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SustainaWeekly

Energy improvements can alleviate the pain for Dutch landlords

- > Strategist: The yet-to-be-approved Affordable Rent Act has triggered concerns among investors in Dutch residential real estate due to rent cuts and rent regulation. Housing owned by small investors often still has a poor energy label. We show that a boost in EPC label allows for the property to escape upcoming rent regulation, while the renovation investment is not alarmingly high. The investor return after renovation would remain acceptable.
- **Economist:** EU-ETS 2 is a new separate cap and trade scheme that covers emissions from road transport, the built environment and industrial sectors that are not covered under EU-ETS. The system envisions a gradual phase in with emission reporting and monitoring starting in 2025 and 2027 as a first compliance year. It is important to analyse the impacts of EU-ETS II in combination with other climate policies to achieve an efficient transition.
- Policy & Regulation: The EBA published a report about the appropriateness and feasibility of including ESG factors in the current prudential framework. The regulator notes that there are still challenges regarding ESG data, for instance, the lack of a common, standardized and complete classification system. At this stage, the EBA does not recommend introducing environmental-related adjustment factors in the calculation of banks' capital requirements.
- **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.

Rental prices for housing in the unregulated sector have risen dramatically in recent years, specifically in the major Dutch cities. The now outgoing minister of public housing has had a law in the works for some time, called the Affordable Rent Act, which includes a rent ceiling for what today still qualifies as unregulated rentals. In this week's SustainaWeekly, we outline the consequences for housing investors of the potential law, by assuming a theoretical investment with energy renovation based on a property that would fall into the regulated segment based on the proposed law. Our next note covers the main aspects of EU-ETS II such as the phase in process, associated mechanisms, and potential dynamics and impacts. In our final note, we focus on report from the European Banking Authority (EBA) about the appropriateness and feasibility of including ESG factors in the current prudential framework, and the Pillar 1 Framework in particular.

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

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EPC improvement can alleviate the pain for Dutch landlords

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- The yet-to-be-approved Affordable Rent Act has triggered concerns among investors in Dutch residential real estate due to rent cuts and rent regulation
- Housing owned by small investors often still has a poor energy label
- We show that a boost in EPC label allows for the property to escape upcoming rent regulation, while the renovation investment is not alarmingly high
- The investor return after renovation would remain at an acceptable level

Rental prices for housing in the unregulated sector have risen dramatically in recent years, specifically in the major Dutch cities. This affects the affordability of housing for households with average income, and as such the government feels compelled to intervene in the market. The now outgoing minister of public housing has had a law in the works for some time, called the Affordable Rent Act, which includes a rent ceiling for what today still qualifies as unregulated rentals. Private property investors, who are already facing a much higher transfer tax, are concerned by this measure as it implies a further erosion of returns. However, the law also gives opportunities to still operate the property in the 'free sector' when a property has a sufficiently high EPC label.

The law is yet to be approved, while the Netherlands has elections upcoming and some political parties leading the polls have already hinted at their disapproval of this law. Nevertheless, there is a chance that the law will still be passed and in this article we outline the consequences for housing investors, by assuming a theoretical investment with energy renovation based on a property that would fall into the regulated segment based on the proposal law.

What does the law entail?

The rent law aims to create a new category of regulated middle-rent that, as in the social/low income segment, determines the rent based on the home value points system (WWS). Under the WWS, points are attributed to a property based on characteristics such as area, number of individual rooms, furnishing, the fiscal value (called WOZ), as well as the energy label. A property which has less than 145 points currently qualifies under social rent with a rent ceiling of EUR 808 per calendar month. The new law envisages that properties scoring between 145 and 187 points will also be subject to a rent ceiling, albeit a higher cap of EUR 1,100 per calendar month. In many cases, this would result in a rent cut, since these properties are currently let in the unregulated space. Existing rents on these properties will not change, however at a new lease the landlord is obliged to adjust the price to the new ceiling. Furthermore, the landlord can only increase the rent annually by the CAO wage outcome plus 0.5%. A slight exception in rent growth is made for new construction falling in the middle-rent segment where an annual rent increase of up to 5% can be implemented under certain conditions. The measures will remain in place until the availability of affordable rental housing is deemed sufficient by the government, which seems subjective.

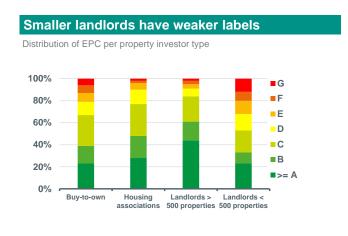
Based on a possible rent cut at the point of a new lease and the already applicable measures of higher transfer and income tax, it seems that the measures combined will lead to a huge deterioration in rental yields for landlords. However, calculation tools (such as those of the Rent Commission but also of the central government itself, see here and here and here) show that a strong EPC label could keep the property in the unregulated segment and therefore not subject to rent control. Before showing such a sample calculation, let us first reflect on the importance of the energy label in Dutch lettings.

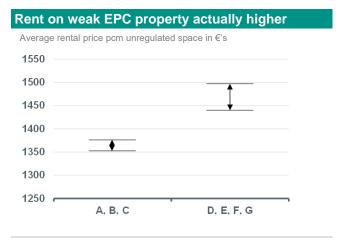
Small tenants usually own bad EPC label properties

Energy labels are becoming increasingly important in the Dutch housing market. Since the energy crisis, buyers and tenants increasingly take into account the energy efficiency of a home in their purchase decision. The energy label provides a proxy for expected energy consumption and cost. Under a poor energy label, the costs can rise sharply, making the purchase or the letting unattractive. Finally, the decision to opt for a strong EPC label is increasingly driven by environmental objectives.

The registration of EPC labels is also playing an increasingly important role in the purchase and rental market. Only 44% of owner-occupied homes have a label, while the percentage for rental homes is over 70%. Rented homes are required by law to have a final energy label when rented out. Owner-occupied homes do not have this obligation and are only required to have a label upon a sale of the property. Also, with owner-occupied homes, besides the well-known mortgage rate discount on A and B labels, there are few incentives to have a label registered and the percentage of final labels is therefore much lower.

Also, the distribution of energy labels differs greatly between owner-occupied and rented homes and even more so within the rental market. In general, rented properties have on average a better label than owner-occupied homes. This is mainly properties of social housing associations and lettings by large (institutional) landlords. In the latter group, a whopping 84% of homes have a C label or better. In contrast, landlords with less than 500 homes have a much weaker label distribution. Only 53% of what is rented has label C or higher, compared with 69% for the total housing stock. Small landlords therefore face a major sustainability challenge or transition risk.





Source: RVO, ABN AMRO Group Economics

Source: Colliers, ABN AMRO Group Economics

Strong EPC label does not imply a higher rent

A more sustainable property requires an upfront investment but that then leads to savings in energy costs over time. However, this does not immediately result in a higher rent. Often the opposite is true, and lettings with a poor label are generally more expensive, as shown in the right hand chart above. This is because better EPC label properties tend to be larger in size and therefore cost less per square metre. Many pre-war Dutch rental properties have low energy labels (such as F or G) and are typically small in size. In addition, a large proportion of these homes are in the larger Dutch cities and Amsterdam accounts for as much as 30% of total F and G home population. Higher rents therefore are mostly driven by location.

Given that the energy efficiency investment does not translate into higher rents, small landlords lack the incentive to make their portfolio more sustainable. This causes the average energy label of this group of landlords to lag significantly behind the rest of the market. The graph above also shows that the current rent in energy inefficient homes (D, E, F, G) is significantly above the proposed rent ceiling of 1,100 euros, and these could be facing a rent cut. An EPC label boost could keep them in the unregulated space and avoid a rent cut.

An upgrade from a G to B label results in 45 extra WWS points

The energy label plays an important role in determining the points that are needed to check whether a rental falls in the regulated or unregulated space. Through a calculation tool available on the Dutch Rent Commission website (see here), one can check for the potential number of points that can be assigned to such a property, after entering all kinds of relevant property data. We apply the tool to a hypothetical apartment of 70 square meters in Amsterdam with a fiscal value of EUR 500,000. Furthermore, the property has no outdoor space, a simple kitchen & bathroom furnishing, a small storage area and central heating in all rooms by means of a boiler. The table below shows the difference in WWS points when this property

has a G label or a B label. The G-label property at 147 points qualifies for the new regulated mid-rent segment, while the B-label property with 192 points should be able to stay in the unregulated segment (remember, the threshold was 187 WWS points).

	G-label	B-label
inside space	74.5	74.5
outside space (lack of)	-5	-5
heating	13	13
kitchen	7.5	7.5
bathroom	8.75	8.75
energy label / EPC		28
total WWS points excl fiscal value (rounded)	99	127
capped fiscal value	48	65
total WWS points	147	192

Source: Huurcommissie, ABN AMRO Group Economics

The table also shows that a capped fiscal value contribution is applied, since otherwise the currently high property price level in especially larger cities would give a significant boost in the number of WWS points. Hence, the fiscal value contribution to the number of WWS points can never exceed 33.3% of the total. When we hypothetically scrap this cap, the number of WWS points would have been 19 points higher in the case of the G-label, for example. This is currently unregulated, but would soon qualify as also middle-rent. On the other hand, due to a stronger number of points excluding the fiscal value contribution assigned to the B-label house, the effect of capping is also weakened and it only makes a difference of two points if the fiscal had been fully included (so with uncapped fiscal, the point count on the B-label property would be 194).

What is required to go from a G- to a B-label?

The example above shows a clear difference in the number of WWS points between a G- and B-label house. Still, the investment required to get this done must be profitable for a landlord, taking into consideration the ability to avoid future rent reductions. We show that relatively simple solutions aimed primarily at energy savings, including insulation, we arrive at an expenditure of 193 Euros per square meter of living space and a saving of 250 KWh per square meter per annum, as shown in the table on the next page. Given that the consumption per square meter per year of a G-label house is over 380 KWh, while a B-label house consumes only 190 KWh, the intended measures could indeed bring about the desired jump in label and avoidance of the middle-rent regime.

Measure taken	Cost (EUR)	Cost per sqm EUR (based on 70 sqm property size)	Savings in gas usage (cubic metre per annum)	Savings in gas usage (KWh per annum psqm)
Roof and cavity wall insulation	8,000	114	1,350	188
HR++ windows	3,500	50	240	33
High efficiency boiler	2,000	29	200	28
Total	13,500	193	1,790	250

Source: Milieucentraal, Woninglabel.nl, Energiewacht, ABN AMRO Group Economics

A 5.8% property return is not large...

We now have sufficient data to calculate a theoretical 10-year investment in our previously mentioned Amsterdam home, migrating from a G-label to a B-label through the above measures. We describe the various inputs for our return calculations below:

1) Financing structure: given the current high cost of debt, we apply a conservative capital structure of 30% debt and 70% equity. The entire debt is repaid at the end of the investment horizon. In terms of interest rate we take the current market rate on a public bond issued by **Vesteda**, a conservatively financed fund that invests purely in Dutch residential properties.

- 2) Gross initial yield is 4.4 percent based on Colliers' latest report on the state of Dutch commercial real estate
- 3) A 5% annual rental growth rate seems a reasonable assumption and we suspend rent in year 1 for 6 months due to renovation
- 4) Sale of the property in year 10 goes at a higher exit yield of 4% than at inception due to our expectations for interest rate declines starting next year
- 5) A renovation from a G- to a B-label is, as shown above, 193 euros per square meter or 2.7% of the total house price
- 6) Maintenance expense is conservatively estimated at a total expenditure of 20% of the purchase price spread over 20 years and this is on top of the investments related to energy savings. Maintenance costs increase by 2% per year due to inflation.
- 7) Transfer tax at inception is 10.4% of purchase price. Income tax equals 32% on a 6% flat rate return (after deduction of cost of debt).

In the financing table on the next page we have summarized the above input variables, which will also serve as the basis of our return calculation. We base everything on a 100 EUR investment with the other variables (where necessary) normalized to this 100 EUR investment using current market parameters such as initial yield in percent and energy renovation costs per square meter. After deducting interest and repayment of debt, the investor retains an annual net cash flow that serves as the basis for its return on equity. This amounts to an annual total return of 5.8%. In comparison, the return becomes heavily negative if the property falls into the mid-rent segment by maintaining the G-label due to the rental discount of around 45%.

Cost of Debt	4.8%										
Initial gross yield	4.4%										
Capital Structure	70% Equity, 30% Debt										
	Y0	Y1	Y2	Y 3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
Property purchase	-100										
EPC improvement	-2.7										
Rent		2.4	4.8	5.0	5.2	5.4	5.6	5.8	6.1	6.3	6.5
Sale of property y10											164
Maintenance & refurbishment		-1.0	-1.1	-1.1	-1.1	-1.1	-1.1	-1.2	-1.2	-1.2	-1.2
Property/Income Tax	-10	-1.6	-1.6	-1.6	-1.6	-1.6	-1.6	-1.6	-1.6	-1.6	-1.6
Annual net property cashflow	-113	-0.3	2.1	2.3	2.4	2.6	2.8	3.0	3.2	3.5	167.4
Debt service		-1.6	-1.6	-1.6	-1.6	-1.6	-1.6	-1.6	-1.6	-1.6	-35.5
Annual shareholder cashflow	-79.2	-1.9	0.5	0.6	0.8	1.0	1.2	1.4	1.6	1.8	132
Shareholder IRR	5.8%										

Source: Savills, Bloomberg,, ABN AMRO Group Economics

..., but it may still entice the long-term investor

Obviously a 5.8% expected return could be deemed slim for an equity investment and it is only 100 basis points higher than what the lender of debt can achieve on this project. However, especially given our conservative assumptions and a prospect of lower base rates next year, this still seems like a reasonable return for investors looking to supplement fixed income, such as pension funds. The return for investors who had purchased the property at a lower price than our hypothetical EUR 100 and financed at lower long-term interest rates should also be higher.

As a result, we will not see a mass sale of rental properties by smaller investors to the owner-occupied segment if the controversial law is still passed after the elections. Especially if this is accompanied by flexible legislation to carry out the renovation task with as little hindrance as possible, there is sufficient availability of craftsmen & materials and there is subsidy available. The above calculation did not include subsidies, but there is already government money available for private investors (see here).

What do we need to know about EU-ETS II?

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- ▶ EU-ETS 2 is a new separate cap and trade scheme that covers emissions from road transport, the built environment and industrial sectors that are not covered under EU-ETS
- ▶ The system envisions a gradual phase in with emission reporting and monitoring starting in 2025 and 2027 as a first compliance year
- A Social Climate Fund will be established to address any social implications of the new system on vulnerable end users. The fund will be financed mainly by auction revenues.
- It is important to analyse the impacts of EU-ETS II in combination with other climate policies (regulation) to align incentives and achieve an efficient transition

Introduction

The European Union Emission Trading Scheme (EU-ETS) has been the EU flagship policy to reduce emissions in the power, aviation, and heavy industrial sectors. EU-ETS is a cap and trade system, where a cap is put on total allowed emissions in the covered sectors. The cap is further translated into emission allowances that can be traded in a market. EU-ETS has gone through reforms aiming at stronger emission reductions, extensions to cover emissions from maritime shipping, and establishing a new separate emission trading scheme to cover combustion emissions from road transport, industries not covered by the original EU ETS, and the built environment, which cover 34% of EU emissions, so called EU-ETS II. This note covers the main aspects of EU-ETS II such as the phase in process, associated mechanisms, and potential dynamics and impacts.

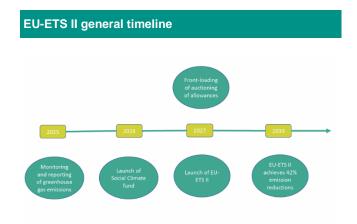
Gradual phasing in

Currently, sectors that are not covered by EU-ETS are part of the Effort Sharing Regulation (ESR), which aims to collectively reduce member states' emissions from these sectors by 40% in 2030 compared to 2005 levels. However, as part of the 'fit for 55' reform packages, and as of 2024, emissions from road transport and buildings will be regulated under a new separate emission trading scheme, known as EU-ETS II. Accordingly, 600 million allowances will be reallocated from the ESR mechanism towards the new EU-ETS II. Monitoring and reporting obligations for the new system will be in effect as of 2024, while the full operation is planned for 2027.

This gradual phase in of the new system, along with a less ambitious emission reduction target of 43% by 2030, compared to the 62% under EU-ETS, have been put in place with the aim of smoothing the transition for households and businesses. The cap will be set in 2027 along with the linear reduction factor to reach the 43% emission cuts in 2030.

Market Stability Reserve

The new system will have its own Market Stability Reserve (MSR), which aims at maintaining price stability by actively monitoring the supply of allowances. MSR will help avoiding excessive price fluctuations and maintain the balance between the supply and demand of allowances. Furthermore, the system will have a price cap of 45 euros, which will be valid until the end of 2029. The cap aims to limit the cost of the transition on households and other entities limiting the risks of a disorderly transition. The price cap will be maintained using the MSR.



Timeline with two possible starting dates						
First compliance year	Original 2027	If postponed 2028				
First deadline to surrender allowances	May 31, 2028	May 31, 2029				
Rebasing the cap	From 2028	From 2029				
Front-loaded auctioning volume	2029-2031	2030-2032				
Establishment of the MSR mechanism	2027	2028				
Commission report on effectiveness of the scheme	January 1, 2028	January 1, 2029				
Maximum annual revenue for the Social Climate Fund	€65 billion	€54.6 billion				
Social Climate Fund allocation	2026-2032	2026-2032				

Source: EU Commission, ABN AMRO Group Economics

Source: BloombergNEF

Social Climate Fund

The social implications of the new system on vulnerable end users will be addressed by establishing a Social Climate Fund with a target of 65 billion euros of revenues raised through auctioning under the EU-ETS (50 million allowances) and EU-ETS II (150 million allowances) in the period of 2026-2032. Member states that already have a carbon tax or ETS for the road transport and building sectors in place can benefit from an exemption from the EU-ETS II until 2030¹.

EU-ETS II coverage

The EU-ETS II will cover CO2 emissions from fuel combustion for road transport, buildings, and industrial activities that are not covered by the original EU-ETS. All allowances will be auctioned, thus no free allocation. Regulated entities under EU-ETS II are those selling fuel for combustion to final consumers. These entities have to hold a permit by an assigned authority that is appointed by member states. At the end of the compliance deadline (31 May, starting from 2028), reporting entities have to surrender enough allowances to cover their emissions. Entities failing to cover their position will have to pay the carbon price augmented by a penalty for every additional uncovered ton of emissions.

Possibility of postponement

The EU-ETS II legislation incorporates the option to postpone the start of its implementation by one year if either the gas (TTF price) or oil (Brent) prices are deemed to be "exceptionally high" in comparison to historical levels. Accordingly, in July 2026 the commission will announce if the start date of EU-ETS II will be postponed or not.

EU-ETS II potential impacts

In practice, the effects of the new emission scheme on households and businesses will be reflected in higher fuel prices as regulated entities pass through the costs to consumers. Accordingly, any fluctuations in the new emission allowances price will be reflected in final consumer prices adding an additional volatility to these prices. However, the price cap for the first few years will limit these effects.

With regards to the effect of the system on the transition, if clean technological alternatives are not readily affordable to all income classes, the cost of the new scheme will hit the poor hard. For example, in the absence of an affordable second hand market for electric vehicles, many households could find themselves suffering from a high fuel prices, along with a drastic value loss of their fossil cars with an inability to switch to an electric alternative. Which induce a lock-in effect in old fossil technologies. In such cases, intervention is essential by using the social climate fund to limit and compensate financial losses, while facilitating the availability of affordable alternatives. However, time is of great importance here, thus intervention should be proactive with clear and timely agenda to avoid additional transition costs.

One thing to highlight is that the new EU-ETS II will be working in parallel to other climate policies, such as regulation in the built environment. Thus, it is of a high importance for the government to analyse the impacts of the combination of these policies, and make adjustments when needed to align incentives and achieve an efficient transition.

¹ The allowances that would have been auctioned for these members will be cancelled.

EBA shelves inclusion of environmental and social risks into Pillar 1

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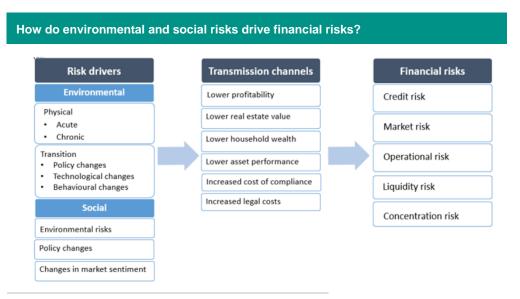
- The European Banking Authority published a report about the appropriateness and feasibility of including ESG factors in the current prudential framework
- As the prudential framework aims to safeguard the stability of the financial system, it might be worth adapting the framework to account for environmental and social risks
- Nevertheless, environmental and social risks are not considered to be new risks, but rather risks that drive the traditional categories of financial risks through a variety of channels
- The regulator notes that there are still a few challenges regarding ESG data worth considering before including it in a regulatory framework, for instance, the lack of a common, standardized and complete classification system
- Furthermore, there is also a mismatch between the design of the Pillar 1 framework and the uncertain, long-term nature of environmental and social risks
- At this stage, the EBA does not recommend introducing environmental-related adjustment factors in the calculation of banks' capital requirements

Earlier this month, the European Banking Authority (EBA) published a <u>report</u> about the appropriateness and feasibility of including ESG factors in the current prudential framework, and the Pillar 1 Framework in particular. The report follows a discussion paper that the EBA had published in May. Meanwhile, the EBA noted that this report is the first of more reports that will follow regarding the incorporation of environmental risks in the regulatory framework of banks.

The prudential framework in the EU is based on the Basel framework, which aims to ensure that banks are well capitalized and follow prudent risk management, in order to avoid disruptions to the financial system that could impact the entire economy. As such, the framework has been adjusted over time, reflecting the emergence of new risks, climate risk being one of them. Given that environmental and social risks pose financial risks to banks, it raises the question as to whether the prudential framework should be revised accordingly.

The EBA's report focussed on the question whether environmental and social risks should be incorporated into Pillar 1 capital requirements. These form the starting point for bank capital requirement calculations, addressing credit risk, operational risk, and market risk. Pillar 1 capital requirements are complemented with Pillar 2 and Pillar 3 capital adequacy assessments.

At first glance, it seems fair to include environmental and social factors into Pillar 1 capital requirements, as they pose a risk to bank's core business activities, such as through their lending activities or through their investment in assets. However, the EBA also notes that environmental and social risks should not be understood as entirely new categories of risk, but rather as risks that drive the traditional categories of financial risks through a variety of transmission channels (such as credit risk). The figure below illustrates the risk drivers as well as their transmission channels on the 'more traditional' financial risk factors affecting banks' balance sheets.



Source: European Banking Authority.

The graph above illustrates how environmental and social factors feed through into credit risk, market risk, among others, which also raises the question of the extent to which they feed through. On this topic, the EBA stresses the uncertainty about the manner that these risks will translate into financial risks, partly due to their non-linearity (a gradual incorporation of environmental and social risks into the Pillar 1 framework versus a sudden jump in unexpected losses for banks due to, for instance, floods or wildfires). Another issue is the extent to which environmental and social risks will affect different sectors in the economy, which could imply differences in financial risks for sustainable and non-sustainable firms (eventually resulting in lower/higher credit risk, respectively).

Meanwhile, the regulator considers that there are still some other challenges concerning the inclusion of environmental and social risks into regular metrics. One of these is related to ESG data. In this respect, the EBA mentions the following:

- 1. Availability of relevant, high-quality and granular data;
- 2. Lack of a common, standardized and complete classification system: definitions of what is environmentally and socially sustainable remain fragmented across jurisdictions. Furthermore, the definitions are often 'binary', which might be misleading, as there are different 'shades' of environmentally and socially sustainable, which entangle different levels of risk;
- 3. Challenges in linking non-financial forward-looking ESG information to prudential parameters: estimating the probability of materialisation of physical risks remains a challenge and requires forward-looking information;
- 4. **Challenges in the use of ESG ratings or scores**: often, the methodologies backing ESG ratings are not transparent;
- 5. **Complexity of analysis**: the granularity of classifications for what can be considered environmentally and socially sustainable may vary across different exposure classes.

The regulator also has some issues related to time horizons. Environmental risks are forward-looking, often perceived as long-term risks, with an uncertain timing and magnitude. This creates a mismatch with the Pillar 1 framework, which was not designed to align with the manifestation of long-term environmental risks, but rather to ensure resilience to unexpected adverse circumstances, pointing rather to short- and medium-term horizon. Moreover, Pillar 1 requirements are designed to protect institutions from risks with high confidence levels that may not be achieved if longer-term horizons were to be considered.

Conclusion

Overall, the EBA does not recommend introducing environmental-related adjustment factors in regular risk metrics at this stage. The regulator considers that the Pillar 1 framework already recognises environmental risk drivers in capital

requirements through certain mechanisms, like internal and external ratings, and that accounting for further environmental-related risks would most likely result in double counting.

On the other hand, the EBA does recommend, as a short-term action, that external credit ratters integrate environmental and/or social factors as drivers of credit risk whenever relevant. Furthermore, it recommends for banks, as a medium- to long-term action, to increasingly reflect environmental factors in their financial collateral valuations. Finally, the EBA notes that all the above-mentioned considerations will be re-assessed in the medium- to long-term, when more relevant, reliable and comparable data on sustainability-related matters is made available.

ESG in figures

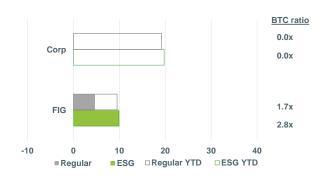
ABN AMRO Secondary Greenium Indicator

Delta (green I-spread - regular I-spread) 20 20 10 5 0 -10 -10 -25 -20 -40 Oct-21 Apr-22 Oct-22 Apr-23 Oct-23 FIG - Covered bonds FIG - SNP bonds -Corp - Utilities Gov - German Bund Corp - Real estate (rhs)

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

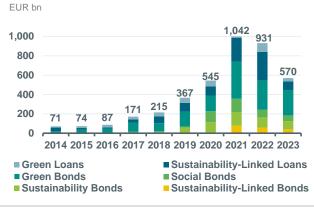
ABN AMRO Weekly Primary Greenium Indicator

NIP in bps



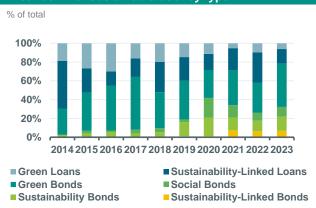
Note: Data until 26-10-23. BTC = Bid-to-cover orderbook ratio. Source: Bloomberg, ABN AMRO Group Economics

Sustainable debt market overview



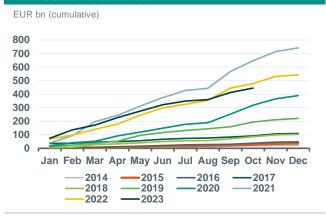
Source: Bloomberg, ABN AMRO Group Economics

Breakdown of sustainable debt by type



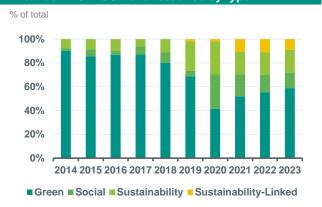
Source: Bloomberg, ABN AMRO Group Economics

YTD ESG bond issuance



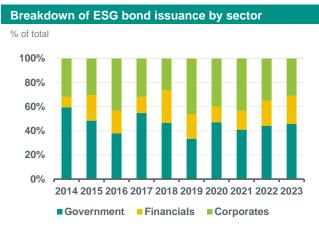
Source: Bloomberg, ABN AMRO Group Economics

Breakdown of ESG bond issuance by type

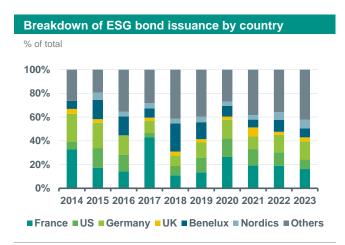


Source: Bloomberg, ABN AMRO Group Economics

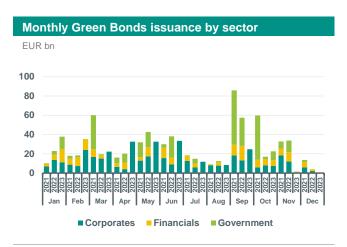
Figures hereby presented take into account only issuances larger than EUR 250m and in the following currencies: EUR, USD and GBP.



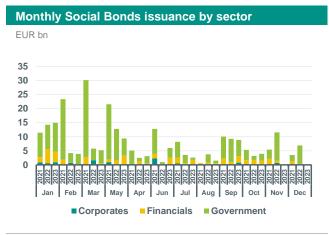
Source: Bloomberg, ABN AMRO Group Economics



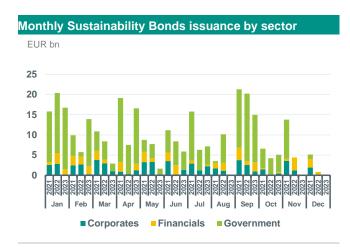
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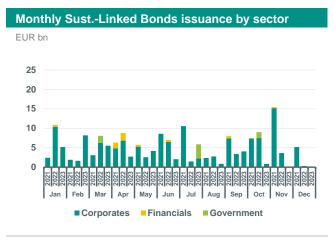
Source: Bloomberg, ABN AMRO Group Economics



Source: Bloomberg, ABN AMRO Group Economics



Source: Bloomberg, ABN AMRO Group Economics



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Carbon contract current prices (EU Allowance)

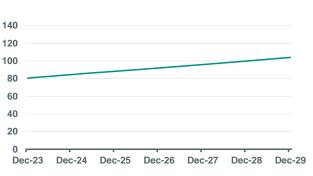
EUR/MT



Source: Bloomberg, ABN AMRO Group Economics

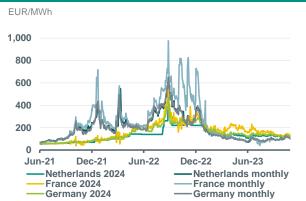
Carbon contract futures curve (EU Allowance)

EUR/MT



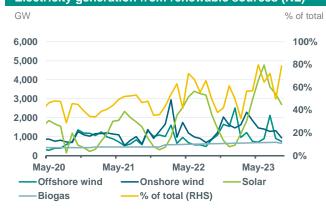
Source: Bloomberg, ABN AMRO Group Economics

Electricity power prices (monthly & cal+1 contracts)



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

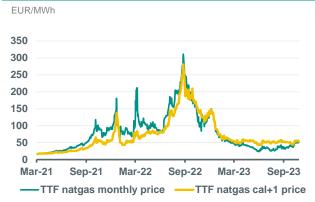
Electricity generation from renewable sources (NL)



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

TTF Natgas prices

Germany 2024



Source: Bloomberg, ABN AMRO Group Economics

Transition Commodities Price Index



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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