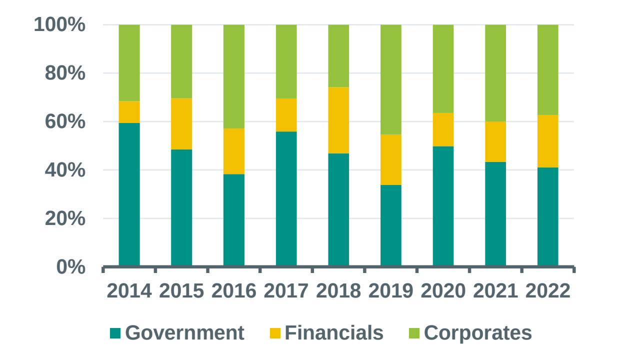


Source: Bloomberg, ABN AMRO Group Economics

Figures hereby presented take into account only issuances larger than EUR 250m and in the following currencies: EUR, USD and GBP.

Breakdown of ESG bond issuance by sector

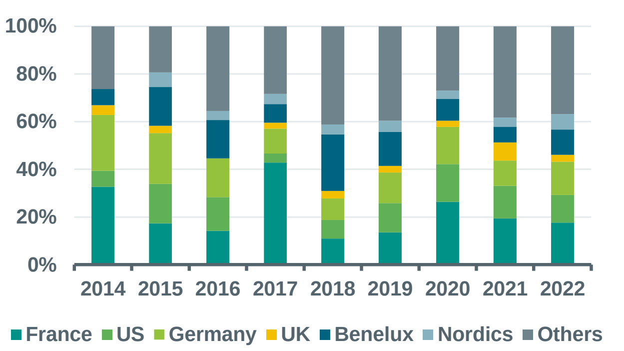
% of total



Source: Bloomberg, ABN AMRO Group Economics

Breakdown of ESG bond issuance by country

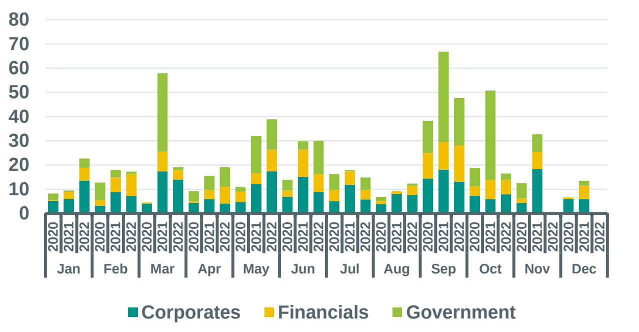
% of total



Source: Bloomberg, ABN AMRO Group Economics

Monthly Green Bonds issuance by sector

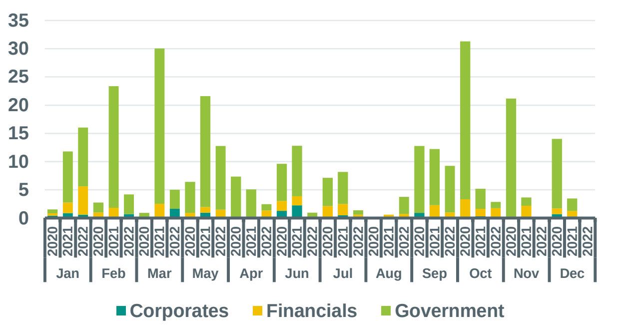
EUR bn



Source: Bloomberg, ABN AMRO Group Economics

Monthly Social Bonds issuance by sector

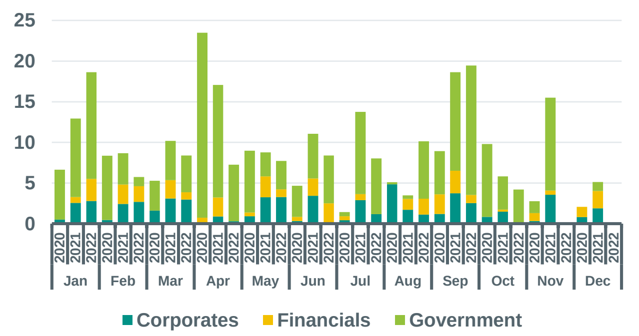
EUR bn



Source: Bloomberg, ABN AMRO Group Economics

Monthly Sustainability Bonds issuance by sector

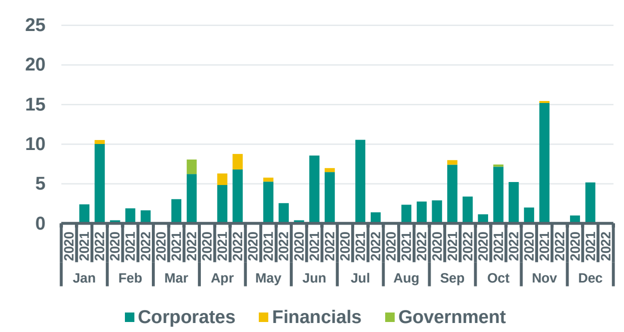
EUR bn



Source: Bloomberg, ABN AMRO Group Economics

Monthly Sust.-Linked Bonds issuance by sector

EUR bn



Source: Bloomberg, ABN AMRO Group Economics

Figures hereby presented take into account only issuances larger than EUR 250m and in the following currencies: EUR, USD and GBP.

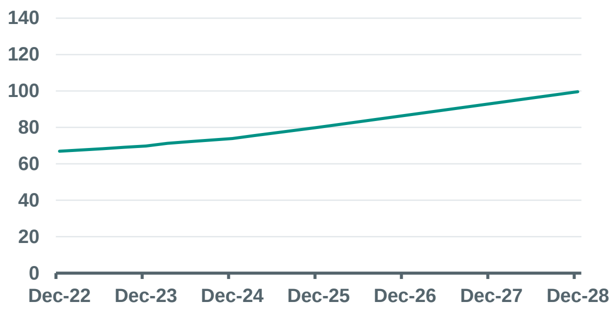
Carbon contract current prices (EU Allowance)

EUR/MT

Source: Bloomberg, ABN AMRO Group Economics

Carbon contract future prices (EU Allowance)

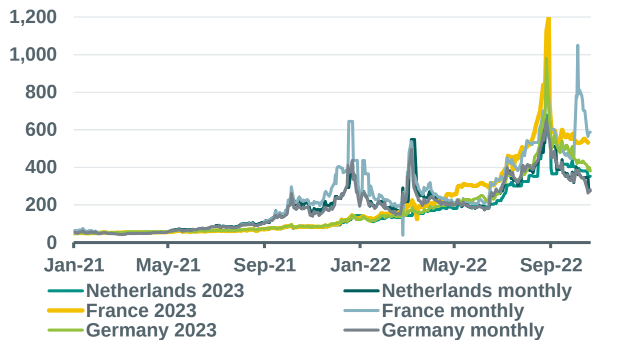
EUR/MT



Source: Bloomberg, ABN AMRO Group Economics

Electricity power prices (monthly & cal+1 contracts)

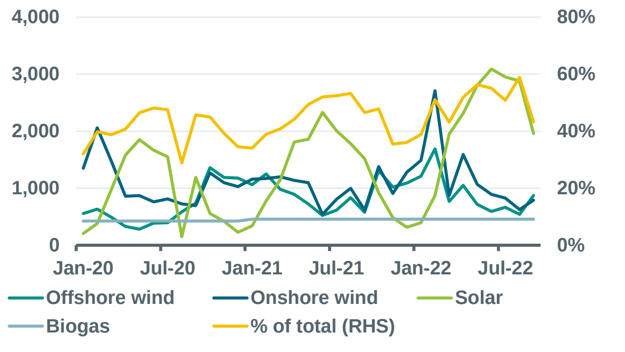
EUR/MWh



Source: Bloomberg, ABN AMRO Group Economics. Note: 2023 contracts refer to cal+1

Electricity generation from renewable sources (NL)

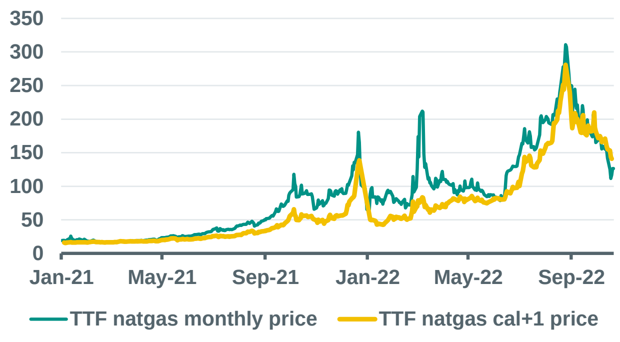
GW % of total



Source: Energieopwek (Klimaat-akkoord), ABN AMRO Group Economics

TTF Natgas prices

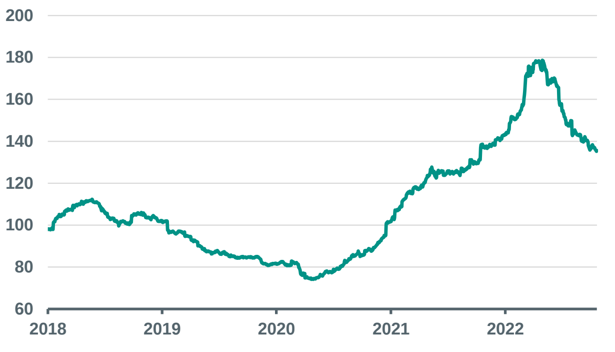
EUR/MWh



Source: Bloomberg, ABN AMRO Group Economics

Transition Commodities Price Index

Index (Jan. 2018=100)



Note: Average price trend of 'transition' commodities, such as: corn, sugar, aluminium, copper, nickel, zinc, cobalt, lead, lithium, manganese, gallium, indium, tellurium, steel, steel scrap, chromium, vanadium, molybdenum, silver and titanium. Source: Refinitiv, ABN AMRO Group Economics

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