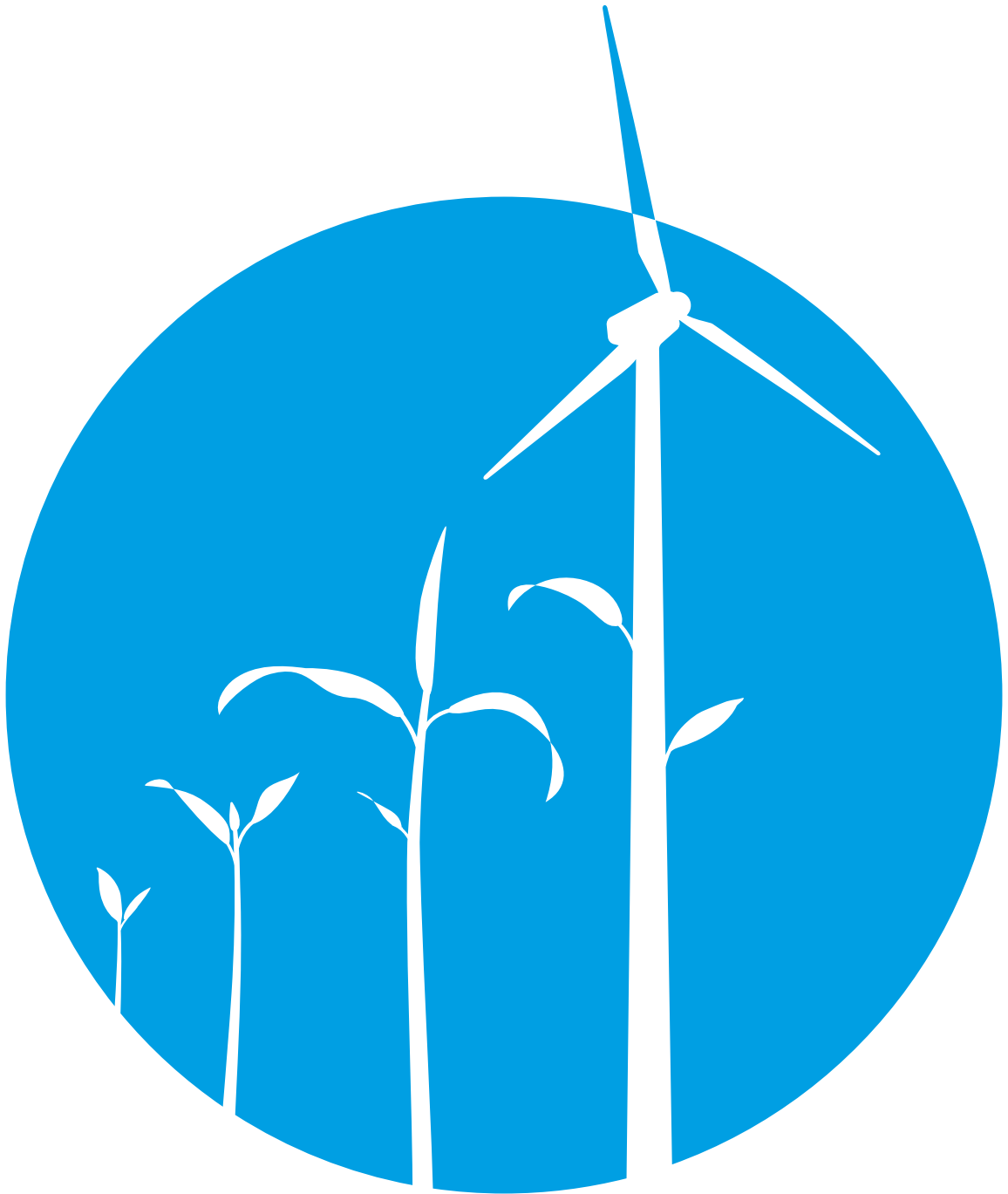




2023
Green Bond Report
Issuances 2022

2023 Green Bond Report

Issuances 2022

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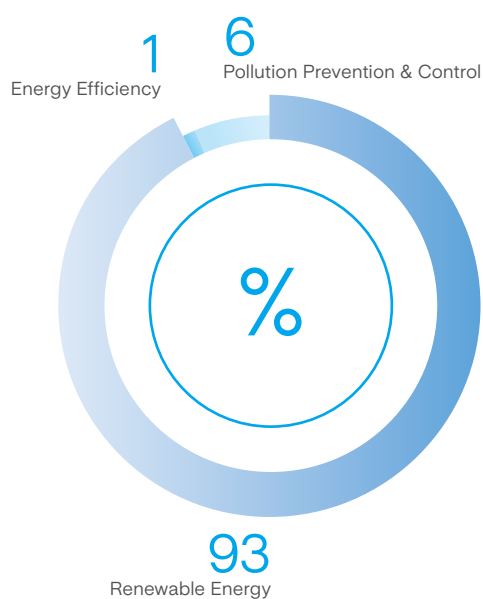
Green Bonds Details

ISIN code	Face value, M€	Tenor, years	Issue date	Maturity	Net proceeds, M€	Allocated net proceeds in 2023, M€	Mid Swap (%)	Landing Spread (bps)	Re-offer Yield (%)	Coupon (%)	Issue Price (%)
XS2491189408	600	4	15/06/2022	15/06/2026	597	472	1.682	93	2.612	2.500%	99.580%
XS2534976886	650	8	19/09/2022	19/09/2030	647	339	2.399	215	4.549	4.500%	99.677%

Allocation Summary

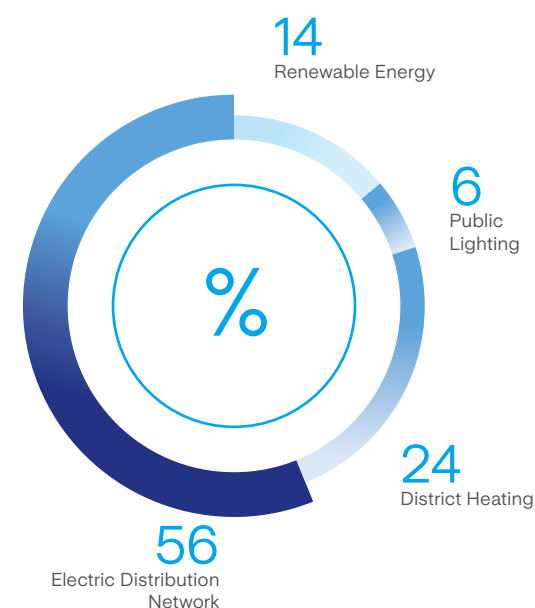
Green Bond XS2491189408

Use of Proceeds Categories	Amount, M€
Renewable Energy	439
Energy Efficiency	4
Pollution Prevention & Control	30
Total	472

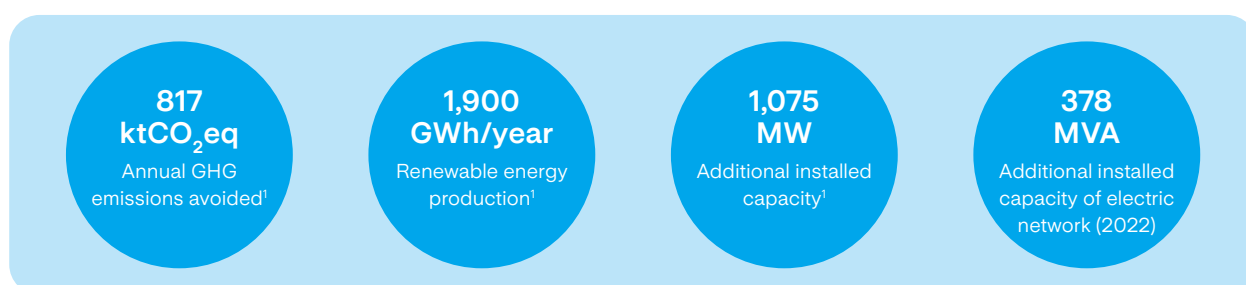


Green Bond XS2534976886

Use of Proceeds Categories	Amount, M€
Renewable Energy	46
Public Lighting	22
District Heating	80
Electric Distribution Network	191
Total	339



Main Impact KPIs



¹ The KPI value refers to the sum of both 2022 and expected data and includes only project specific KPIs.

A2A's Path in Sustainable Finance

Sustainable Finance Framework

Sustainable finance is one of the main enabling levers of A2A's Strategic Plan 2021-2030. To reinforce the link between the Group's financial and sustainable strategy, A2A has developed in May 2021 and updated in February 2022 a new Sustainable Finance Framework ("SFF")², following its first Green Financing Framework published in July 2019.

A2A's SFF is fully aligned with ICMA and LMA's latest principles and combines both Green and Sustainability-Linked approaches. Under this Framework, in fact, A2A is able to issue Use of Proceeds or KPI-linked instruments, such as bonds, loans, project financings and/or any other financing instrument in different formats and/or currencies.

The combined use of Green Bonds and Sustainability-Linked Bonds shows the holistic nature of A2A as issuer, ensuring to the investors: on one hand, the transparency to better allocate their funds and measure their contribution to climate change adaption and mitigation through an identifiable use of proceeds; on the other hand, the strong engagement of A2A in ESG management at corporate level.

In line with the best market practices, the SFF has been submitted to Vigeo Eiris for the issuance of a Second Party Opinion. This latter is available on A2A's website³ and a summary is presented here below:



Vigeo Eiris considers that A2A's Sustainable Finance Framework is aligned to: (i) the four core components of the ICMA's Green Bond Principles 2021 and the LMA/APLMA/LSTA's Green Loan Principles 2021 and (ii) the five core components of the ICMA's Sustainability-Linked Bond Principles 2020, and the LMA/APLMA/LSTA's Sustainability-Linked Loan Principles 2021. Vigeo Eiris considers that the Sustainable Finance Framework is consistent with A2A's strategic sustainability priorities and that it contributes to achieving the Issuer's sustainability commitments. The agency has finally highlighted A2A's commitment to the development of sustainable finance and its "Advanced" position as issuer.

The Framework also represents the main enabler to reach one of the key objectives of A2A's Strategic Plan: above 90% of sustainable debt within 2030.

The SFF covers the following six Green Eligible Project categories contributing to several Sustainable Development Goals (SDGs):

Green Eligible Project Categories and Related SDGs

Category	SDGs	Category	SDGs
Renewable Energy		Sustainable water and wastewater management	
Energy Efficiency		Pollution prevention and control	
Transmission and distribution networks		Clean transportation	

² The SFF is available on A2A's website: [Sustainable finance programme | A2A \(gruppoa2a.it\)](https://www.gruppoa2a.it/en/investors/debt/sustainable-finance)

³ Please see: <https://www.gruppoa2a.it/en/investors/debt/sustainable-finance>.

Main transactions

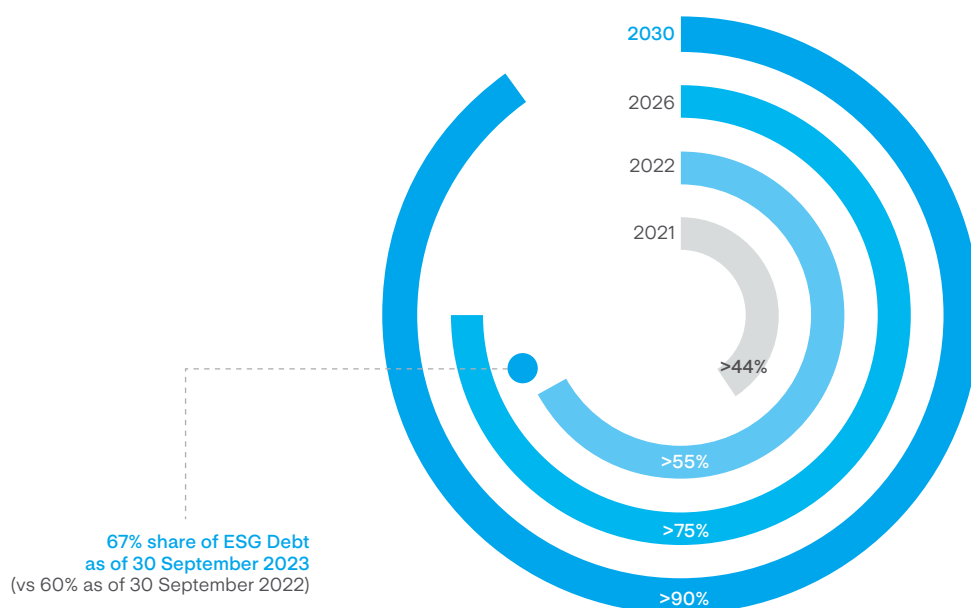
A2A structured the following main sustainable finance transactions:

A2A's main sustainable finance transactions

July 2019	The inaugural Green Bond of 400 million euro and 10-year maturity to finance Green Projects included under Green Financing Framework.
June 2021	The first share buyback programme involving a donation to Banco dell'Energia.
July 2021	- The new KPI-Linked Revolving Credit Facility (RCF) of 500 million euro and 5-year maturity linked to the Renewable Energy Capacity Installation and Waste Treated in Group's Material Recovery Plant targets and including a donation mechanism with Banco dell'Energia; - The inaugural Sustainability-Linked Bond of 500 million euro and 10-year maturity linked to the achievement of 2025 target of Scope 1 CO₂ Emission Intensity.
October 2021	The second Green Bond of 500 million euro and 12-year maturity: the proceeds will be used to finance Eligible Green Projects aligned to EU Taxonomy Regulation.
March 2022	The second Sustainability-Linked Bond, after the inaugural one of July 2021, with a size of 500 million euro, maturity 6 years and linked to the achievement of 2024 target of Renewable Energy Installed Capacity.
June 2022	- The third Green Bond with a size of 600 million euro and 4-year maturity, whose proceeds, on the same line of the Green Bond issued in October 2021, will be used to finance Eligible Green Projects aligned to EU Taxonomy Regulation - The new Sustainability-Linked RCF of 410 million euro and 5-year maturity targeting Social & Governance KPIs and including a donation mechanism with Banco dell'Energia.
July 2022	The civil and general liability insurance policy linked to Social targets.
September 2022	The fourth Green Bond for 650 million euro and 8-year maturity. The proceeds of the Green Bond will be used to finance Green Projects aligned to EU Taxonomy.
January 2023	The fifth Green Bond for 500 million euro and 11-year maturity. The proceeds of the Green Bond will be used to finance Green Projects eligible to EU Taxonomy.

Thanks to the actions taken during these years, A2A's share of sustainable debt has reached 67% of total debt as of 30 September 2023.

Share of ESG debt on total (%) and commitment to 2030



Allocation Reporting

A2A's Green Bonds Summary

A2A has issued the following five bonds in a green format:

A2A's Green Bonds Summary

ISIN code	Face value, M€	Tenor, years	Issue date	Maturity	Net proceeds, M€	Total allocated net proceeds, M€	Allocated net proceeds in 2023, M€	Not allocated net proceeds, M€
XS2026150313	400	10	16/07/2019	16/07/2029	394	394	Fully allocated	
XS2403533263	500	12	02/11/2021	02/11/2033	495	495	Fully allocated	
XS2491189408	600	4	15/06/2022	15/06/2026	597	472	472	125
XS2534976886	650	8	19/09/2022	19/09/2030	647	339	339	308
XS2583205906	500	11	03/02/2023	03/02/2034	493	0	0	493
Total	2,650				2,626	1,700	811	926

The first two Green Bonds have been already fully allocated⁴ and this report is providing the details on the allocation of the two Green Bonds issued in 2022.

Regarding the allocation of the second Green Bond XS2403533263, please note that the initial allocation, as per Allocation Report⁵ published last year, was adjusted to substitute San Cristoforo primary station project with other projects related to the electricity grid (in the same project category "Transmission and Distribution Network") and realized in the same period. This substitution is due to the fact that San Cristoforo project was covered by the National Recovery and Resilience Plan (NRRP) grant, awarded to A2A in 2022⁶.

Green Bond Allocation 2023 by project

The proceeds of this Bond were fully allocated to the projects 100% aligned with EU Taxonomy. Therefore, here below the related EU Taxonomy activity is also indicated and the details of the related analysis are reported further in this document.

Green Bond XS2491189408 EUR 600 m issued in 2022

Project	Total	2021A	2022A	EU Taxonomy Activity	% EU Taxonomy Alignment
Renewable Energy	439	1	438		
Volta Green Energy Acquisition - Wind & solar	24	0	24	4.1, 4.3	100%
Portfolios from Ardian – Wind & solar	392	1	392	4.1, 4.3	100%
Matarocco - Wind	22	-	22	4.3	100%
Energy Efficiency	4	1	3		
AES Energy Efficiency	4	1	3	4.1, 7.3, 7.6	100%
Pollution Prevention & Control	30	2	28		
Lacchiarella OFMSW Plant	15	-	15	5.7	100%
Cavagli OFMSW Plant	9	-	9	5.7	100%
Asti Glass Plant	2	1	1	5.9	100%
A2A Recycling	3	1	2	5.9	100%
Road Sweeper Waste Recycling Plants	1	1	1	5.9	100%
Total	472	3	469		

The share of refinancing⁷ of this Green Bond is 1%.

⁴ The details of the Green Bonds allocation are available in "Debt and Rating" section of A2A's website here: [Debt structure / A2A \(gruppoa2a.it\)](#)

⁵ The Allocation Report is available here: [A2A-green-bond-report-issuance-2021.pdf \(gruppoa2a.it\)](#)

⁶ Please see the information on this grant in A2A Integrated Report 2022, p. 104: [A2A-integrated-report-2022.pdf \(gruppoa2a.it\)](#)

⁷ The share of refinancing is here defined as the ratio between financed projects pertaining to the year preceding the year of the issue date and the total amount funded projects considered under this allocation.

Green Bond XS2534976886 EUR 650 m issued in 2022

Project	Total	2021A	2022A	EU Taxonomy Activity	% EU Taxonomy Alignment
Renewable Energy	46	21	25		
Fiera Milano - Solar ^a	6	2	3	4.1	100%
Idroelectric plants	41	19	22	4.5	100%
Energy Efficiency	22	9	12		
Public Lighting	22	9	12	7.3	100%
Pollution Prevention & Control	80	34	46		
District Heating	80	34	46	4.15, 4.25	100%
Transmission & Distribution Network	191	75	116		
Electric Distribution Network	191	75	116	4.9	100%
Total	339	140	199		

The share of refinancing of this Green Bond is 41%.

Project Details

Category: Renewable Energy

Wind and solar

The most significant share of the Green Bonds proceeds has been used for increasing A2A's renewable energy installed capacity.

In 2022, A2A consolidated its position among the leading operators in the generation of electricity from renewable sources in Italy through the acquisition of new wind and photovoltaic portfolios. A2A acquired the Italian wind companies Daunia Calvello and Daunia Serracapriola, Mimiani and Montegrighine located in Puglia, Sicily and Sardinia, respectively, for a total capacity of 205 MW. The photovoltaic plants acquired in Puglia and Lazio are De Stern and Cerveteri, for about 19 MW in total. In addition, A2A acquired a further portfolio in Spain of 30 MW wind (in Catalonia) and 10 MW solar (in Andalusia).

As for the development of new renewable power plants, to speed up and strengthen its positioning in 2022 A2A acquired the company Volta Green Energy and its pipeline of wind and photovoltaic projects with an expected installed capacity of about 800 MW, some of which already fully authorized and ready for construction. Among these projects, in July 2022 A2A began the construction of Matarocco wind farm in Sicily with expected installed capacity of 30 MW. Another project of construction of a rooftop solar plant of about 8.2 MW total capacity at the Rho-Fiera Milano site was realized by A2A in a joint venture with Fondazione Fiera Milano. The joint venture is 60% owned by A2A Rinnovabili, the A2A group company that oversees the green energy market, and 40% by Fondazione Fiera Milano.

Hydro

The proceeds were allocated mainly to the maintenance projects covered the numerous Group hydroelectric plants, including the plants located in Calabria, Lombardia and Friuli-Venezia Giulia

regions. The performed interventions covered the revamping of the facilities and security systems, earthquake-protection and automation of the plants.

One of the most significant considered projects was deployed in Calabria and related to the extraordinary maintenance of the mechanic components, the automations and protections of Satriano and Celeste hydropower plants and the revamping of the stalls at Timpagrande plant.

Category: Pollution Prevention and Control

District Heating

Through its subsidiaries A2A Calore e Servizi and Linea Green, the Group develops and manages the district heating plants and network in Milan, Sesto San Giovanni (Mi), Novate (Mi), Cassano d'Adda (Mi), Cologno Monzese (Mi), Brescia, Bovezzo (Bs), Concesio (Bs), Bergamo, Crema (Cr), Cremona, Lodi, Rho (Mi), Seregno (MB) and Giussano (MB) for a length of over 1,260 km, with a service capacity of 500,000 equivalent apartments and a volume of 120 million cubic meters served.

In 2022, the distributed heating and cooling energy amounted to 3,056 GWht.

The proceeds were allocated to 2021-2022 projects focused on the extension of the district heating systems in Milan and Bergamo, on maintaining the historic system in Brescia, on the technological improvement of its production plants and on the recovery of heat from industrial waste as part of the decarbonization and efficiency process of its systems. Specifically, in Milan area the main financed projects included:

- the construction of the new remote-control system for the Milan plants, which allows the overall management of the plants from a single control room. Also, to provide an increasingly reliable service, a predictive maintenance system was launched for the generation assets installed at the Canavese plant, as well as

^a The indicated value includes also the minor capex of 1M€ related to maintenance of the existing renewable plants. The environmental impacts reported in the below table are for Fiera Milano project only.

an automatic thermal load forecasting tool aimed at determining the future thermal demand of users with great accuracy;

- the construction of the first two atmospheric heat storage tanks (phase 1), each of 1,500 cubic meters, at the Famagusta Power Plant. The project is part of the decarbonization plan of the district heating network of West Milan and aims to maximize heat recovery from the Silla2 waste-to-energy plant;
- the renovation and improvement works at the Tecnocity power plant with the installation of two 15 MWt boilers, instead of the cogeneration engines, the replacement of the Bono boiler with a boiler identical to the previous ones and the construction of dedicated fireplaces;
- the works based on the signed contract with Milan metro company aimed at the recovery of excess heat produced by the new cogeneration plant to service the electricity needs of the "Salemi" aqueduct lifting and pumping plant. The heat will be distributed through the existing district heating network that feeds the Comasina district, allowing the current production plant to be optimized and more efficient.

OFMSW plants

The proceeds were allocated to the final stage of construction of the two plants for the treatment of the organic fraction of municipal solid waste (OFMSW) which were inaugurated in October 2022. The first plant was inaugurated in Giussago - Lacchiarella (PV) and allows the treatment of about 100,000 tonnes of waste between wet and urban green waste. Thanks to the natural fertilizer produced (about 20,000 tons per year of certified compost) and made available to farmers, it will allow to reduce the use of chemical fertilizers in local agriculture. Furthermore, it will be possible to obtain 8 million cubic meters of biomethane annually (equal to the annual needs of about 20,000 people). The second plant was inaugurated at the Cavaglià (BI) site: the new plant has 60,000 tons per year of authorized treatment capacity, allows the production of 5 million cubic meters of biomethane and 12,000 tons of certified compost for agriculture per year.

Material recovery from non-hazardous waste

The circular economy is one of the two pillars on which A2A's Business Plan is based. The Group has traditionally been a leader in the collection, treatment and recovery of municipal waste and continues its commitment to the construction of new plants that enhance the value of separate waste collection as a no longer secondary, but now ordinary, source of raw materials.

Regarding Asti plant, the glass scrap treatment plant located in the Municipality of Asti, the proceeds were allocated to 2021-2022 projects aiming at improvement in terms of both production and performance. In 2021, a new line was created to separate the transparent ready-to-oven glass (called "flint" glass) from the rest of the mixed colored glass. This modification led, in 2022, to the production of about 20,000 tons of "flint" glass that were added to the approximately 85,000 tons of mixed colored glass. In the same year, a mechanical revamping of the machinery belonging to the glass scrap pre-treatment section was carried out, with the aim of improving the overall efficiency of separation of material flows such as ferrous and non-ferrous metals and PAF glass from the rest of the material flow. As a result of these interventions, in 2022, the quantity of separated metals and non-metals increased by about 7%, while the amount of PAF recovered increased by about 5%, compared to the quantities recorded in 2021.

In 2022, a further optimization of the drying section of the material was carried out. This intervention involved the replacement of the existing system with a new drying system, which allows to reduce the humidity of the material leaving this section more efficiently, so as to facilitate the optical selection of the material in the next phase.

As for the road sweeper waste recycling plants, the Bonds' proceeds were allocated to the projects related to the two plants located in Brescia (Codignole) and Milan (Silla).

These plants are authorized to receive non-hazardous waste consisting of road sweeping earth, reclamation land and other types of waste, which can be appropriately treated to recover the aggregate content. The waste delivered comes from the sweeping activities of the territory. From the washing of sweeping lands, therefore, the plants produce aggregates: sand and gravel, which can be used mainly for the preparation of cementitious and bituminous components. The products have the CE marking, and this guarantees their quality and allows them to be sold throughout the European Union.

The financed investments made in 2021 and 2022 consisted of a series of interventions aimed at ensuring the maintenance and proper functioning of existing machinery, keeping the plants in good condition during normal operation and implementing safety equipment.

Regarding the plants managed through A2A Recycling subsidiary, the financed projects were mainly concerned the purchase of the components and revamping of plants dedicated to shredding and sorting waste to be sent for recovery as well as to the purchase of the work vehicles for waste handling and for the improvement of fire safety.

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The A2A Recycling, through its plants mainly in Lombardy, provides services for the collection, transport, selection, recovery and disposal of commercial, industrial and urban waste, and environmental consultancy. The main services offered concern:

- collection, sorting and recycling of waste paper;

- collection, selection and disposal of bulky waste from ecological platforms;
- collection and selection of multi-material for third parties;
- collection and composting of waste from green maintenance;
- collection and disposal of special waste, hazardous and non-hazardous.

Main KPIs related to A2A Recycling Plants in 2022

Plant	% of waste sent to recovery	End of waste quantity, t of paper
Novate Beltrami	75.6%	100,865.50
Buccinasco	75.4%	37,770.76
Cernusco	99.9%	6,797.58
Liscate	88.9%	29,847.12
Castenedolo	91.8%	29,393.48
Stoccaggio Coccaglio	97.7%	7,747.88
Stoccaggio Fombio	66.4%	8,153.48

Category: Energy Efficiency

AES Energy Efficiency

A2A Energy Solutions offers itself as an Energy service company (ESCO) and technological partner for companies and individuals, designing and implementing interventions also through Energy Performance Contracts (EPC), implementing tools to encourage the rational use of energy and energy management consultancy activities.

For photovoltaic systems, A2A Energy Solutions takes care of all aspects relating to the construction and management of the plant, with the possibility of also including the removal of asbestos roofing in the offer.

As far as the industrial sector is concerned, the proceeds were allocated to finance the interventions in the photovoltaic sector. Considering both projects in the authorization and construction phase as well as completed projects, more than 40 projects with an average size of around 1 MW were managed in 2022, thanks to which an estimated 12,671 tons of CO₂ were avoided. In addition, five more projects are in the start-up phase, thanks to which a further 10,000 tons of CO₂ not emitted into the atmosphere will be saved. The interventions see the entire Italian territory as the perimeter of installation and demonstrate how the A2A Group is increasingly becoming a national player in the field of energy efficiency solutions also through renewable sources.

Through AES, A2A have signed a 20-year agreement with the Virtual PPA (Power Purchase Agreement) formula, which envisages the construction of new photovoltaic plants for the production of renewable energy at the Hitachi sites in Reggio Calabria, Naples and Pistoia, both in self-consumption mode and as entities capable of conveying excess energy to other Group plants.

More specifically, A2A will install more than 40,000 solar panels over the next two years on both land and on the roofs of Hitachi Rail's production facilities, covering a total of more than 100,000 square meters, and will support the initial investment and ordinary and extraordinary maintenance for the entire duration of the contract, during which Hitachi Rail agrees to purchase the green energy produced at agreed prices that are much lower than market prices. The initiative foresees the construction by A2A of state-of-the-art plants capable of producing around 19 GWh/year of energy, equal to 60% of the average annual needs of Hitachi Rail's six Italian sites, which require over 31 GWh/year.

With regard to apartment buildings and tertiary sector, the financed projects included 15 interventions managed through AES, allowing a reduction of CO₂ emissions into the atmosphere estimated at 581 tons. These projects have mainly involved the energy retrofit (HVAC) on apartment blocks and companies in the tertiary sector, as well as installation of photovoltaic systems to produce green energy on the same customer. In general, great attention is being paid to issues of electrification of consumption, adopting mainly heat pump or hybrid technologies to replace traditional fossil fuel technologies.

Public Lighting

A2A operates public, artistic and traffic light installations in several Italian municipalities. Through A2A Illuminazione Pubblica, the Group deals directly with the design, construction and maintenance of public lighting systems, guaranteeing a reduction in energy consumption, limited light pollution and respect for the environment using the latest technology. Through its subsidiaries, the company is present in eight regions - Piedmont, Lombardy, Veneto, Emilia-Romagna, Puglia, Campania, Calabria and Sicily. In 2022, A2A Illuminazione Pubblica took over

the management of public lighting in the municipalities of Trezzano sul Naviglio, Sedriano, Abbiategrasso, San Gregorio Magno, Villanterio and Isola d'Asti, for a total of around 12,500 light points.

The proceeds were allocated to the projects in this category aiming the maintenance and the efficiency objectives, including the replacement of the lighting fixtures that do not comply with the Regional Law for limiting light pollution and energy saving with high-efficiency street, furnishing and decorative products equipped with LED sources. The projects allowed to save more than 5 million kWh and avoid the emission of more than 1,300 tons of CO₂ into the atmosphere.

Category: Transmission and Distribution Networks

One of the main objectives of A2A Group is supporting the energy transition and enabling the electrification of consumption and, therefore, the investments identified in this category and financed through the Bonds fall mainly into the following categories:

- installation of 2G meters of new generation;
- modernization of existing primary substations;
- installation of new secondary substations;
- modernization of medium voltage grids;
- modernization and electrification of the company vehicle fleet.

As for the main benefits of the mentioned projects, the replacement of the first-generation meters with the new ones enables the numerous services for the user and contributes to the process of energy efficiency of consumption. The construction of new secondary substations, especially in the Milan area, increases the capacity of the network available to users, supporting the greater energy needs and also allowing the development of production from renewable energy sources (photovoltaic, in particular). The modernization of the primary substations and the existing medium-voltage network is, instead, necessary to ensure that the development of electrification is in compliance with high reliability criteria, quality and continuity of service, in all load conditions and with a view to increasing the resilience of critical network components against exceptional climatic conditions (e.g., heat waves). Finally, the modernization of the fleet of company vehicles guarantees – through the switch on mainly electric vehicles – the reduction of CO₂ and other pollutant emissions, to the benefit of the conditions of the territories managed by A2A Group.

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Impact Reporting

The impact KPIs were selected and calculated following, to the extent possible, the guidance provided by the ICMA Harmonised Framework for Impact Reporting.

The reported KPIs are quantified based on the internal methodologies used also for A2A Integrated Report⁹ and the official sources of the information¹⁰.

Green Bond XS2491189408 EUR 600 m issued in 2022

Project	Impact KPI	Quantification Methodology	Data Sources
Renewable Energy			
Volta Green Energy Acquisition	Additional Installed capacity (expected): 770 MW	Nominal installed capacity of the plant forecasted upon full project realization	Press release
	Energy production (expected): 1,421 GWh	Annual energy production based on expected working hours and installed capacity	Internal
	Annual GHG emissions avoided (expected): 581,328 tCO₂	Energy production*Italian average emission factor for thermoelectric production (409 g/KWh)	Internal methodology using public sources: Terna , ISPRA
Portfolios from Ardan	Additional Installed capacity: 263 MW	Nominal installed capacity of the plant	Internal
	Additional Installed capacity: 7 MW	Nominal installed capacity of the plant forecasted upon full project realization	Internal
	Energy production (2022): 397 GWh/year	Annual energy production based on actual working hours and installed capacity	Internal (effective measurement)
	Annual GHG emissions avoided (2022): 162,373 tCO₂	Energy production*Italian average emission factor for thermoelectric production (409 g/KWh)	Internal methodology using public sources: Terna , ISPRA
Matarocco	Additional Installed capacity (expected): 30 MW	Nominal installed capacity of the plant forecasted upon full project realization	A2A FY 2022 Results Presentation, slide 2
	Energy production (expected): 79 GWh/year	Annual energy production based on expected working hours and installed capacity	Internal
	Annual GHG emissions avoided (expected): 32,172 tCO₂	Estimate energy production upon the project completion is completed Italian average emission factor for thermoelectric production (409 g/KWh)	Internal methodology using public sources: Terna , ISPRA
Energy Efficiency			
AES Energy Efficiency	Number of projects run on industrial sector (2022): 40		2022 A2A Integrated Report, p. 182
	Annual GHG emissions avoided on industrial sector (2022): 12,671 tCO_{2eq}	Annual energy produced*Italian average emission factor for thermoelectric production (440 g/KWh)	2022 A2A Integrated Report, p. 182
	Number of energy-qualification projects run on condominiums and tertiary sector (2022): 15		Internal
	Annual GHG emissions avoided on condominiums and tertiary sector (2022): 581 tCO_{2eq}	Data calculated with the methodology of the certified Software "Edilclima EC700"	External software "Edilclima EC700"

⁹ A2A Integrated Report 2022 is available here: [A2A-integrated-report-2022.pdf \(gruppoa2a.it\)](#)

¹⁰ For KPI "Annual GHG emissions avoided" the sources of information for the emission factors include the reports of: ISPRA (Italian Institute for Environmental Protection and Research), Terna, GSE (Gestore dei Servizi Energetici).

Green Bond XS2491189408 EUR 600 m issued in 2022 *continued*

Project	Impact KPI	Quantification Methodology	Data Sources
Pollution Prevention and Control			
Lacchiarella OFMSW plant	Installed capacity (2022): 100 kt	Authorized waste treatment capacity	2022 A2A Integrated Report, p. 100
	Bio-methane produced (expected in 2023): 8 MSm³ /year	Annual biomethane production based on installed waste treatment capacity and biomethane production factor (105-110 Smc/t of ingested waste) ¹¹	2022 A2A Integrated Report, p. 100
	Annual GHG emissions avoided (expected): 15,711 tCO_{2eq}	Biomethane produced *LHV standard *FdE standard *oxidation coefficient	Internal
Cavaglia OFMSW plant	Installed capacity (2022): 60 kt	Authorized waste treatment capacity	2022 A2A Integrated Report, p. 100
	Bio-methane produced (expected in 2023): 5 MSm³ /year	Annual biomethane production based on installed waste treatment capacity and biomethane production factor (105-110 Smc/t of ingested waste) ¹¹	2022 A2A Integrated Report, p. 100
	Annual GHG emissions avoided (expected): 9,819 tCO_{2eq}	Biomethane produced *LHV standard *FdE standard *oxidation coefficient	Internal
A2A Recycling	% of waste sent to recovery (2022): 82%*	Decaying waste from treatment set to material recovery/total decaying waste from treatment	Arial internal software
	Quantity of end-of-waste (2022): 220,575* t of paper	Quantity of treated paper that ceases to be waste and becomes product after the recovery process	Arial internal software
Asti Glass Plant	Additional capacity of "flint" glass production (2022): 20,000 tons	Based on actual measurement	Internal
	Additional quantity of separated metals and non-metals (2022 vs 2021): 7%	Growth rate of quantity of separated metals and non-metals in 2022 vs 2021	Internal
	% of waste sent to recovery (2022): 75%*	Decaying waste from treatment set to material recovery/total decaying waste from treatment	Arial internal software
	Quantity of end-of-waste (2022): 105,866* t of glass	Quantity of treated paper that ceases to be waste and becomes product after the recovery process	Arial internal software
Road Sweeper Waste Recycling Plants	% of waste sent to recovery (2022): 80%*	Decaying waste from treatment set to material recovery/total decaying waste from treatment	Arial internal software
	Quantity of end-of-waste: 5,406* t of gravel and sand	Quantity of treated paper that ceases to be waste and becomes product after the recovery process	Arial internal software

* The KPI is not project specific and refers to all Group plants of this type.

¹¹ Biomethane is gained through a complex process that starts from the entry waste (installed capacity of 60 kt for Cavaglia plant and 100 kt for Lacchiarella plant of entry waste) which is treated and mixed in an homogeneous mixture called ingested (forecasted production of 45-50 kt/year for Cavaglia and 75-80 kt for Lacchiarella).

Green Bond XS2534976886 EUR 650 m issued in 2022

Project	Impact KPI	Quantification Methodology	Data Sources
Renewable Energy			
Fiera Milano	Additional installed capacity (2022): 5¹² MW	Nominal installed capacity of the plant	Internal
	Energy production (2022): 3 GWh/year	Annual energy production based on actual working hours and installed capacity	Internal (effective measurement)
	Annual GHG emissions avoided (2022): 1,286 tCO₂	Annual energy produced*Italian average emission factor for thermoelectric production (409 g/KWh)	Internal methodology using public sources: Terna , ISPRA
Hydroelectric plants	Energy production (2022): 2,654* GWh/year	Annual energy production	2022 A2A Integrated Report Supplement, p. 33
	Annual GHG emissions avoided (2022): 1,085,486* tCO₂	Annual energy produced*Italian average emission factor for thermoelectric production (409 g/KWh)	Internal methodology using public sources: Terna , ISPRA
Energy Efficiency			
Public lighting	Annual energy savings of electricity (2022): 5 mln kWh	The difference between the energy consumption of the old public lighting and the energy consumption after the intervention run in 2022 in the concerned areas	2022 A2A Integrated Report, p. 107
	Annual GHG emissions avoided (2022): 1,300 tCO_{2eq}	Annual energy saving*The Italian average emission factor for power consumption (246 g/KWh)	2022 A2A Integrated Report, p. 107 ; Internal methodology using public source: ISPRA
Pollution Prevention and Control			
District heating	Service capacity (2022): 500,000* in equivalent apartments	Volume served in Mm ³ *1.000.000/240 (m ³)	2022 A2A Integrated Report, p. 107
	Heating and cooling energy distributed (2022): 3,056* Gwh	Annual thermal energy distributed through network	2022 A2A Integrated Report, p. 47
	Annual GHG emissions avoided (2022): 300,425* tCO_{2eq}	CO ₂ emission avoided by client connected with district heating/cooling network - CO ₂ emission from A2A district heating/cooling power plant + CO ₂ emission from electricity energy balance	Internal methodology using public sources: Inemar, ISPRA , Terna ; 2022 A2A Integrated Report, p. 47
Transmission & Distribution Network			
Electricity Distribution	Additional installed capacity of electric network (2022): 378* MVA	Nominal additional capacity of network	2022 A2A Integrated Report Supplement, p. 7
	Distributed energy (2022): 11,087* GWh/year	Annual energy distributed	2022 A2A Integrated Report, p. 104
	Additional km of electricity network (2022): 145* km	Based on actual measurement	2022 A2A Integrated Report Supplement, p. 31

* The KPI is not project specific and refers to all Group plants of this type.

¹² The environmental impacts related to Fiera Milano project are estimated only considering A2A portion of 60% in project funding.

EU Taxonomy alignment

The complete analysis of all the reported projects with regards to the alignment to EU Taxonomy was performed, including the verification of compliance with all technical screening criteria for Substantial Contribution and DNSH and also with minimum social safeguards. The details and the results of the analysis are disclosed hereunder. The proceeds of this Bond were fully allocated to the projects aligned with EU Taxonomy.

Minimum Safeguards

A2A, as a company operating under EU legislation, has ensured the respect of minimum safeguards criteria according to Article 18 of the EU Taxonomy Regulation (OECD guidelines for Multinational Enterprises (MNE), United Nations Guiding Principles on Business and Human Rights (UNGPs), the eight ILO conventions on fundamental principles and rights at work, and the international bill of human rights).

The effort of A2A in ensuring these criteria application could be summarized in the following points:

- A2A is a member of Global Compact, the United Nations initiative for promoting the culture of business citizenship, which encourages companies throughout the world to create an economic, social and environmental framework in order to ensure a sound and sustainable economy.
- The A2A Group's Code of Ethics is an integral part of the Model pursuant to Legislative Decree

no. 231/01 with regards to members of the Board of Directors, members of the control body, managers and executives, employees, suppliers and business partners. 39 subsidiaries adopted their own Organization, Management and Control Models in accordance with Legislative Decree no. 231/01.

- A2A's Code of Ethics makes explicit reference to the UN Universal Declaration of Human Rights, the ILO Fundamental Conventions, the OECD Guidelines and the principles of the Global Compact to which the Group adheres.
- In 2021 A2A issued its Human Rights Policy, adopted by the Board of Directors of A2A S.p.A., in addition to and as a complement of the Group's Code of Ethics, in order to reaffirm the commitment of the Group to promote and support all the values and principles established by international human rights institutions of which A2A is a member.

Key Figures

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4.1 “Electricity generation using solar photovoltaic technology”

Substantial Contribution to Climate Change Mitigation

CONFIRMED. Ardian, Volta projects and the other solar plants in A2A portfolio are contributing substantially to climate change mitigation.

Do Not Significant Harm (DNSH)

Climate change adaptation	CONFIRMED. A taxonomy aligned climate risk assessment has been carried out. Mitigation measures, such as maintenance plants and safeguards are in place. Those measures do not adversely affect the adaptation efforts of other people, nature and assets.
The sustainable use and protection of water and marine resources	N.A.
The transition to a circular economy	CONFIRMED. Plants are equipped with components of high durability and recyclability, and so they can be easy decommissioned and renovated.
Pollution prevention and control	N.A.
The protection and restoration of biodiversity	CONFIRMED. Priority check on EIA. For every ground installation exempted from EIA and GIS verification were carried out, addressing interference with protected areas.

4.3 “Electricity generation from wind power”

Substantial Contribution to Climate Change Mitigation	
CONFIRMED. Matarocco and the other eolic power plants in A2A portfolio are contributing substantially to climate change mitigation.	
Do Not Significant Harm (DNSH)	
Climate change adaptation	CONFIRMED. A taxonomy aligned climate risk assessment has been carried out. Mitigation measures, such as maintenance plants and safeguards are in place. Those measures do not adversely affect the adaptation efforts of other people, nature and assets.
The sustainable use and protection of water and marine resources	CONFIRMED. A2A plants are not off-shore and though they do not harm sustainable use and protection of water and marine resources.
The transition to a circular economy	CONFIRMED. Plants are equipped with highly durable and recyclable components so that they can be easy decommissioned and renovated.
Pollution prevention and control	N.A.
The protection and restoration of biodiversity	CONFIRMED. Priority check on EIA. For every ground installation exempted from EIA and GIS verifications were carried out, addressing interference with protected areas.

4.5 “Electricity generation from hydropower”

Substantial Contribution to Climate Change Mitigation	
CONFIRMED. All hydropower plants in A2A portfolio are contributing substantially to climate change mitigation. In A2A plants, in particular, the power density of the electricity generation facility is above 5 W/m ² and the life-cycle GHG emissions from the generation of electricity are lower than 100 CO ₂ e/kWh.	
Do Not Significant Harm (DNSH)	
Climate change adaptation	CONFIRMED. A taxonomy aligned climate risk assessment has been carried out. Mitigation measures, such as maintenance plants and safeguards are in place. Those measures do not adversely affect the adaptation efforts of other people, nature and assets.
The sustainable use and protection of water and marine resources	CONFIRMED. A2A plants meet the criteria set out by Taxonomy regulation in terms of sustainable use and protection of water and marine resources.
The transition to a circular economy	N.A.
Pollution prevention and control	N.A.
The protection and restoration of biodiversity	CONFIRMED. Priority check on EIA. For every ground installation exempted from EIA and GIS verifications were carried out, addressing interference with protected areas.

4.15 “District heating / cooling distribution”

Substantial Contribution to Climate Change Mitigation	
CONFIRMED. All selected pipelines meet the definition of efficient district heating and cooling systems (laid down in Article 2, point 41, of Directive 2012/27/EU) are contributing substantially to climate change mitigation.	
Do Not Significant Harm (DNSH)	
Climate change adaptation	A taxonomy aligned climate risk assessment has been carried out. Mitigation measures, such as maintenance plants and safeguards are in place. Those measures do not adversely affect the adaptation efforts of other people, nature and assets.
The sustainable use and protection of water and marine resources	CONFIRMED. Water consumptions do not affect the drinking water supply system. Any leaks of additives do not alter the chemical status of groundwater, based on the considerations made on its biodegradability.
The transition to a circular economy	N.A.
Pollution prevention and control	CONFIRMED. Potential presence of fans, compressors, pumps equipped with BAT in minor pipelines. The equipments are covered under 2009/125/EC and top class requirements of energy label.
The protection and restoration of biodiversity	CONFIRMED. All assets are located in urban areas.

4.25 “Heat/cool production using waste heat”

Substantial Contribution to Climate Change Mitigation	
CONFIRMED. A2A plants are contributing substantially to climate change mitigation.	
Do Not Significant Harm (DNSH)	
Climate change adaptation	A taxonomy aligned climate risk assessment has been carried out. Mitigation measures, such as maintenance plants and safeguards are in place. Those measures do not adversely affect the adaptation efforts of other people, nature and assets.
The sustainable use and protection of water and marine resources	N.A.
The transition to a circular economy	Plants are equipped with highly durable and recyclable components so that they can be easy decommissioned and renovated.
Pollution prevention and control	CONFIRMED. Pumps are compliant with European norms and use the best available technology. In particular, the equipments are covered under 2009/125/EC directive and 2017/1369 Regulation.
The protection and restoration of biodiversity	CONFIRMED. Priority check on EIA. For every ground installation exempted from EIA and GIS verifications were carried out, addressing interference with protected areas.

4.9 “Transmission and distribution of electricity”

Substantial Contribution to Climate Change Mitigation	
CONFIRMED. A2A distribution network is an interconnected European system compliant with the point 1a) of taxonomy regulation.	
Do Not Significant Harm (DNSH)	
Climate change adaptation	CONFIRMED. Infrastructure potentially exposed to acute risk such as high temperatures and heavy rainfalls or floods. All the assets are equipped with fire prevention systems. All underground machineries are designed with construction of embankments on any access hatches to underground parts and installation of waterproof components.
The sustainable use and protection of water and marine resources	N.A.
The transition to a circular economy	CONFIRMED. A waste management plan is in place and ensures maximal reuse or recycling at end of life (e.g. replacement activity of the smart meters).
Pollution prevention and control	CONFIRMED. Energy distribution networks respect pollution and prevention norms set out by the commission.
The protection and restoration of biodiversity	CONFIRMED. A GIS verification was carried out, addressing interference with protected areas. The Salò network does not meet the DNSH, therefore it has been excluded from the Eligible Green Projects.

5.7 “Anaerobic digestion of bio-waste”

Substantial Contribution to Change Mitigation	
CONFIRMED Lacchiarella and Cavaglià OFMSW (Organic Fraction for Municipal Solid Waste) plants meet the screening criteria set out by Taxonomy regulations. Both plants:	
• Have a monitoring and contingency plan in order to minimize methane leakage at the facility; • Use the biomethane produced for generation of electricity and/or heat; • The bio-waste is source segregated and collected separately; • The produced digestate is used as fertilizer or soil improver; • The share of food and feed crops used as input feedstocks measure in weight (as an annual average) less or equal to 10% of the input feedstock.	
Do Not Significant Harm (DNSH)	
Climate change adaptation	A taxonomy aligned climate risk assessment has been carried out. Mitigation measures, such as maintenance plants and safeguards are in place. Those measures do not adversely affect the adaptation efforts of other people, nature and assets.
The sustainable use and protection of water and marine resources	CONFIRMED. An Environmental Impact Assessment is carried out in accordance with Directive 2011/92/EU and includes an assessment of the impact on water in accordance with Directive 2000/60/EC.
The transition to a circular economy	N.A.
Pollution prevention and control	CONFIRMED. Air and water emissions are lower than the emission threshold associate with European techniques (BAT/AEL). The plants meet the requirements for fertilizing materials set out at national level.
The protection and restoration of biodiversity	CONFIRMED. Priority check on EIA. For every ground installations exempted from EIA and GIS verification were carried out, addressing interference with protected areas.

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5.9 “Material recovery from non-hazardous waste”

Substantial Contribution to Change Mitigation	
CONFIRMED A2A Recycling, Asti glass and road sweeper waste recycling plants contribute substantially to climate change mitigation.	
Do Not Significant Harm (DNSH)	
Climate change adaptation	A taxonomy aligned climate risk assessment has been carried out. Mitigation measures, such as maintenance plants and safeguards are in place. Those measures do not adversely affect the adaptation efforts of other people, nature and assets.
The sustainable use and protection of water and marine resources	N.A.
The transition to a circular economy	N.A.
Pollution prevention and control	N.A.
The protection and restoration of biodiversity	CONFIRMED. Priority check on EIA. For every ground installations exempted from EIA and GIS verification were carried out, addressing interference with protected areas.

7.3 “Installation, maintenance and repair of energy efficiency devices”

Substantial Contribution to Climate Change Mitigation	
CONFIRMED. All the operational efficiency projects on the tertiary sector and condominiums are contributing substantially to climate change mitigation.	
Do Not Significant Harm (DNSH)	
Climate change adaptation	CONFIRMED. A taxonomy aligned climate risk assessment has been carried out. Mitigation measures, such as maintenance plants and safeguards are in place. Those measures do not adversely affect the adaptation efforts of other people, nature and assets.
The sustainable use and protection of water and marine resources	N.A.
The transition to a circular economy	N.A.
Pollution prevention and control	N.A.
The protection and restoration of biodiversity	N.A.

7.6 “Installation, maintenance and repair of renewable energy technologies”

Substantial Contribution to Climate Change Mitigation	
CONFIRMED. All the operational rental projects on the tertiary sector and condominiums (photovoltaic, energy storage, A/R micro-cogeneration etc.) are contributing substantially to climate change mitigation.	
Do Not Significant Harm (DNSH)	
Climate change adaptation	CONFIRMED. A taxonomy aligned climate risk assessment has been carried out. Mitigation measures, such as maintenance plants and safeguards are in place. Those measures do not adversely affect the adaptation efforts of other people, nature and assets.
The sustainable use and protection of water and marine resources	N.A.
The transition to a circular economy	N.A.
Pollution prevention and control	N.A.
The protection and restoration of biodiversity	N.A.

External review – Post issuance verification

A2A has appointed ISS Corporate Solutions to carry out an external verification of this report.
The resulting verification report is attached hereto.

Key Figures

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REPORT REVIEW A2A Green Bond Report

A2A Green Bond Report 2023

6 December 2023

VERIFICATION PARAMETERS

**Type(s) of
reporting**

- Green Bond Allocation and Impact Report

**Relevant
standard(s)**

- Harmonised Framework for Impact Reporting (HFIR), updated June 2023, as administered by International Capital Market Association (ICMA)
- A2A's Green Bond Report 2023 (as of December 5, 2023)
- A2A's Sustainable Finance Framework (as of February 10, 2022)
- Bond(s) identification:

**Scope of
verification**

ISIN Code	Issue date	Years to Maturity	Maturity Date	Net Proceeds M€
XS2491189408	June 15, 2022	4	June 15, 2026	597
XS2534976886	September 19, 2022	8	September 19, 2030	647

Lifecycle

- Post-issuance verification

Validity

- As long as no changes are undertaken by the Issuer to its Green Bond Report 2023 as of December 5, 2023

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ASSESSMENT SUMMARY

REVIEW SECTION	SUMMARY	EVALUATION
Part 1. Alignment with the Issuer's commitments set forth in the Framework	The A2A's Green Bond Report 2023 meets the Issuer's commitments set forth in the Sustainable Finance Framework. The proceeds have been used to (re)finance expenditures in the Renewable Energy, Energy Efficiency, Pollution Prevention and Control, and Transmission and Distribution categories in accordance with the eligibility criteria defined in the Framework.	Aligned
Part 2. Alignment with the Harmonized Framework for Impact Reporting (HFIR)	The Green Bond Report 2023 is in line with ICMA's Harmonized Framework for Impact Reporting (HFIR). The Issuer follows core principles and where applicable key recommendations. The Issuer disclosed the total amount of proceeds allocated to eligible disbursement, described the approach to impact reporting and reported on a few sector specific core indicators.	Aligned
Part 3. Disclosure of proceeds allocation and soundness of reporting indicators	The allocation of the bond's proceeds has been disclosed, with a detailed breakdown across different eligible project categories as proposed in the Framework.⁵ The A2A's Green Bond Report 2023 has adopted an appropriate methodology to report the impact generated by providing comprehensive disclosure on data sourcing, calculations methodologies and granularity reflecting best market practices.	Positive
Part 4: Alignment with EU Taxonomy	A2A's project characteristics, due diligence processes and policies have been assessed against the requirements of the EU Taxonomy (Climate	

⁵ The assessment is based on the information provided in the Issuer's report. The Issuer is responsible for the preparation of the report including the application of methods and procedures designed to ensure that the subject matter information is free from material misstatement.

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Delegated Act of June 2021), on a best-efforts basis.⁶ The nominated project categories are considered to be:

- Aligned with the Climate Change Mitigation Criteria
- Aligned with the Do No Significant Harm Criteria
- Aligned with the Minimum Safeguards requirements

⁶ Whilst the Final Delegated Act for Mitigation and Adaptation was published in June 2023, the Technical Screening Criteria allow for discretion on the methodologies in determining alignment in certain cases. Therefore, at this stage, the alignment with the EU Taxonomy has been evaluated on a "best efforts basis".

Key Figures

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