SustainaWeekly

Is green hydrogen the silver bullet?

- **Economist: Green hydrogen is set to play an essential role in the energy transition with many advantages such as energy security, storage capability, job creation, and the opening up of investment opportunities. Europe could play an important role in electrolyser manufacturing and might become a net exporter if current trends continue. Limited renewable resources, intertemporal capacity allocation, certification, and insufficient private finance could form bottlenecks that limit the full potential for green hydrogen.**

- **Strategist: Last year, at the peak of the energy crisis, we saw that the bond spreads of utility companies that were heavily invested in renewable energy widened less than on the bonds of the peers that did not. However, now that the energy crisis has dissipated, we see that the impact of an issuer having a high share of renewable energy in bond spreads has declined. At the same time, investors seem to be once again more focused on traditional credit metrics, such as financial leverage.**

- **Policy: The EBA published its first report on the monitoring and supervision of greenwashing. According to the numbers, alleged cases of greenwashing have been increasing since 2012. The above-mentioned trend also holds for the EU banking sector. Climate change is the most common topic subject to greenwashing claims in the EU financial sector. However, supervisors do not confirm the alleged cases. They indicate that the lack of a methodology to identify greenwashing cases deters them from reporting such claims.**

- **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 edition of the SustainaWeekly, we first focus on the role of green hydrogen in the transition, its technology, the current trends for Europe, ending with challenges and limits associated to green hydrogen. We then go on to assess whether integrated/generator utility euro bond issuers, which are heavily invested in renewable energy see lower spreads on their securities. This was the case during the energy crisis, but we ask whether this is still the case. Finally, we review a recent report from the EBA on the monitoring and supervision of greenwashing. Alleged cases of greenwashing have been increasing since 2012.

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

Nick Kounis, Head Financial Markets and Sustainability Research | nick.kounis@nl.abnamro.com

Is green hydrogen the silver bullet for the European energy transition?

Moutaz Altaghlibi – Energy Economist, Sustainability | moutaz.altaghlibi@nl.abnamro.com

- **Green hydrogen is set to play an essential role in the energy transition with many advantages such as energy security, storage capability, job creation, and the opening up of investment opportunities**
- **Green hydrogen is gaining support internationally, with expected geopolitical implications that will unavoidably restructure energy markets**
- **Europe could play an important role in electrolyser manufacturing and might become a net exporter if current trends continue**
- **Limited renewable resources, intertemporal capacity allocation, certification, and insufficient private finance could form bottlenecks that limit the full potential for green hydrogen**

Introduction

One of the key drivers of the energy transition is the switch towards renewable resources to produce electricity. The intermittent nature of renewable energy, like wind and solar, mitigates the full potential of the technology. Thus, there is a need for storage in order to reallocate the excess in power supply and account for the daily and seasonal fluctuations in demand. Hydrogen is on top of the list as a solution to the storage problem.

Hydrogen is labelled according to the source of energy being used to produce it. It is called grey when it is generated through a “steam reforming process” from natural gas, or methane. Steam reforming emits Greenhouse Gases (GHG). However, if these emissions are captured before reaching the atmosphere, through Carbon Capture and Storage (CCS) for example, hydrogen is called blue. Green hydrogen, on the other hand, is produced through an electrolysis process that separates water particles into oxygen and hydrogen. The main condition for it to be labelled as green is to use electricity that is generated by renewable sources.

In this article we dive into the role of green hydrogen in the transition, its technology, the current trends for Europe, ending with challenges and limits associated to green hydrogen.

The potential role of green hydrogen in the transition

As an energy carrier, the advantage of hydrogen is not only as a medium to store the abundant renewable power, but also to unlock the potential to commercialize green electricity beyond geographical and grid limits, and to be traded between non-neighbouring countries. That is, clean energy can be transported between countries that are abundant in renewable resources and those with limited renewable capacity.

As green hydrogen is produced using renewable resources, and as renewable resources are dispersed across many countries, hydrogen could play an advantageous role in energy security since domestic renewable capacities can be complemented by a wider range of potential suppliers than fossil fuels. Moreover, the “cradle to grave” nature of the production process allows mitigating the vulnerability to supply chains and certain suppliers.

Additionally, in an earlier ABN AMRO publication (source), hydrogen was identified as one of the most critical technologies to bring down emissions. That is, green hydrogen does not only contribute to a more flexible grid, it also has an essential role in reducing emissions by replacing fossil fuels in sectors that have high mitigation cost for alternatives, such as hard-to-abate sectors. In that regard, by using green hydrogen in these sectors, dependence on alternative technologies, such as batteries for example, will be reduced, along with the potential vulnerability to critical metals used in the production of these alternatives. Furthermore, there are no clean energy alternatives to green hydrogen for fertiliser production, hydrogenation, and desulphurisation applications. Finally, adopting green hydrogen would create jobs and open new attractive investment opportunities associated to the technology, such as distribution networks and storage opportunities.

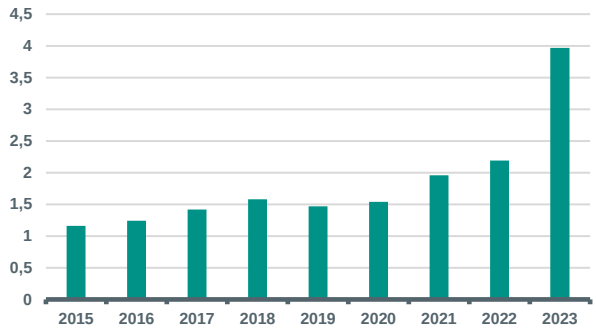
The international scene for green hydrogen

The international scene is becoming more and more supportive and convenient for international markets for clean fuels, such as green hydrogen. For example, the G7 announced their clean energy economy action plan (**source**) on May 20th 2023 pledging for "promoting trade and investment in clean energy goods and services", along with The Hydrogen Action Pact (G7-HAP) in which the G7 nations commit to (i) speeding up the development of hydrogen (both blue and green), (ii) accelerating associated regulatory frameworks and common standards on hydrogen, and (iii) closing up the existing gaps in the G7 and elsewhere. This support is already materializing, as illustrated in the left hand panel of the figure below, where European investments in clean fuels, of which green hydrogen, are being increasing rapidly since 2020.

All these developments mean that green hydrogen will unavoidably play a critical role internationally and help to solve global problems such like climate change, as seen in the right hand panel of the figure below where hydrogen is expected to mitigate more than 6% of the cumulative global emissions in the IEA's Net Zero scenario.

Investments in clean fuels in Europe

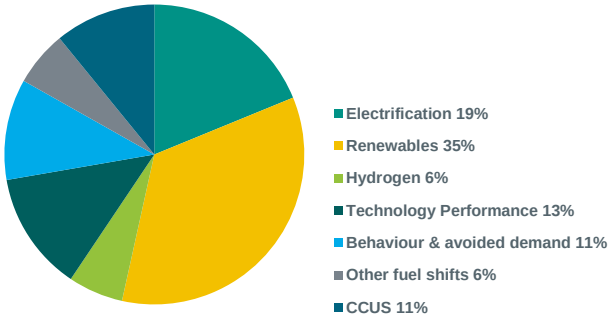
In billions $2022



Source: IEA, ABN AMRO Group Economics

Cumulative emissions reduction by mitigation measure in the Net Zero Scenario, 2021-2050

In percentages



Source: IEA, ABN AMRO Group Economics

This shift in strategy and investments would create geopolitical implications as energy markets will go through major transformations. The negotiation power will shift from countries rich in non-renewable resources towards those abundant with renewable ones. For example, as solar power could be produced in Egypt with minimal interruptions and without seasonal fluctuations, Egypt would have an advantageous position in the international green hydrogen market. Accordingly, the term "hydrogen diplomacy" is being used to capture the strategic dynamics around hydrogen, especially by countries with limited capacity in renewable resources.

An international market for green hydrogen is not expected to be as big as that of the current market for fossil fuel markets. However, with the diversity of renewable resources, which are dispersed around the globe, the fast advancement in the associated technology (electrolysis), and the ongoing efforts to shift away from fossil fuels, such a market would soon take the stage as the most prominent one.

Electrolysers

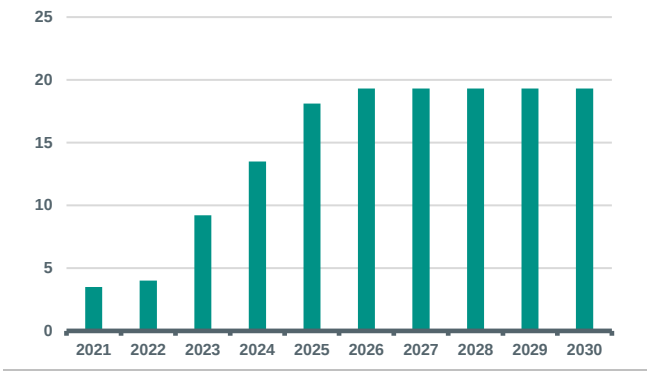
As mentioned above, green hydrogen is mainly produced using electrolysers with renewable power (wind and solar, for example) as the main input. Accordingly, the cost of green hydrogen is distinguished based on the renewable resource used to produce it, assuming the same capital cost ratio for the electrolyser. For example, IRENA's estimate for the levelized cost of hydrogen in Europe is ranging between USD 4.60/kgH2 to USD 9.10/kgH2 for solar PV and USD 6.90/kgH2 to USD 9.70/kgH2 for onshore wind.

Natural gas was considered as a transition fuel for Europe with relatively cheap prices that hindered the adoption of hydrogen (according to an earlier ABN AMRO's analysis (**source**), hydrogen needed an all-in natural gas price ranging between EUR 0.19 /M3 now and EUR 0.5 /M3 in 2030 to be competitive; electrolyser efficiency is set to rise with promising technologies like the Electrochemical – Thermally Active Chemical). However, the rise in gas prices following the Russia's invasion of Ukraine changed the dynamics. Green hydrogen became viewed as the strategic transition fuel to achieve climate targets and energy security for Europe. This is reflected in the figure below, where we see an increase in the

manufacturing capacity for electrolysers in Europe (left hand panel), and a sharp rise in planned capacity additions for electrolysis projects up till 2026 (right hand panel).

European planned electrolyser manufacturing capacity 2021-2030

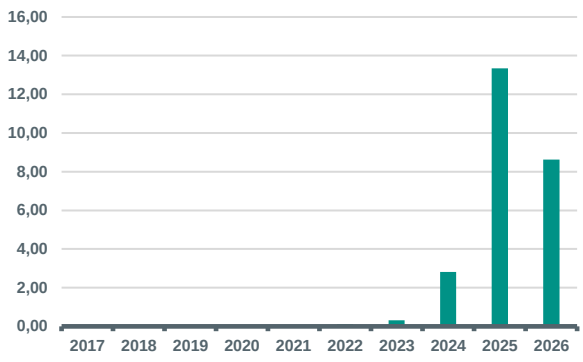
Unit: GW/y



Source: IEA, ABN AMRO Group Economics

European capacity additions for hydrogen electrolysis project by announced start date 2017 - 2026

Unit: GW



Source: IEA, ABN AMRO Group Economics

Actually, Europe could play an important role in electrolyser manufacturing with an expected 34% cumulative average growth rate for installed capacity in the upcoming seven years, if all announced projects came to life, according to a recent report by IEA (**source**). Such projected capacity exceeds Europe's announced targets for 2030, and if such trends continued, domestic demand could be covered and Europe could become a net exporter for this technology.

Green hydrogen challenges

Even though green hydrogen has an important role in the transition for Europe, there are challenges that limit its potential. These could relate to logistic and operational challenges, such as the needed infrastructure, transportation over long distances, and the losses associated with every conversion. Other more fundamental challenges are highlighted in the following subsections.

Limited European renewable capacity

The potential renewable capacity for European countries is not enough to produce all its needs of green hydrogen domestically, which means that Europe will have to rely on imports to achieve its targets. Based on 2022 IRENA's analysis for European hydrogen strategic documents, the 2030 target for Europe is to have10 Mt of green hydrogen attributed to domestic production, and 6 Mt to be imported with North Africa expected to be the major trading partner (**source**). Within the RepowerEU package, these targets are even more ambitious with 10 Mt imports from neighbouring countries. For example, this issue is already flagged in Germany, as the country's renewable resources are scarce. The country will have to import GH2 products in the medium to long term.

Intra and inter sectoral allocation

As we move along the transition process, capacity is being built gradually and the allocation of this temporary scarce capacity needs to be executed carefully to avoid bottlenecks that slow down sectoral transitions. Questions like: 'which industries should switch to hydrogen first and at what scale' become very relevant. In other words, where should renewable or hydrogen capacity be allocated first such that transition in one sector does not affect that of others? For example, if all the capacity of green hydrogen is allocated to heavy industries, the uptake in the transportation sector will be mitigated inducing a slower transition for that sector. That is, even though more emissions will be reduced sooner, long term sectoral transition will be compromised. Such problem is being flagged by the French hydrogen industry in response for the expected update for the French national strategy.

International cooperation and certifications

The international potential role for green hydrogen depends largely on international cooperation. For example, in order to unlock its full potential, access to the technology for developing countries should be facilitated. Moreover, creating a global hydrogen market needs supporting tools to avoid greenwashing. Proper certification, for example, is essential for international trade. However, there are still some inconsistencies that hinder certification across borders.

Financing green hydrogen

Finance has an essential role to play in achieving Europe's ambitious targets for green hydrogen mentioned above. So far, green hydrogen deployments have been mainly dependent on government support schemes, with private finance lagging behind. The limited accessibility to finance from institutional investors and the lack of alternative investors may create a bottleneck in the scaling up green hydrogen. The lack of private finance could be related to, among others: (i) the perceived uncertainty regarding regulations surrounding this technology, (ii) the long term nature of green hydrogen projects, and/or (iii) to hydrogen technology-related constraints, such as limited renewable capacities. Accordingly, investors may provide cheaper funding as the electrolysis technology becomes more mature and the capacity of renewable resources increase over time. Moreover, diversifying the available funding sources for hydrogen projects could be essential for large-scale deployment of hydrogen projects, along with regulating domestic and international markets for green hydrogen.

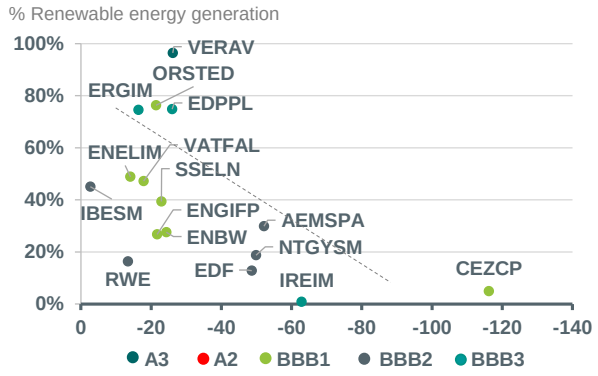
Utility bond investors suddenly put less emphasis on renewable energy

Larissa de Barros Fritz – ESG & Corporates Strategist | larissa.de.barros.fritz@nl.abnamro.com

- **Last year, at the peak of the energy crisis, we saw that the bond spreads of utility companies that were heavily invested in renewable energy widened less than on the bonds of the peers that did not**
- **To verify that, we run a regression where the share of renewable energy within total installed capacity is the independent variable, and credit spreads are the dependent ones**
- **We show that indeed, both renewable energy and issuer ESG risk rating was an important factor to determine credit spreads during the crisis**
- **However, now that the energy crisis has dissipated, we see that the impact of an issuer having a high share of renewable energy in bond spreads has declined. At the same time, investors seem to be once again more focused on traditional credit metrics, such as financial leverage.**

Over the course of last year, we showed that integrated/generator utility euro bond issuers that were more heavily invested in renewable energy experienced less widening of their credit spreads in the secondary market than their peers (see chart below). That made sense: besides a general panic amid the energy crisis, investors tried to reduce credit risk by (i) reducing exposure to companies that invested in (Russian) gas and/or (ii) increasing exposure to companies that were invested in fixed cost renewable energy (mainly solar, wind but also hydro). The rationale for the latter was that these issuers would likely benefit from the higher power prices, while securing (in the majority of cases) also a lower fixed cost base. In this update piece, we investigate whether this remains the case.

Higher renewable energy generation paid off last year



Source: Bloomberg, ABN AMRO Group Economics. Note: x-axis indicates change in spreads between the start and end of 2022. Hence, a negative value indicates that bond spreads have widened in 2022. Credit ratings refer to Bloomberg composite rating.

To evaluate such persistence, we ran a simple cross-sectional OLS regression on the ICE BofA Euro Utilities index (ticker: EK00) where asset swaps are the dependent variable and the share of renewable energy is an independent variable (alongside a range of other independent variables that influence credit spreads). Given that regulated utilities neither have installed capacity nor generate electricity directly, we have also excluded from this analysis all utility companies in the index that are solely either transmission system operators (TSO) or distribution network operators (DSO). We ran the regression for two moments in time: using spreads as of now and as of 1 year ago (early/mid-June 2022, amid the peak of the energy crisis in Europe). This allows us to properly evaluate if there has been a change in investor behaviour, now that the energy crisis has eased. To account for heteroskedasticity in the regression (where the variance of the residuals varies widely in a systematic way), we adjust t-statistics using Huber-White-Hinkley (HC1) consistent standard error. Serial correlation between independent variables is not noted.

Let's first evaluate the results of our regression using data as of June 2022.

Regression 1: Using asset swaps as of 29-06-2022				
Dependent Variable: ASSET_SWAP_SPREAD				
Method: Least Squares				
Sample: 1 171				
Included observations: 171				
Huber-White-Hinkley (HC1) heteroskedasticity consistent standard errors and covariance				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
C	-198.63	48.60	-4.09	0.00
BID_YEAR_TO_WORKOUT	4.26	0.70	6.05	0.00
IS_IT_GREEN_01	-12.02	4.57	2.63	0.01
NUMBER_OF_BONDS_OUTSTANDING	-1.46	0.43	-3.34	0.00
RATING_SCORE	33.03	5.51	5.99	0.00
RENEWABLE_ENERGY_ELECTRICITY__INSTALLED_CAPACITY_	-63.68	14.55	-4.38	0.00
SUSTAINALYTICS_ESG_RISK_RATING	1.78	0.43	4.16	0.00
R-squared	0.59	Mean dependent var		93.95
Adjusted R-squared	0.58	S.D. dependent var		48.65
S.E. of regression	31.60	Akaike info criterion		9.78
Sum squared resid	163,776.40	Schwarz criterion		9.91
Log likelihood	-829.56	Hannan-Quinn criter.		9.84
F-statistic	39.81	Durbin-Watson stat		1.23
Prob(F-statistic)	0.00	Wald F-statistic		13.10
Prob(Wald F-statistic)	0.00			

Source: Bloomberg, ICE BofA, Sustainalytics, ABN AMRO Group Economics.

The regression above includes only independent variables that are both, statistically and economically significant. For example, the longer the maturity of a bond, the wider the credit spread. On the other hand, if the bond is in green format, if the issuer has more bonds outstanding (that is, more liquid securities), and a better credit rating (hereby proxied by the variable RATING_SCORE, which is higher the worst the credit rating of the issuer), the bond will trade with tighter credit spreads. Interestingly as well is that the ESG profile of the company (proxied by the Sustainalytics ESG risk rating) also seemed to have played a role in explaining credit spreads. Issuers with a better (that is, lower) ESG rating would also be able to secure tighter credit spreads in their bonds – all else equal. We also note the following from this regression: a higher share of renewable energy within total installed capacity would also result in tighter bond spreads. For example, a one percentage point increase in the share of renewable energy would result (all else equal) in a 0.63bps decrease in credit spreads according to this regression model. While this might at first sign not seem like a big number, this implies that the difference in credit spreads between a company that has no renewable energy installed capacity and one that has 100% would be a whopping 63bps, *all else equal*. Other variables included in the regression, but that were dropped due to non-significance were: FFO/debt, EBITDA margin, revenues, Net debt/EBITDA and rating of the issuer's country of residence.

This allows us to conclude that last year we saw significant in the renewable energy share variable. Now let's move to analyse the current dynamics in credit spread markets:

Regression 2: Using asset swaps as of 08-06-2023				
Dependent Variable: ASSET_SWAP_SPREAD				
Method: Least Squares				
Sample: 1 200				
Included observations: 189				
Huber-White-Hinkley (HC1) heteroskedasticity consistent standard errors and covariance				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
C	-143.49	51.01	-2.81	0.01
BID_YEAR_TO_WORKOUT	4.66	1.14	4.10	0.00
NUMBER_OF_BONDS_OUTSTANDING	-1.16	0.35	-3.32	0.00
IS_IT_GREEN_01	-47.76	8.72	-5.47	0.00
RATING_SCORE	20.84	5.29	3.94	0.00
RENEWABLE_ENERGY_ELECTRICITY__INSTALLED_CAPACITY_	-26.65	10.16	-2.62	0.01
SUSTAINALYTICS_ESG_RISK_RATING	1.38	0.61	2.26	0.02
FFO_DEBT	-13.52	3.72	-3.64	0.00
COUNTRY_RATING_SCORE	-2.22	0.92	-2.41	0.02
IS_IT_ESG_01	48.33	7.94	6.09	0.00
R-squared	0.58	Mean dependent var		57.46
Adjusted R-squared	0.56	S.D. dependent var		48.78
S.E. of regression	32.52	Akaike info criterion		9.85
Sum squared resid	189,250.80	Schwarz criterion		10.02
Log likelihood	-921.09	Hannan-Quinn criter.		9.92
F-statistic	27.12	Durbin-Watson stat		1.32
Prob(F-statistic)	0.00	Wald F-statistic		16.47
Prob(Wald F-statistic)	0.00			

Source: Bloomberg, ICE BofA, Sustainalytics, S&P, ABN AMRO Group Economics.

The first thing we can notice is that investors seem to be placing more emphasis in other factors. For example, credit profile (proxied here by FFO/debt) becomes now statistically and economically significant, while this was not the case last year. Also the credit rating of the country where the issuer is resident becomes a more meaningful variable now. However, the results still seem to not be economically significant. While one would expect an issuer from a higher-rated country to experience tighter credit spreads in the secondary market, the opposite seems to be the case. Certainly, we can think of some exceptions where this metric does not apply indeed, such as with the Spanish issuer Iberdrola, whose bond spreads trade significantly tight within the utilities universe; and the French EDF (country rating: AA2) and the Finnish Fortum (country rating: AA1), whose bond spreads trade wide despite much better country credentials.

We also note the inclusion of the variable IS_IT_ESG_01: this dummy takes the value of 1 if it refers to either a green bond or a sustainability-linked bond (SLB). Clearly, as the sign of the coefficient contradicts with the green format dummy (IS_IT_GREEN_01), we see that possibly issuers that have issued SLBs are biasing the results. And indeed, this is the case with heavy-SLB issuer Enel, A2A and CEZ – all which have bonds trading at relatively wide credit spreads.

Another thing catches our eye in this regression: we can see that both, the ESG risk rating but also the share of renewable energy now have a lower coefficient (hence, a lower impact) on credit spreads. While both are still statistically significant at the 5% level (even 1% level for the share of renewable energy), the influence of these variables seems to have declined. So for example, while a one percentage point increase in the share of renewable energy would result in a 0.63bps decrease in credit spreads back in June 2022, this is now only 0.3bps – nearly half of what it is used to be.

It could be that investors move their focused towards renewable energy growth potential, rather than emphasizing current installed capacity – but more research is required in order to conclude that. On the other hand, such expansion would obviously also require more debt, which would likely adversely affect debt metrics. For now, we clearly see that utility bond investors are less focused on rewarding companies with a higher share renewable energy installed capacity, and have shifted back their attention to other metrics, such as leverage.

Alleged cases of greenwashing have been rising in the EU banking sector

Marta Ferro Teixeira – Fixed Income Strategist | marta.ferro.teixeira@nl.abnamro.com

- **The EBA published its first report on the monitoring and supervision of greenwashing, as requested by the European Commission**
- **According to the numbers, alleged cases of greenwashing have been increasing since 2012**
- **The above-mentioned trend also holds for the EU banking sector**
- **Climate change is the most common topic subject to greenwashing claims in the EU financial sector**
- **However, supervisors do not confirm the alleged cases. They indicate that the lack of a methodology to identify greenwashing cases deters them from reporting such claims**
- **EBA did not issue any recommendations, explaining that more data is needed**

The European Banking Authority (EBA) has recently published the Progress Report on Greenwashing Monitoring and Supervision (see **here**). This followed a request from the European Commission to all supervisory authorities issued in May 2022, with the final report being due in June 2024. The current report stands as a stock-take of the current situation in the EU banking sector and does not include any policy recommendations.

According to the European Supervisory Authorities (ESAs), greenwashing stands for 'a practice whereby sustainability-related statements, declarations, actions, or communications do not clearly and fairly reflect the underlying sustainability profile of an entity, a financial product, or financial services. This practice may be misleading to consumers, investors, or other market participants'.

Alleged cases of greenwashing have been rising since 2012

The report makes use of data compiled by RepRisk, which gathers information on "risk incidents" of companies associated with misleading communication around ESG issues, and captures alleged cases of greenwashing reported in public sources. Still, RepRisk does not verify or validate reported allegations – just checks and reviews the classification of sources. Overall, alleged greenwashing cases have increased globally by more than six times since 2012. Environmental and social issues are the most prominent topics subject to greenwashing. From the environmental cases, 30% are related to climate change, becoming the second most prominent item subject to greenwashing by companies.

Alleged cases of greenwashing have also been occurring across all economic sectors. However, these are most prominent in six sectors: oil, gas and utilities, mining, industrial construction, food and beverage, household goods and the financial sector. The latter accounted for almost 16% of alleged greenwashing cases registered worldwide in 2022.
Alleged cases of greenwashing in the EU banking sector mirror the overall trend.

Parallel to the global trend, greenwashing trends in the EU banking sector have been increasing since 2012. In 2022, a total of 206 cases were registered, while in 2018 this number equalled 40. Furthermore, the EU financial sector represented 23% of the total alleged greenwashing cases involving an EU company. Not surprisingly, climate change is also the most common topic subject to greenwashing claims in the EU financial sector, including EU banks.

The reasons for this increase remain unclear. While the number of incidents might have increased, the rising demand for green products and the focus given to the topic have also considerably raised the public's attention to the subject and to EU banks, in particular. Investors increasingly ask for more accountability in the achievement of sustainability objectives. Attention to the greenwashing risks have increased globally, but especially in Europe. Reasons for this might be related to the i) increasing legal frameworks that have been developed in the EU, and ii) to the wider public scrutiny that EU companies are subject to.

Concerning the EU banking sector, there are two types of greenwashing that may occur. The first regards greenwashing at the product, service and financial instrument level, and the second, at the entity level. An example of the former regards green retail loans and mortgages that are not used to finance goods, products, activities or properties which qualify as (fully) green.

Supervisory authorities do not confirm the rise in alleged cases

The rise in alleged cases of greenwashing as compiled by RepRisk do not match those identified by the competent authorities. In fact, of the authorities surveyed by the EBA, eight have identified ten or less occurrences of actual or potential greenwashing, and 22 have found none.

Have you identified any occurrences of actual or potential greenwashing?	Answers	Ratio
Yes, many (i.e. more than ten)	0	0%
Yes, a few (i.e. ten or less)	8	27%
No	22	73%
No answer	0	0%

Source: EBA

From the reasons mentioned to justify the mis-identification of occurrences, two are more prominent. First, the supervisory authorities lack a specific methodology/internal guidance on how to detect/collect information on (potential) greenwashing cases. And second, as sustainable finance requirements (including definitions and disclosure standards) are new/not in force yet, greenwashing is harder to detect and monitor. For these reasons, greenwashing cases in the EU banking sector are mostly identified and reported by external stakeholders, such as NGOs, consumer protection associations and press investigations.

If you have not identified actual or potential occurrences of greenwashing, what is the reason for that?	Answers
No specific methodology/internal guidance on how to detect/collect information on (potential) greenwashing cases	15
As sustainable finance requirements (including definitions and disclosure standards) are new/not yet in force, greenwashing is harder to detect and monitor	16
Limited resources preventing identification and monitoring of greenwashing	8
Thematic research is still ongoing or planned for the coming months/years	8
Little to no products with sustainability features are offered in my jurisdiction, decreasing the risk of greenwashing	9
Absence of clear mandate to investigate this issue	6
Current complaints about greenwashing may not be categorized as greenwashing but more generally as providing incomplete or misleading information	4
Other (please specify)	2
No answer	10

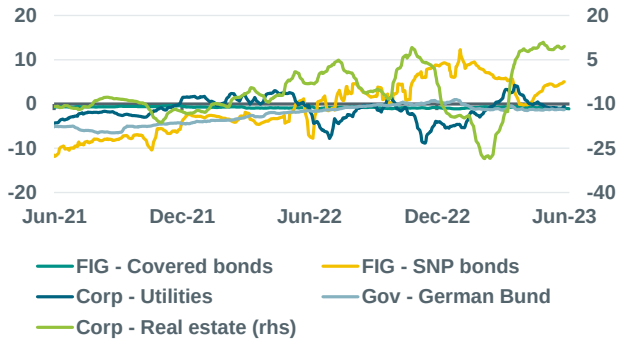
Source: EBA

The alleged cases of greenwashing identified by those external stakeholders indicate that it is most likely to happen at the entity level, rather than at the product level. For instance, when a bank positions itself externally (through advertising, social media, sustainability reports) as being sustainability-oriented but still engages with companies that are not considered or perceived as being sustainable. It might also be the case that greenwashing at the entity level is easier to identify for NGOs, given that greenwashing at the product level might require access to private data, not easily available to the public in general. Finally, the EBA excludes itself from issuing any recommendations concerning legal frameworks because it considers that more data is needed to complete its analysis.

ESG in figures

ABN AMRO Secondary Greenium Indicator

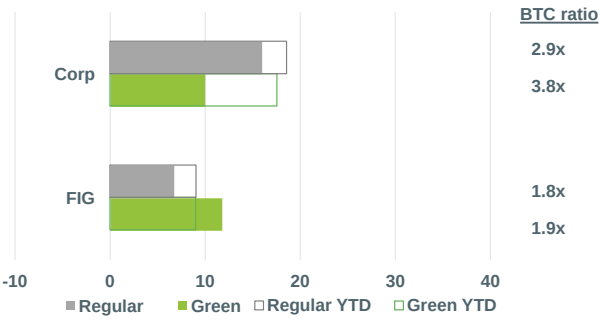
Delta (green I-spread – regular I-spread)



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

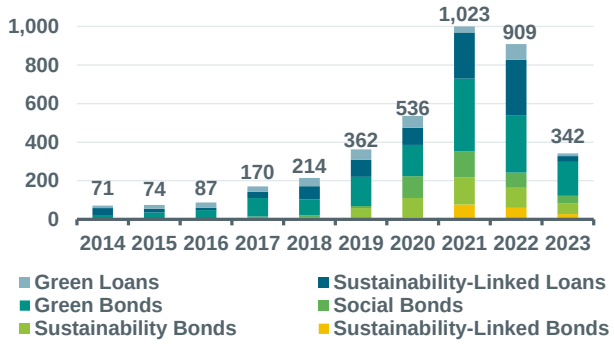
NIP in bps



Note: Data until 09-06-23. BTC = Bid-to-cover orderbook ratio. Source: Bloomberg, ABN AMRO Group Economics

Sustainable debt market overview

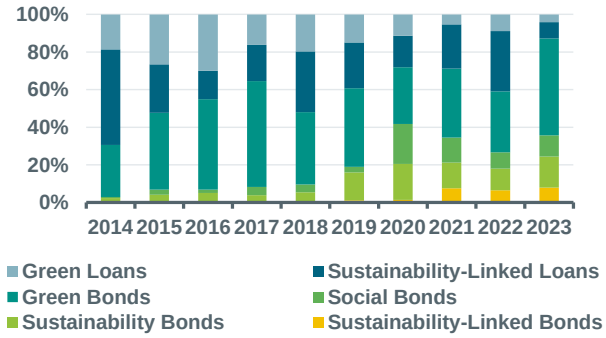
EUR bn



Source: Bloomberg, ABN AMRO Group Economics

Breakdown of sustainable debt by type

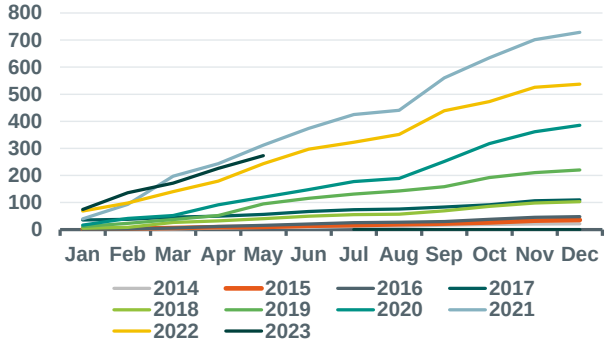
% of total



Source: Bloomberg, ABN AMRO Group Economics

YTD ESG bond issuance

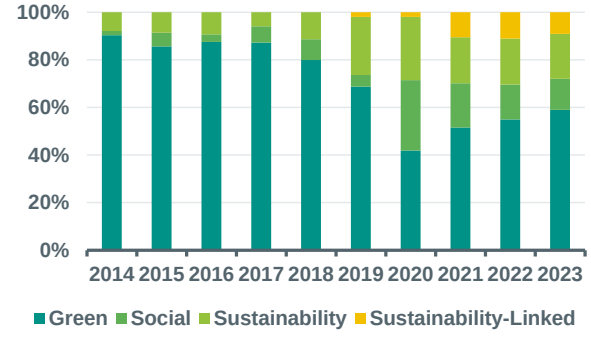
EUR bn (cumulative)



Source: Bloomberg, ABN AMRO Group Economics

Breakdown of ESG bond issuance by type

% of total

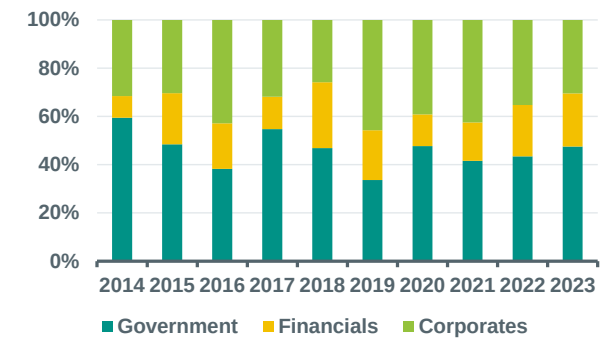


Source: Bloomberg, ABN AMRO Group Economics

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

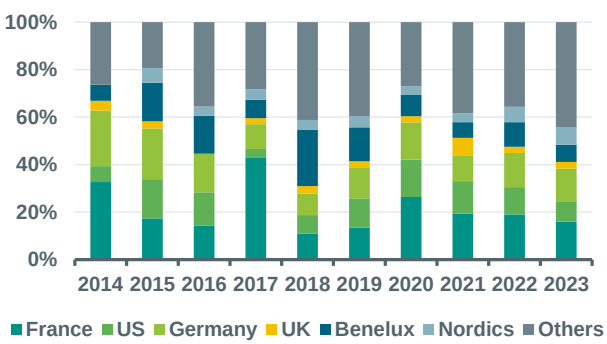
% of total



Source: Bloomberg, ABN AMRO Group Economics

Breakdown of ESG bond issuance by country

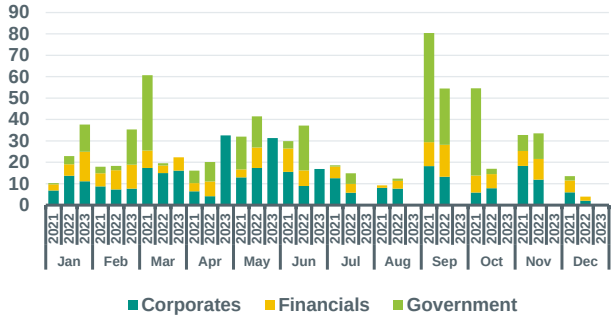
% of total



Source: Bloomberg, ABN AMRO Group Economics

Monthly Green Bonds issuance by sector

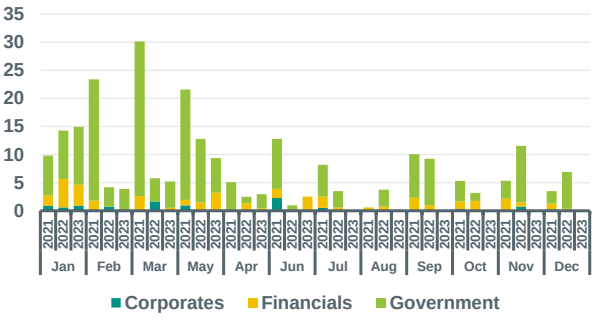
EUR bn



Source: Bloomberg, ABN AMRO Group Economics

Monthly Social Bonds issuance by sector

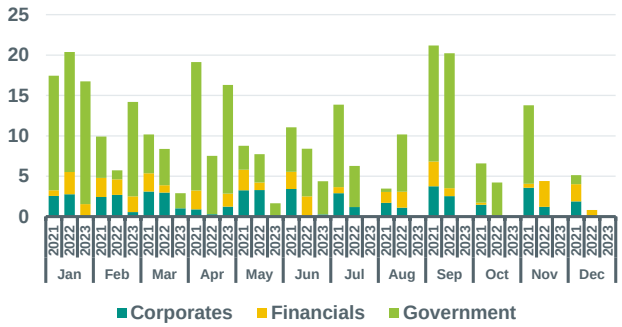
EUR bn



Source: Bloomberg, ABN AMRO Group Economics

Monthly Sustainability Bonds issuance by sector

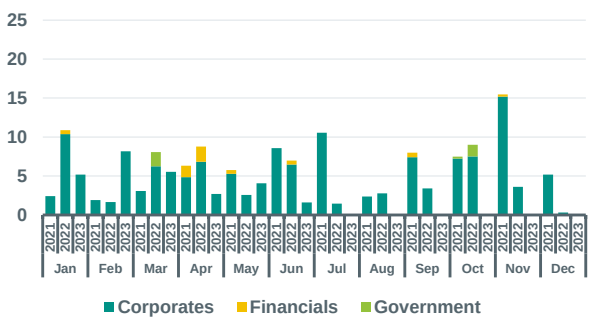
EUR bn



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.

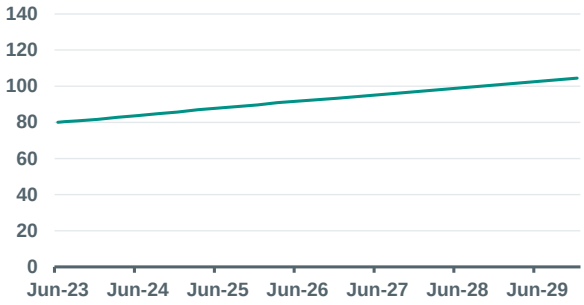
Carbon contract current prices (EU Allowance)

EUR/MT

Source: Bloomberg, ABN AMRO Group Economics

Carbon contract futures curve (EU Allowance)

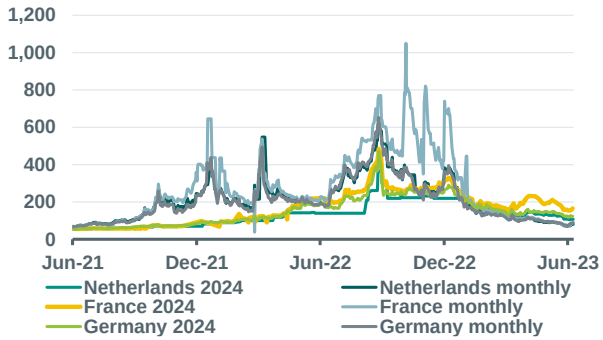
EUR/MT



Source: Bloomberg, ABN AMRO Group Economics

Electricity power prices (monthly & cal+1 contracts)

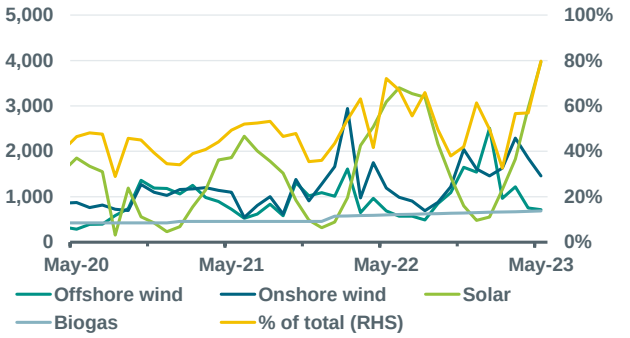
EUR/MWh



Source: Bloomberg, ABN AMRO Group Economics. Note: 2024 contracts refer to cal+1

Electricity generation from renewable sources (NL)

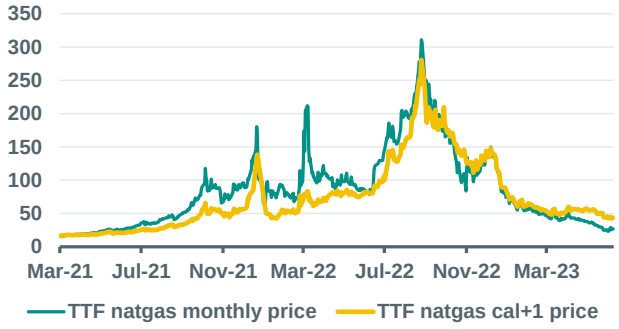
GW % of total



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

TTF Natgas prices

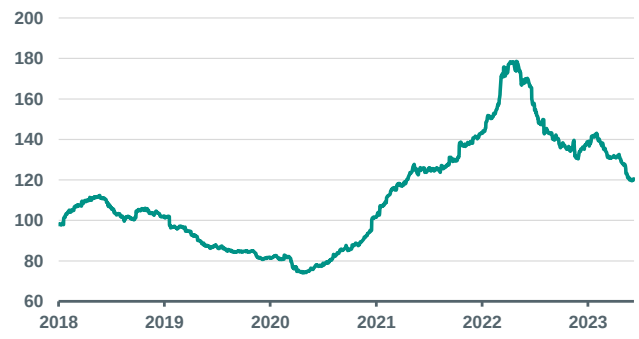
EUR/MWh



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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ABN AMRO Bank
Gustav Mahlerlaan 10 (visiting address)
P.O. Box 283
1000 EA Amsterdam
The Netherlands

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