Impact assessment Eligible Green Loan Portfolio Argenta the Netherlands

Project: Impact Assessment Eligible Green Loan Portfolio Argenta the Netherlands

Subject: Reduced CO_2-emission calculation

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Status: Final

CFP Green Buildings has been asked to compare the greenhouse gas emissions[1] of a specific, energy-efficient group of residential real estate (in this document indicated as Eligible Green Loan Portfolio[2,3]) to that of a comparable group of residential real estate with an average energy efficiency (indicated as "Reference" or "Reference Group"[4]). The objective of this analysis is to report the positive impact of the sustainable residential real estate of Argenta (Belgium). The sustainable residential real estate of Argenta complies with the criteria of the EU Taxonomy Delegated Regulation from June 2021. This document outlines the results of this analysis.

About Argenta

Argenta Bank- en Verzekeringsgroep (Argenta Group) provides retail financial services for families in Belgium and the Netherlands, through Argenta Spaarbank (banking) and

Argenta Assuranties (insurance). Founded in 1956, Argenta is today Belgian's sixth largest banking institution by customer deposits, with over 1.7 million customers. Its product offering that focusses on simplicity and long-term relationships of trust with the clients builds on four pillars:

- Savings
- Lending
- Insurance
- Investments

The group operates in Belgium through an extensive network of local self-employed, tied agents.

Mission and vision

Argenta wants to assist families and individuals in living financially healthy lives in a simple, honest and close-at-hand way. Additionally, this mission takes into account the company values, that have marked Argenta's strategy and corporate culture from the outset:

- Simple, 'no frills'
- Honest
- Close-at-Hand
- Enterprising and Independent
- Future-oriented and Safe

Argenta is an independent bank-insurer with an excellent customer service and long-term relationships with all its stakeholders. It is a solid and stable institution with strong capital

[1] Greenhouse gas emissions are calculated in CO_2-equivalent, which will be referred to as CO_2 throughout this document.
[2] When referring to the Eligible Asset Portfolio in this document, we refer to Dutch Residential Green Buildings only.
[3] The Eligible Green Loan Portfolio consists of 13,819 objects. The Eligible Green Loan Portfolio represents 23.69% of the total outstanding amount of the total portfolio (excl Green Apple transactions) as mentioned above.
[4] The Reference Group is a group of residential buildings with comparable floor area and average energy efficiency.

and liquidity ratios and sound risk and investment policies. The rapid digital evolution goes hand-in-hand with special attention to cyber security and data protection. In Belgium, Argenta wants to be easily accessible through its self-employed distribution partners but also digitally with a range of retail banking and insurance products tailored to individuals and families. In the Netherlands, distribution takes place digitally and through independent distribution channels, with a focus on mortgage loans. In Luxembourg, Argenta manages investment funds.

Building year and energy label comparison

Assets in the Eligible Green Loan Portfolio should have an energy label A or belong to the top 15% of the national or regional building stock expressed as operational Primary Energy Demand, as required by the EU taxonomy. The building year is used as a criterion to determine the top 15%. Over time, the Dutch Building Regulations require higher energy efficiency and improved sustainability for new buildings. Therefore, the year of construction is used as a criterion to define the Argenta Eligible Green Loan Portfolio. 12.36% of the total Dutch housing stock is built between 2006 and 2020.[5] Hence, the selected year of construction to determine the top 15% is 2006. This way, the buildings in the Argenta Eligible Green Loan Portfolio belong to the top 15% of most energy-efficient buildings of the Dutch real estate market. Additionally, buildings built before 2006 with an energy label A deliver a substantial contribution to climate change mitigation, according to the EU Taxonomy. Figure 1 shows the distribution of the energy labels of the Eligible Green Loan Portfolio and the registered energy labels in the Netherlands for residential buildings. In the Argenta Eligible Green Loan Portfolio, all objects built before 2006 have a registered energy label A. As per the end of 2022, there are 1,541,218 registered energy labels with an A rating in the Netherlands.[6]

Figure 1: Distribution of provisional and registered energy labels Eligible Green Loan Portfolio and residential buildings in the Netherlands

Methodology

The CO_2-emissions of the 13,819 eligible objects are determined by using the calculated energy consumption of these objects. The energy usage is based on algorithms and benchmarks from the expert system of CFP Green Buildings. This is the largest building database in the Netherlands with actual data on energy consumption and building characteristics. In this study, the calculated energy consumption of the Reference Group was determined based on data from Centraal Bureau Statistiek[7] (CBS) and CFP. The Reference Group is a group of residential buildings with comparable floor area and average energy efficiency. The total energy consumption can be converted to CO emissions by using standard conversion factors. The Dutch government created a widely accepted and uniform list with grid emission factors: www.co2emissiefactoren.nl. In line with PCAF[8] , the grid emissions related to the direct emissions are used, which is also

[5] All residential buildings built since 2006 either have a registered energy label A or would have gotten a provisional energy label A. Provisional energy labels were calculated based on building characteristics.
[6] Source: EP-Online for EPC labels http://www.ep-online.nl/
[7] Source: the Dutch national statistical office: https://www.cbs.nl/en-gb

[8] Partnership for Carbon Accounting Financials (PCAF) is a global partnership of financial institutions that work together to develop and implement a harmonized approach to assess and disclose the greenhouse gas (GHG) emissions associated with their loans and investments.

known as Tank-To-Wheel (TTW[9]). Whenever the origin of the consumed electricity is unknown, the emission factor for electricity from an undefined energy source should be used. The factor for electricity is updated regularly to reflect changes in the Dutch electricity mix. This leads to the following emission factors:

Applied GHG emission factors[10]

Natural gas	1.782	kg CO_2e /m^3
Electricity	0.29	kg CO_2e /kWh

Table 1: Dutch CO_2-emission factors

11,053 objects in the Eligible Green Loan Portfolio have a registered energy label A. As described in the methodology report, buildings constructed in and after 2006 belong to the top 15% of the national building stock, expressed as operational Primary Energy Demand. The portfolio includes 8,462 objects built between 2006 and 2020. The objects with a registered EPC A should be excluded from this group to avoid double counting, and results in 2,247 eligible assets. By combining both criteria (EPC A and top 15% of the national building stock expressed as PED), the amount of assets in the Eligible Green Loan Portfolio is 13,303. Furthermore, the portfolio also includes 516 objects built in or after 2021 that are eligible due to the meeting the requirements for a PED lower than 10% threshold set for a Nearly Zero Energy Building (NZEB). Therefore, the total amount of assets eligible for the green bond portfolio is 13,819.

Energy consumption

Table 2 shows the calculated energy consumption of the Eligible Green Loan Portfolio. The calculated annual energy consumption is approximately 50 million kWh of electricity and around 15 million m^3 of natural gas. To calculate the total energy consumption in kWh, the natural gas consumption in m^3 needs to be converted to kWh[11] , giving a consumption of 73.5 kWh per m^2. The total calculated energy consumption is 98 kWh per m^2.

	Electricity consumption		Natural gas consumption	
	(x1,000 kWh)	(kWh/m^2)	(x1,000 m^3)	(m^3/m^2)
Buildings built between 2006 -Ye2020 (top 15%)	28,553	23.6	9,222	7.6
Buildings with a registered EPC A built before 2006	18,350	25.2	5,907	8.1
Buildings built since 2021 (NZEB-10%)	1,847	25.9	0	0
Total Eligible portfolio	48,751	24.2	15,129	7.5

Table 2: Calculated energy consumption Eligible Green Loan Portfolio

[9] Tank-to-Wheel (TTW) are the direct emissions of an activity. In this case, the direct emissions of the energy usage.

[10] Source: https://www.co2emissiefactoren.nl using TTW emissions.
[11] Conversionfactor for natural gas: 1 m^3 = 9,769 kWh

CO_2-emission

Table 3 shows the CO_2-emissions of the Eligible Green Loan Portfolio and the Reference Group, based on the calculated energy consumption. The total CO_2-emissions of the Eligible Green Loan Portfolio is 41,247 tons CO_2 per year while the annual CO_2-emission for the Reference Group is 66,864 tons. Thus, the buildings in the Eligible Green Loan Portfolio are estimated to emit 25,617 tonnes of CO_2 per year less than the Reference Group.

	GHG emission Eligible Green Loan Portfolio (tonnes CO_2e)	GHG emission Reference (tonnes CO_2e)	GHG emissions Avoided (tonnes CO_2e)
Buildings built between 2006 - Ye2020 (top 15%)	24,714	40,152	15,438
Buildings with a registered EPC A built before 2006	15,849	24,122	8,273
Buildings built since 2021 (NZEB-10%)	536	2,363	1,827
Total Eligible portfolio	41,099	66,637	25,537

Table 3: CO_2-emission Eligible Green Loan Portfolio compared to the Reference Group

Annual development of climate impact

CFP Green Buildings also gave insights in the energy consumption of the Eligible Green Loan Portfolio as per year-end 2021 and compared the CO_2-emissions of the Eligible Green Loan Portfolio to that of a comparable group of residential real estate with an average energy-efficiency. Figure 2 shows the energy consumption of the Eligible Green Loan Portfolio in 2021 and 2022. In order to compare outcomes of both reports the numbers are converted to consumption/ CO2-emissions per m2. The total energy consumption for the Eligible Green Loan Portfolio is illustrated below.

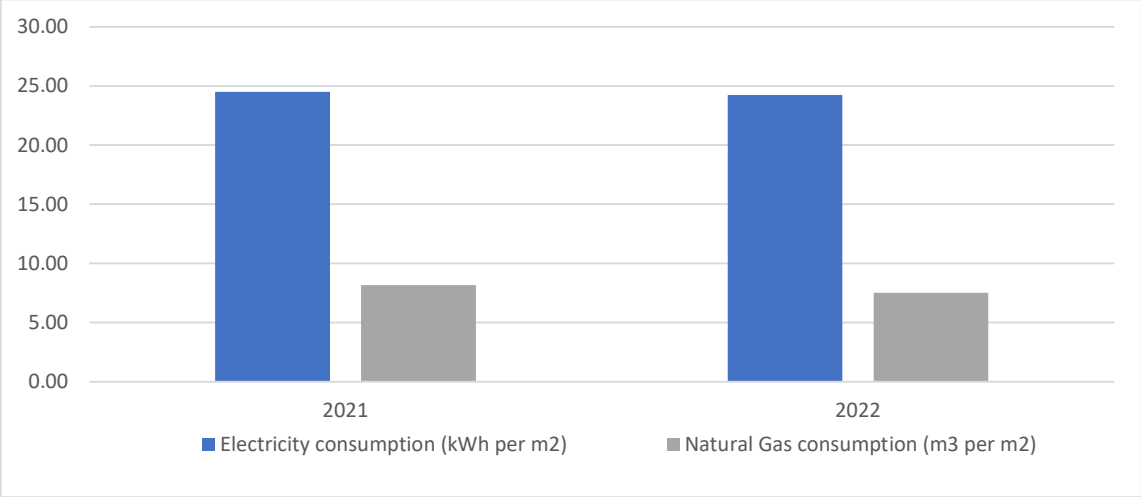

Figure 2: Energy consumption comparison for the years 2021 and 2022

Figure 3 gives insight to the reduced CO_2-emissions per m^2 of the Eligible Green Loan Portfolio in 2021 and 2022. The total energy consumption is converted to CO_2-emission by using standard conversion factors. The CO_2-emissions are calculated over the entire portfolio, divided by the total amount of square meters. This graph illustrates that the CO_2-emissions of the Eligible Green Loan Portfolio have decreased over the last year, from 24.51 kg CO_2 per m^2 to 20.43 kg CO_2 per m^2. In addition, the emissions based on the reference have increased on year basis. For the year 2021 this was 9.66 kg CO_2 per m^2 (28% compared to reference) reduced, while the year 2022 had 12.69 kg CO_2 per m^2 (38% compared to reference) reduced. Thus, a 10% increase in reduced emissions compared to the reference group has been realized for the year 2022.

Figure 3: Reduced CO_2-Emissions relative to the reference group for the years 2021 and 2022

Conclusion

The following conclusions are drawn from this study:

- The buildings in the Eligible Green Loan Portfolio are estimated to emit 25,537 tonnes of CO_2 per year less than the Reference Group, which is a difference of 38%.
- Total primary energy consumption is calculated at 98 kWh/m^2.
- All buildings in the Eligible Green Loan Portfolio deliver a substantial contribution to climate change mitigation following the EU Taxonomy definition, either by having an EPC class A rating or belonging to the top 15% of the national building stock expressed as operational PED, or meeting the requirements for a PED lower than 10% threshold set for a Nearly Zero Energy Building (NZEB).
- The reduced emissions have increased from 28% for 2021 to 38% for the year 2022. A total of 10% increased reduced emission performance in relation to the reference group.