



Alliander
Green Finance
Report 2022

alliander

September 8, 2023

Introduction

At the end of 2022 Alliander N.V. has issued five Green Finance instruments. These instruments include four green bond issues with a total amount of €1,600 million and a €100 million private placement. All issues were arranged under the Euro Medium-Term Notes Programme (EMTN).

As set out in Alliander’s Green Finance Framework, the net proceeds of the Green Finance Instruments have been exclusively used to wholly or partly finance or refinance eligible assets (“Eligible Green Assets”) in the following categories, together forming the “Eligible Green Asset Portfolio”:

- 1) Renewable Energy (integration of renewable electricity in existing electricity grids)
- 2) Energy Efficiency (smart technology including smart meters and communication technology)
- 3) Green Buildings.

The 3 selected activities are eligible within EU Taxonomy boundaries.

The Green Finance Framework sets the basis for the identification, selection, verification and reporting of the Eligible Green Assets as well as the management of the proceeds from Green Finance Instruments.

Within the framework, the categories relating to Eligible Green Assets are aligned with the United Nations Sustainable Development Goals (UN SDGs), in particular Goals 7, 9, 11 and 13.

Alliander’s Green Finance Framework is verified against the International Capital Market Association’s (ICMA) Green Bond Principles (GBPs) and the Green Loan Principles (GLPs) for each of the green bond issues. This information can be found in the corresponding Second Party Opinions (SPO) prepared by ISS-ESG (formerly ISS-oekom and oekom research), which are available on the corporate website <https://www.alliander.com/en/investors/financing/green-bonds/>. These SPOs also contain an assessment of the asset pool and whether projects are aligned with ISS ESG’s issue-specific key performance indicators, as well as Alliander’s sustainability performance according to the ISS-ESG rating.

Deloitte has provided limited assurance on specific elements of the allocation of each Green Finance Instrument’s proceeds.

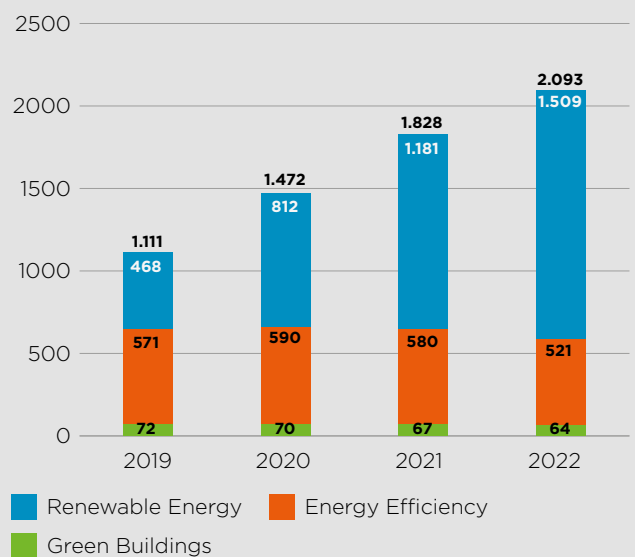
See page 8 for the assurance report.

With this report Alliander fulfils its commitment as stated in its Green Finance Framework to report on the allocation of net proceeds and associated environmental benefits annually until the proceeds of each Green Finance Instruments have been fully allocated,

This report contains information on the use of proceeds, allocation and impact reporting of all Green Finance Instruments issued to date. Also included is a case study. This provides background information on the assets financed by the green bonds issued in 2019, 2020 and 2022 respectively.

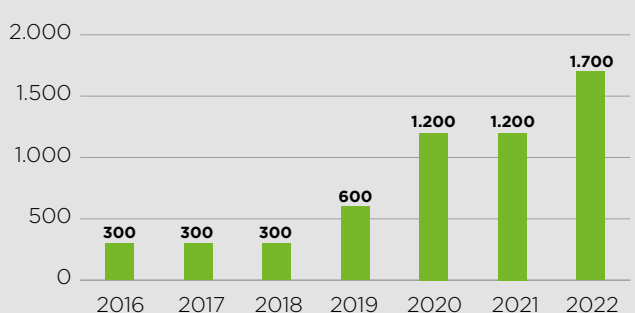
Eligible green asset portfolio

Weighted amount (millions of EUR)



Funding Green Bonds

Amount (millions of EUR)



Allocation report

Use of Proceeds Allocation Table

Eligible Green Asset Portfolio per 31 December 2022					Green Funding			
Green Eligible Category	Taxonomy	Net asset value (millions of EUR)	Weight factor	Weighted amount (millions of EUR)	Instrument (ISIN)	Issuance Date	Maturity Date	Amount (millions of EUR)
Renewable Energy (grid)	EU TSC 4.9	3.679	41%	1.509	XS1400167133	22-04-2016	22-04-2026	300
Energy Efficiency	EU TSC 7.5	521	100%	521	XS2014382845	24-06-2019	24-06-2032	300
<i>Smart Meters</i>		473	100%	473	XS2152901315	08-04-2020	08-04-2035	100
<i>Fibre-optic telecom network</i>		47	100%	47	XS2187525949	10-06-2020	10-06-2030	500
Green Buildings	EU TSC 7.1, 7.2, 7.7	64	100%	64	XS2531420730	09-09-2022	09-09-2027	500
Total Eligible Green Asset Portfolio				2.093	Total Green Funding			1.700

% of Eligible Green Asset Portfolio allocated to Green Finance Instruments net proceeds:	81%
% of Eligible Green Asset Portfolio - Unallocated:	19%
% of Net Proceeds of Green Funding allocated to Eligible Green Asset Portfolio:	100%
Increase in net asset value of the Renewable Energy, Energy Efficiency and Green Buildings categories since December 2021	265
Available Green Finance Budget	393

Net asset value consists of book value as recorded in Property, Plant and Equipment, net of the related deferred income. These balance sheet items are measured in accordance with the International Financial Reporting Standards (IFRS) as at 31 December 2022, as adopted by the European Union (EU).

*Unit of measurement (millions of EUR)

Notes to the Allocation report

Proceeds from all Green Finance Instruments have been fully allocated to the Eligible Green Asset Portfolio and have been fully used for refinancing purposes.

The renewable electricity production ratio is defined as the share of renewable electricity produced in the Netherlands. In 2022, the renewable power generation ratio in the Netherlands corresponds is 41%.

Source: Energieopwek

<https://www.nationaalklimaatplatform.nl/2381687.aspx?t=Groei-duurzaam-spaarde-16-miljard-kuub-gas-uit>

Alliander currently takes a conservative approach to defining the electricity grid eligible amount; however, it may in future, include a higher percentage of the asset value of the grid if the EU Taxonomy regulation recommends it.

The Green Buildings included have an outstanding Energy performance certificate. EPC: > A (per EOY 2022)



Impact report

Impact reporting table aligned with the portfolio approach impact reporting described in “Handbook - Harmonised Framework for Impact Reporting (June 2022)” See below ¹.

ICMA / LMA Green Eligible category ²	Signed Amount millions of EUR ³	Share of Total Portfolio Financing ⁴	Eligibility for Green Financing Instruments ⁵	Capacity of renewable energy production connected to the grid ⁶	Renewable energy production feed into grid by total solar, wind capacity ⁶	Energy consumption savings ⁶	Estimated avoided CO ₂ emissions (GHG scope 1+2) ⁶	Estimated avoided CO ₂ emissions (GHG scope 3) ⁶	Contribution to specific UN SDG
				MW	MWh	GJ per year	Metric tonnes CO ₂ e	Metric tonnes CO ₂ e	
Renewable Energy (grid)	1.503	70%	100%	7.726	9.475.487			3.193.239	UN SDG 7, 13
Energy Efficiency (only Smart Technologies)	572	27%	100%			1.082.951		78.483	UN SDG 9,11
Green Buildings	64	3%	100%			690 ⁷	1.074		UN SDG 11
Total	2.139	100%	100%	7.726	9.475.487	1.083.641	1.074	3.271.722	

¹ https://www.icmagroup.org/assets/documents/Sustainable-finance/2022-updates/Harmonised-Framework-for-Impact-Reporting-Green-Bonds_June-2022-280622.pdf

² Eligible category

³ Signed amount represents the amount legally committed by the issuer for the portfolio or portfolio components eligible for Green Finance Instruments

⁴ This is the share of the total portfolio per eligible category

⁵ This is the share of the total portfolio costs that is eligible for Green Finance Instruments

⁶ Impact report indicators

⁷ Average primary energy consumption savings compared to the Dutch average is 750 MJ/m². Source; calculation on behalf of several sources. <https://www.milieubarometer.nl/voorbeelden/kantoor/>
<https://passiefbouwen.nl/publicaties/benchmark-energieverbruik-gebouwen>
<https://passiefbouwen.nl/publicaties/benchmark-energieverbruik-gebouwenbenchmark-energieverbruik-gebouwen>
<https://www.co2emissiefactoren.nl/lijt-emissiefactoren/>

All categories are eligible within the EU Taxonomy.

Notes to the Impact report

Renewable Energy

The avoided CO₂ emissions have been estimated by taking the annual expected electricity production from connected wind and solar capacity and calculating the amount of CO₂ that would have been emitted if the average production mix (including coal and gas) had been applied.

Energy Efficiency

The avoided CO₂ emissions have been estimated by applying a 1% saving on the annual consumption of gas and electricity households. This represents the effect of improved insight into actual energy consumption savings.

Several studies have been conducted into expected savings in electricity and gas consumption following the installation of smart meters. The results typically range from 1% to 6% in total savings. In the next few years more studies may be published that perhaps will provide a narrower estimate of the energy saved by the smart meter, but attribution will remain difficult to prove and therefore a matter of discussion. Although no assurance can be provided with respect to the percentage of energy savings, we have been conservative in our estimates by using 1% energy savings per year for both gas and electricity



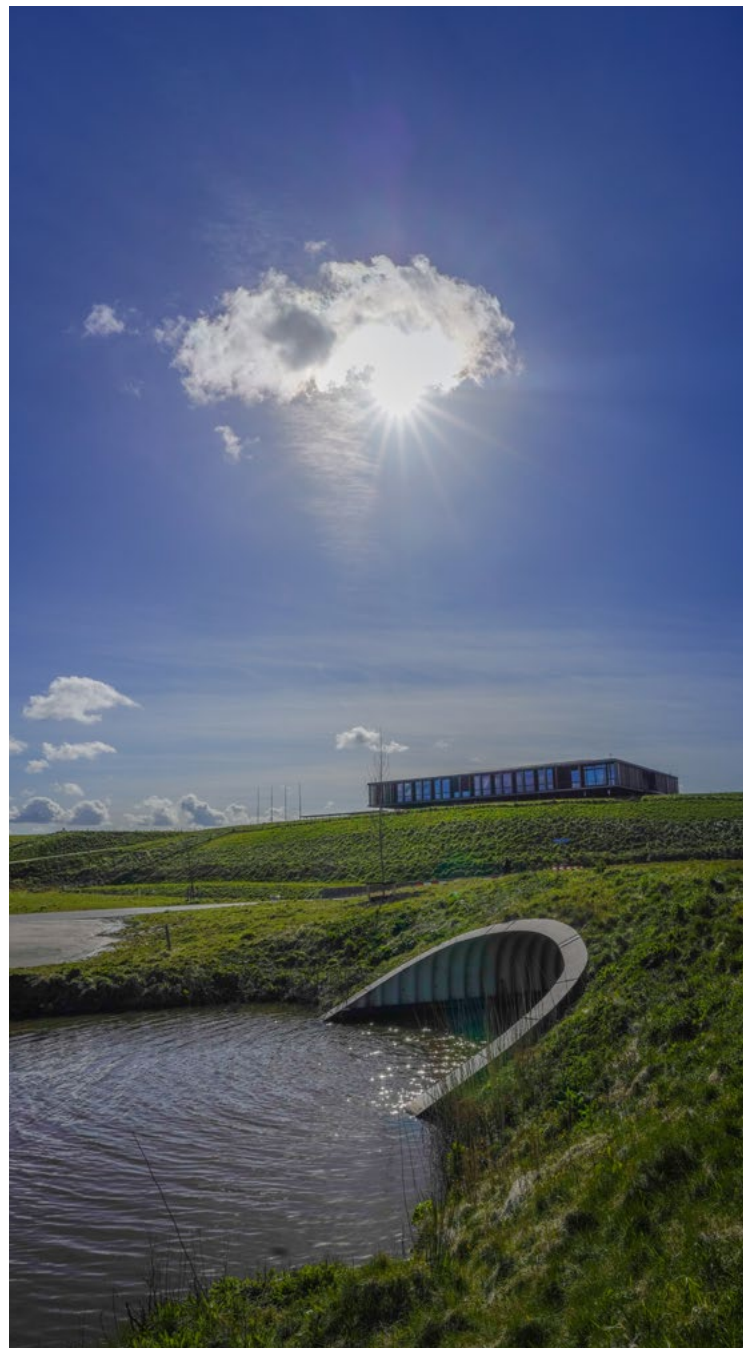
consumption. This percentage represents the change of energy consumption before the smart meter was installed against a comparable period after the installation. We have estimated the avoided CO₂ emissions in relation to the expected savings. As inputs we used the number of installed smart meters financed with this green bond and the average electricity and gas consumption per household in our service areas. We feel it is important to give insight into the potential impact of the smart meter in terms of energy savings and avoided CO₂ emissions.

Green Buildings

Avoided CO₂ emissions are calculated on the basis of 21,858 m² of office space for the Duiven location, comparing the energy consumption of this location per m² with that of the average Dutch office building (taken from Milieubarometer. <https://www.milieubarometer.nl/voorbeelden/kantoor/>)

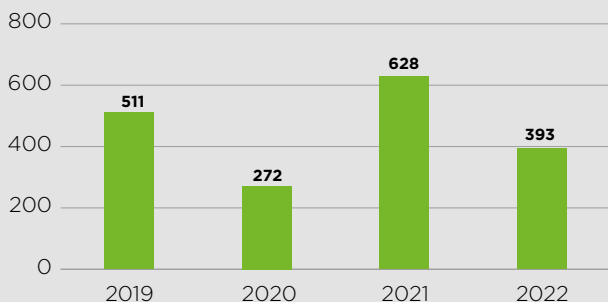
All projects contribute to EU Environmental Objective Climate Change Mitigation.

Avoided CO₂ emissions reflect the scopes of the Greenhouse Gas Protocols. Greenhouse gas-related emissions of our activities are disclosed in our annual report. Customer-related scope 3 emissions, as part of the energy use within the supply chain, are not included in our annual report.



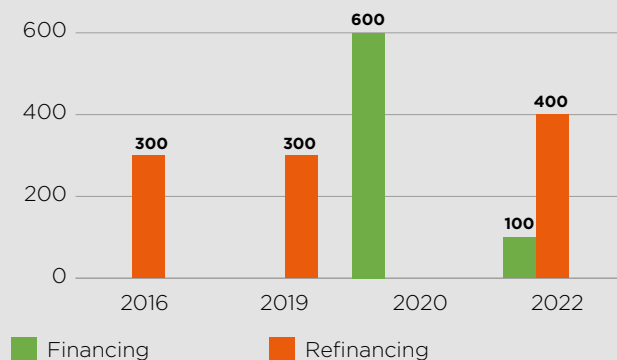
Available Green finance budget

Amount (millions of EUR)



Green bond: financing/refinancing

Amount (millions of EUR)



Any green bond issue that is followed within one year by the redemption of an existing bond is classified as refinancing. In all other circumstances, it is classified as financing, even if the proceeds are used to repay ECP.

Reporting changes

Alliander's first Green Bond Report was published in 2017 and related to our inaugural green bond issued in April 2016. This was a one-off report.

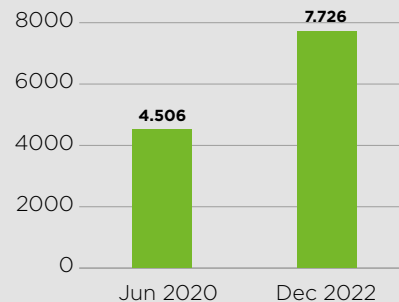
Since our second report, we have started to implement some important changes:

1. Portfolio-based reporting. Going forward we will report on the portfolio of Eligible Assets and the amounts of Green Financing outstanding instead of on an instrument-by-instrument basis. The impact of each instrument can still be derived by using a pro-rata approach.
2. Net asset value reporting. In light of the recommendations of the EU Green Bond Standard and its position towards refinancing long-dated green assets, we have moved from CAPEX reporting to net asset value reporting. This allows us to apply a weighted net asset value approach that better fits the nature of our network activities. While our whole network is used to distribute renewable electricity to our customers, only part of the electricity we distribute is of renewable origin. We therefore apply a weight to the net asset value of our network assets based on the share of renewable production out of the total electricity production in the Netherlands.
3. As our reporting on the second green bond issued in June 2019 was due in June 2020, and we were already in position to report on the green bond issued in June 2020, we have combined the two reports into one. This report also covered the €100 million private placement issued in April 2020. All net proceeds of these Green Finance Instruments have been fully allocated.

This is our third Green Financing Report. The green bond issued in September 2022 is incorporated. The name has evolved from 'Green Bond Report' to 'Green Finance Report' to allow for future diversification of instruments allocated.

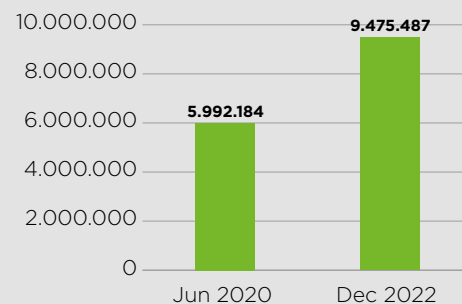
Capacity of renewable electricity production connected to the grid

In MW



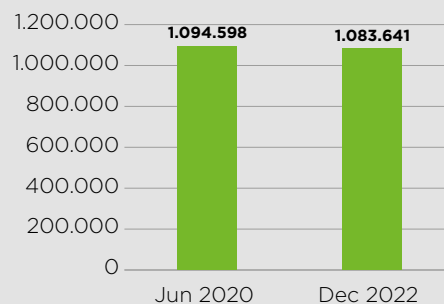
Renewable electricity production feed into grid by total solar, wind capacity

In MWh



Energy consumption savings

In GJ per year



Use of proceeds

Renewable Energy:

Assets aimed at integrating and enhancing the transmission capacity for renewable energy in the Dutch electricity grid.

This includes investments in the electricity grid such as cables, medium-voltage stations and substations, as well as connections to renewable sources like wind and solar, and connections to household and business consumers.

Energy Efficiency:

Installation, maintenance and repair of smart meters recording customer's gas and electricity consumption for demand management, including:

- Sensor and technology deployment in mid/high voltage grid
- Wireless networks and fibre optic cable and network for transmitting and receiving data.

Green Buildings:

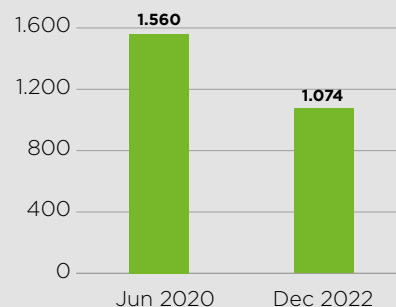
- New or refurbished buildings that meet any of the following criteria:
 - EPC rating > A; or
 - The Primary Energy Demand is at least 10 % lower than the threshold set for the nearly zero energy building (NZEB) requirements

This includes investment in our energy-neutral office building in Duiven.

- Energy efficiency projects in buildings that result in a reduction of primary energy demand (PED) of at least 30% or complies with the applicable requirements for major renovations (Directive 2010/31/EU)

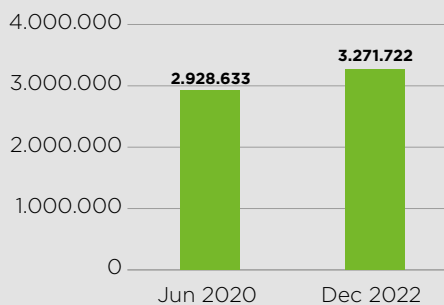
Estimated avoided CO₂ emissions (GHG scope 1+2)

In metric tonnes CO₂ e

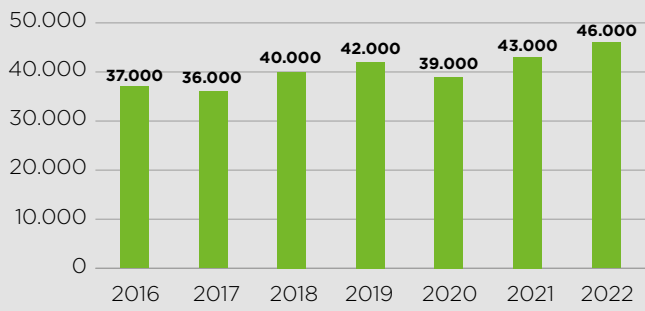


Estimated avoided CO₂ emissions (GHG scope 3)

In metric tonnes CO₂ e

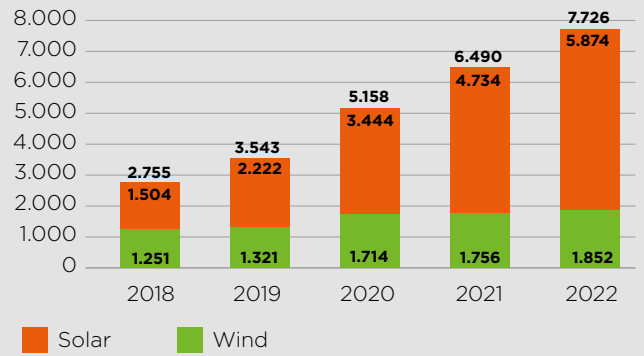


Number of new connections E



Connected renewable energy

In MW



Case study: towards standardised & sustainable electricity distribution stations

For a future-oriented energy supply for the Netherlands

The energy transition is causing fundamental changes in the landscape. The integration of renewable energy sources into the grid and the maintenance of a stable and reliable electricity supply present us with significant challenges and require grid investments. Alliander's business activities undoubtedly have an effect on the environment, nature and the landscape. We have a responsibility to ensure grid demand is met when it is needed and provide reliable and affordable energy distribution, as well as mitigating the impact we have on our environment. This paragraph shows how we implement this in the design and construction of high-voltage substations.

The high-voltage grid consists mainly of stations and connections between the stations to transport electricity from where it is generated to where it is used. At the stations, the electricity is distributed to other stations or to users, such as residential or industrial areas. At certain stages during transport, the voltage needs to be increased or decreased to feed the mid- and low voltage grids. Our challenge is to achieve this in a quick, efficient and sustainable manner.

Standardised building blocks

We do this by designing stations as standard building blocks. We build a station using several building blocks, depending on the size of the station. This allows us to build in a quick and efficient way and thus meet the growing need for electricity connections.

Alliander operates in such a way that it minimises its negative impact on society, compensating for this or even making a net positive contribution to the immediate environment. This also helps us to obtain the necessary building permits more quickly.

We look at the whole picture, from a life cycle value perspective: the building, the electrical installations, the grounds and the construction, use and management of the station. We pay attention to aspects such as climate change and adaptation, biodiversity and circular construction.

The sustainable substation

The substation building contains spaces where the electrical installations are located and spaces with facilities for employees. We do not consider the building as an industrial one, but as a full-fledged building. As if it were a building in which people work or live. We therefore use fully insulated walls, roofs and windows. This minimises the energy requirement for keeping the building at operating temperature.



The spaces contain various technical installations, such as lighting, heating, ventilation and climate control. The standardised design ensures that the energy consumption of this type of installation is minimised by creating natural ventilation in combination with smart climate control. In addition, LED lighting is used in combination with motion sensors to minimise energy consumption at the station.

For the electricity consumption that remains after these savings, Alliander installs PV panels on the roofs of the buildings of lower, switching and control stations. This compensates for part of the energy consumed by the installations at these stations. The electricity generated in this way is also used to charge electric company cars.

Landscape integration

The building is constructed using the layer model. In addition, we combine a standardised inner shell with a more flexible outer shell / façade. For this façade we have a catalogue of different embodiments to choose

from, enabling a better fit with the environment. In this way we combine standardisation with landscape or urban integration.

Step by step towards increased sustainability

Alliander is working on making its architectural standards more sustainable step by step. We do this by gaining experience through pilot projects and using this experience to make our architectural standards more sustainable. We do this in close consultation with the municipalities involved, whereby we also contribute to their learning curve. We are exploring the possibility of timber-based construction (HSB) which allows for a lower environmental footprint.

If these pilots are successful and scalable, we will include them in our standards. Because sustainable building as a field is still in its infancy, this requires a development process. This is also an ongoing process for Liander, where we want to continuously improve.

Pilot project 1: Crailo substation



The Crailo substation is being built on the edge of a nature reserve area. It is part of a transformation from an abandoned army barracks site to a sustainable residential area (Crailo hamlet) spanning two municipalities: Laren and Hilversum. The sustainable substation serves as an example and yardstick for the project developers who want to develop this hamlet. This is reflected in the building's appearance and the site layout.

During the design phase, the Dutch Environmental Performance Buildings Score was also taken into

account. The goal was to see the maximum score that would be achievable.

This translated into a timber frame construction (stored CO₂), additional solar panels, green roof and bottom cooling for climate control, reuse of materials on the site, such as roof tiles for the façade cladding, concrete pavers for the pavement and old walls that are almost incorporated one for one in the new design.

Pilot project 2: Strand Eiland substation (Amsterdam)



Liander has constructed a substation on the newly sprayed Strandeiland in the IJburg district of Amsterdam.

Strandeiland is being developed as a sustainable all-electric residential district. The sustainable substation serves as a testing ground for the project developers who want to develop this district. This is reflected in building appearance and the use of Amsterdam Environmental Performance Buildings score.

The goal here was to build a modular construction station, using standard materials that met the Amsterdam Environmental Performance Buildings score. Important themes here are: circularity, climate resilience and CO₂ positivity.

Lessons learned and next steps

The pilots explored the boundaries of sustainable construction. The conclusion is that all pilots were successful and resulted in appealing sustainable buildings. However, fully converting the pilot designs into standards is not yet possible. This needs to be taken forward step by step.

Sustainable building as a discipline is still in development. This applies to the knowledge and skills needed by Alliander as well as to market parties. There are also challenges with regard to the availability and affordability of sustainable materials. Certified sustainable materials are by no means common. The reuse of building elements requires strict agreements with owners and demolition companies of the donor building. Timber frame construction requires additional knowledge on fire retardation and explosion containment.

The Dutch Environmental Performance Buildings score system is still under development and needs further improvement. Not all sustainable materials can be processed in the calculation module required by Dutch Building regulations. The calculation per m² of floor space does not match the tall closed transformer buildings, for example.

Liander is now taking the next step and working with Movares to lay down Modular Building Standards for both timber frame construction and green roofs.

Assurance report of the independent accountant

To: the Management Board of Alliander N.V.

Our conclusion

We have examined the Net Asset Value as per December 31, 2022 as included in the Allocation Report section (page 3) of the Green Finance Report 2022 of Alliander N.V. at Arnhem.

Based on the procedures performed and evidence obtained, nothing has come to our attention that causes us to believe that the Net Asset Value as per December 31, 2022 as included in the Allocation Report section (page 3) of the Green Finance Report 2022 of Alliander N.V. is not prepared in all material respects, in accordance with the applicable criteria.

Basis for our conclusion

We have performed our examination in accordance with Dutch law, including Dutch Standard 3000A *Assurance-opdrachten anders dan opdrachten tot controle of beoordeling van historische financiële informatie (attest-opdrachten)* (assurance engagements other than audits or reviews of historical financial information (attestation engagements)). This engagement is aimed to obtain limited assurance. Our responsibilities in this regard are further described in the 'Our responsibilities for the examination of the Net Asset Value as per December 31, 2022 as included in the Allocation Report section (page 3) of the Green Finance Report 2022' section of our report.

We are independent of Alliander N.V. in accordance with the 'Verordening inzake de onafhankelijkheid van accountants bij assurance-opdrachten' (ViO, Code of Ethics for Professional Accountants, a regulation with respect to independence). Furthermore we have complied with the 'Verordening gedrags- en beroepsregels accountants' (VGBA, Dutch Code of Ethics).

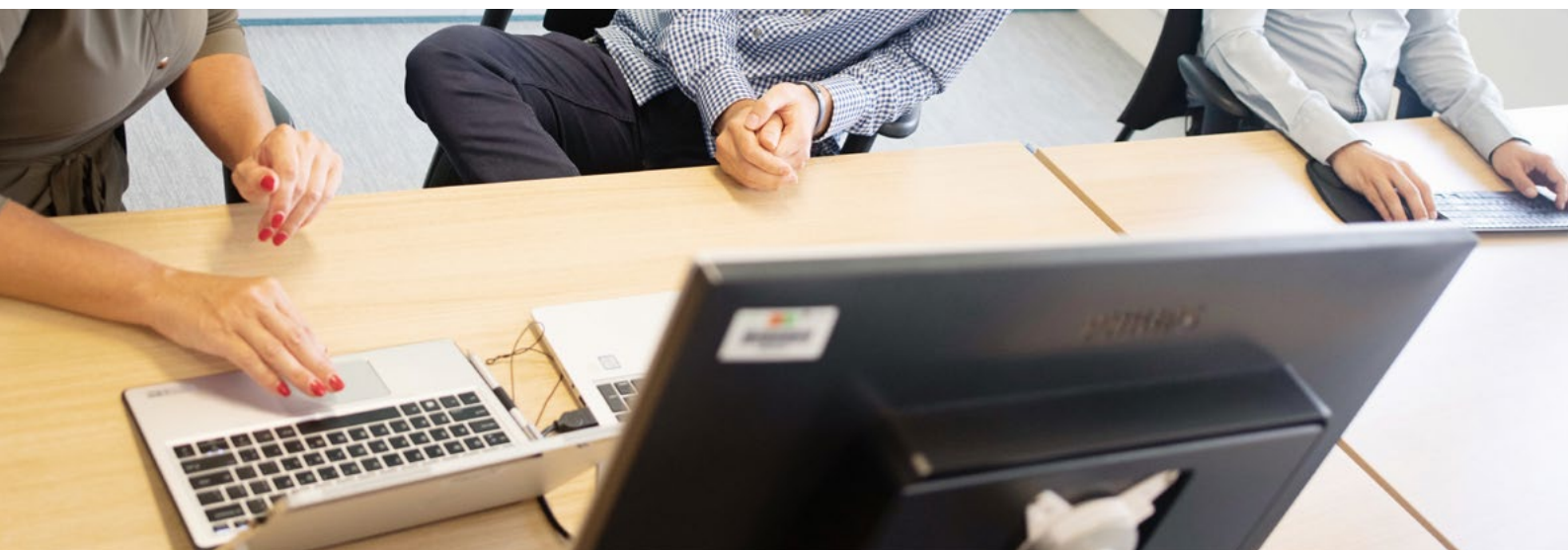
We believe that the evidence we have obtained is sufficient and appropriate to provide a basis for our conclusion.

Applicable criteria

The Allocation Report needs to be read and understood together with the reporting criteria. Alliander N.V. is solely responsible for selecting and applying these reporting criteria, taking into account applicable laws and regulations related to reporting.

The reporting criteria used for the preparation of the Allocation Report are the Alliander Green Finance Framework Augustus 2022, and The paragraph "Notes to the Allocation report" as included on page 3 of the Green Finance Report 2022.

The absence of an established practice on which to draw, to evaluation and measure the information in the Allocation Report allows for different, but acceptable, measurement techniques and can affect comparability between entities and over time.



Responsibilities of the management board for the Net Asset Value as per December 31, 2022 as included in the Allocation Report section (page 3) of the Green Finance Report 2022

The management board of the company is responsible for the preparation of the Net Asset Value as per December 31, 2022 as included in the Allocation Report section (page 3) of the Green Finance Report 2022 in accordance with the applicable criteria.

The management board is also responsible for such internal control as it determines is necessary to enable the preparation, measurement or evaluation of the Net Asset Value as per December 31, 2022 as included in the Allocation Report section (page 3) of the Green Finance Report 2022 that is free from material misstatement, whether due to fraud or errors.

Our responsibilities for the examination of the Net Asset Value as per December 31, 2022 as included in the Allocation Report section (page 3) of the Green Finance Report 2022

Our responsibility is to plan and perform our examination in a manner that allows us to obtain sufficient and appropriate evidence for our conclusion.

The procedures performed in this context differ in nature and timing and are less extent as compared to reasonable assurance engagements. The level of assurance obtained in a limited assurance engagement is therefore substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed.

We apply the '*Nadere voorschriften kwaliteitssystemen*' (NVKS, Regulations for quality management systems) and accordingly maintain a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

Our examination included amongst others:

- Identifying areas of the Net Asset Value as per December 31, 2022 as included in the Allocation Report section (page 3) of the Green Finance Report 2022 where a material misstatement, whether due to errors of fraud, are most likely to occur, designing and performing procedures responsive to these areas, and obtaining information that is sufficient and appropriate to provide a basis for our conclusion.
- Considering the internal control relevant to the examination in order to select procedures that are appropriate in the circumstances, but not for the purpose of expressing a conclusion on the effectiveness of the company's internal control.
- Making inquiries of management and others within the entity.
- Determining the plausibility of the information included in the Net Asset Value as per December 31, 2022 as included in the Allocation Report section (page 3) of the Green Finance Report 2022.

Amsterdam, September 8, 2023

Deloitte Accountants B.V.

Initial for identification purposes :

M. Lamers RA





September 2023

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Explanatory note

“We”, “Alliander”, “the company” and similar expressions used in this report mean Alliander N.V. and its subsidiaries.