Integrated Green Finance Allocation and Impact Report 2024

As of December 31, 2024

HOCHBAHN

1 Purpose

Hamburger Hochbahn AG (HOCHBAHN) is one of the leading local transport companies in Germany. Owned by the City of Hamburg, it operates four metro lines and 119 bus routes in Hamburg, Germany, carrying around 496 million passengers in 2024 to their destinations, providing around half of all local transport services in the Hamburg Transport Association (hvv). With over 6,900 employees, HOCHBAHN is one of Hamburg's largest employers.

With its vision of a livable Hamburg where integrated public transport is the first choice, HOCHBAHN underlines its role as an important mobility partner for the city and aligns its daily activities with this vision. With innovative and sustainable solutions, it ensures simple and useroriented mobility for all. The overarching goal is to increase passenger numbers and thus make a significant contribution to the mobility turnaround in Hamburg by reducing number of car journeys in Hamburg and the associated greenhouse gas- (GHG-) emissions.

A sustainable and attractive range of mobility services with adequate capacity is a key factor to achieve a modal transportation shift towards more environmentally friendly modes of transport, and contributes to global efforts of climate change mitigation and helps to maintain the quality of life in a growing city like Hamburg. HOCHBAHN is committed to the targets set out by the climate action plan of the City of Hamburg, and as a result, is expanding the range of services as well as the integration of on-demand services into public transport and the electrification of its bus fleet.

The HOCHBAHN Green Bond issuance is dedicated to the advancement of sustainable transport and will help to accelerate the achievement of the strategic objectives of HOCHBAHN.

With the issuance of the debut Green Bond in February 2021, HOCHBAHN published the "Green Bond Framework". The "Green Bond Framework" was updated in 2023 and renamed to "Green Finance Framework".
HOCHBAHN has commissioned CICERO Shades of Green to review the Green Bond Framework. The second opinion of CICERO Shades of Green confirms compliance with ICMA principles and rates HOCHBAHN's Green Bond Framework with the highest rating of "Dark Green".
Following the ICMA Green Bond Principles, HOCHBAHN has promised in its "Green Finance Framework" to publish an annual reporting on its efforts to promote sustainability with the funds provided by investors. With this document, HOCHBAHN intends to deliver on this promise and provide the investors with a comprehensive and transparent integrated allocation and impact report.

Key figures of HOCHBAHN's bus and metro operations

Bus	**2024**	**2023**	**2022**
Passengers (million)	237.1	223.5	189.4
Passenger kilometres (million)	800.9	780.1[1]	626.0
Number of buses	1,084	1,096	1,073
Number of lines	119	117	115
Number of stations	1,500	1,466	1,421
Metro	**2023**	**2023**	**2022**
Passengers (million)	259.4	244.5	199.0
Passenger kilometres (million)	1,394.6	1,278.3	1,188.1
Number of carriages	1,007	1,007	1,037
Number of lines	4	4	4
Number of stations	93	93	93

[1] Updated figure

2 Final Terms

Issuer	Hamburger Hochbahn AG
Issuer Rating	Fitch: AAA
Format	Schuldscheindarlehen
Settlement Date	26.04.2023
Maturity	26.04.2033
Volume	€ 162,500,000
ISIN	No. 16353
Denomination	€ 100,000
Use of Proceeds	Green projects in line with HOCHBAHN's Green Finance Framework
Listing	N/A

Issuer	Hamburger Hochbahn AG
Issuer Rating	Fitch: AAA
Format	Namensschuldverschreibung
Settlement Date	18.04.2024
Maturity	18.04.2036
Volume	€ 40,000,000
ISIN	No. 17066
Denomination	€ 100,000
Use of Proceeds	Green projects in line with HOCHBAHN's Green Finance Framework
Listing	N/A

Issuer	Hamburger Hochbahn AG
Issuer Rating	Fitch: AAA
Format	Namensschuldverschreibung
Settlement Date	18.04.2024
Maturity	18.04.2034
Volume	€ 60,000,000
ISIN	No. 17065
Denomination	€ 100,000
Use of Proceeds	Green projects in line with HOCHBAHN's Green Finance Framework
Listing	N/A

Issuer	Hamburger Hochbahn AG
Issuer Rating	Fitch: AAA
Format	Namensschuldverschreibung
Settlement Date	18.04.2024
Maturity	18.04.2036
Volume	€ 50,000,000
ISIN	No. 17070
Denomination	€ 100,000
Use of Proceeds	Green projects in line with HOCHBAHN's Green Finance Framework
Listing	N/A

Issuer	Hamburger Hochbahn AG
Issuer Rating	Fitch: AAA
Format	Green Loan
Settlement Date	20.06.2024
Maturity	20.06.2034
Volume	€ 50,000,000
ISIN	No. 9703935308
Denomination	€ 100,000
Use of Proceeds	Green projects in line with HOCHBAHN's Green Finance Framework
Listing	N/A

Issuer	Hamburger Hochbahn AG
Issuer Rating	Fitch: AAA
Format	Green Loan
Settlement Date	18.12.2024
Maturity	29.12.2034
Volume	€ 50,000,000
ISIN	No. 200610145221
Denomination	€ 100,000
Use of Proceeds	Green projects in line with HOCHBAHN's Green Finance Framework
Listing	N/A

Issuer	Hamburger Hochbahn AG
Issuer Rating	Fitch: AAA
Format	Green Syndicated Loan (KfW)
Settlement Date	19.07.2024
Maturity	30.06.2034
Volume	€ 140,000,000
ISIN	N/A
Denomination	€ 100,000
Use of Proceeds	Purchase electric trains (DT6) in line with HOCHBAHN's Green Finance Framework
Listing	N/A

3 Use of Proceeds

The net proceeds of HOCHBAHN's Green Finance Portfolio, consisting of the Namensschuldverschreibungen, Schuldscheindarlehen, Green Loan and Green Syndicated Loan (KfW) Loan issued in 2024, will be used to finance in whole or in part, new or existing projects ("Eligible Projects") from any of the Eligible Green Products/Project Categories as defined in HOCHBAHN's Green Bond Finance Framework:

Green Bond Principles Category: Clean Transportation		
Eligibility criteria	**Examples of Impact KPI**	**Alignment with SDG**
Metro: Refurbishment of our existing metro network (such as acquisition of rolling stock, refurbishment of existing metro infrastructure (tracks and depots))	• Increased capacity (available seat km) • Refurbished metro tracks [km] • Avoided emissions compared to cars (CO_2e, NO_X, SO_2)[2]	7 AFFORDABLE AND CLEAN ENERGY 8 DECENT WORK AND ECONOMIC GROWTH 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
Bus: Expansion and refurbishment of our bus network; transformation to a zero-emission bus fleet (such as acquisition of electric buses (battery, fuel-cell), charging infrastructure, construction of new and refurbishment of existing bus depots for electric buses)	• Increased capacity (available seat km) • Avoided emissions compared to cars (CO_2e, NO_X, SO_2)[2] • Avoided emissions compared to diesel bus (CO_2e, NO_X,SO_2)	
Services: Refurbishment and improvements of stations, integration of new customer services and on-demand services contributing to increase the share of integrated public transport over individual car use (such as ticketing, traffic information, passenger guidance systems, ticketing-terminals, service centers, and digital ticketing and service solution; integration of on-demand services and construction of mobility hubs)	• energy savings (due to refurbishment of metro stations such as new lighting) • number of new services and mobility hubs • average number of users per day • customer satisfaction surveys (qualitative assessment of the projects' contribution to improve the overall usability and accessibility of the public transport system)	11 SUSTAINABLE CITIES AND COMMUNITIES 13 CLIMATE ACTION

[2] Avoided carbon emissions = passenger km with public transport (km) x Modal transfer rate (%) based on surveys) x emissionfactor cars (CO_2e/km)

4 Main Projects

4.1 Refurbishment of the existing metro network

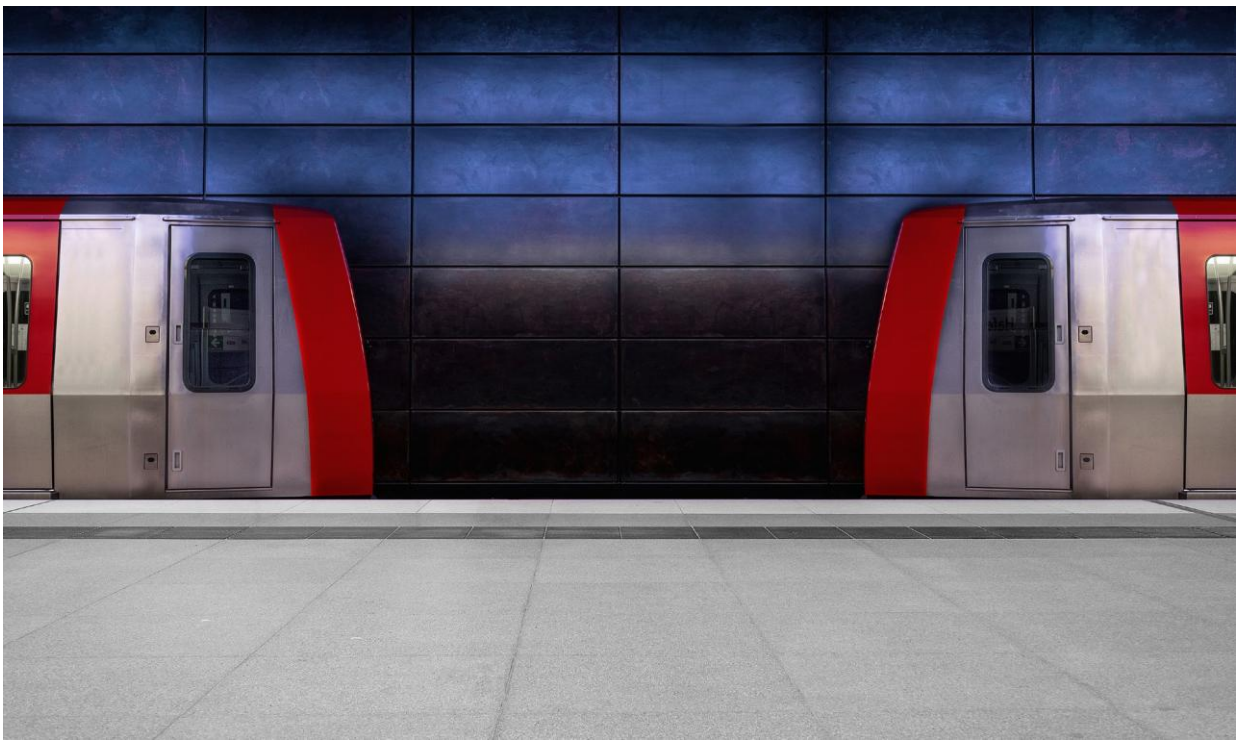
Refurbishment of the metro network is essential to ensure a reliable and metro system – a cornerstone for the attractiveness of public transport and the success of the modal shift. By modernizing existing infrastructure, HOCHBAHN safeguards operational stability and passenger confidence, which are critical for encouraging people to switch from private cars to integrated public transport. A robust metro network not only supports Hamburg's climate targets but also strengthens the city's ability to provide high-capacity, dependable transport for a growing population.

The impact balance of refurbished metro tracks financed in 2024 is estimated to:

- Refurbished metro tracks: about 9 km
- Passenger-kilometres: about 120 Mio.
- Avoided-car-kilometres: about 70 Mio.
- Net reduction of GHG emissions by modal shift: about 13,000 t CO_2e
- Net reduction of air pollutants by modal shift:
  - Particulate matter: about 0.7 t PM
  - Nitrogen oxides: about 18.1 t NO_x
  - Sulphur oxide: about 4.6 t SO_2

Additional information can be found:

- Differentiation of impact KPIs by financing instrument (Chapter 5)
- Methodology of Impact assessment (Chapter 6)



4.2 Electrification bus system

The Clean Transportation category includes also the expansions and refurbishment of our bus network where the focus is the transition of HOCHBAHN's diesel bus fleet to a zero-emission bus network to reduce emissions of greenhouse gases and air pollutants. This includes the acquisition of electric buses with the corresponding charging infrastructure as well as the expansion and new construction of bus depots to fit the future needs of a growing electric bus fleet. New digital solutions for improvement of the bus operation are also part of the category.

The impact balance of electric buses financed in 2024 is estimated to:

- Number of new electric buses: 71
- Passenger-kilometres: about 15 Mio.
- Avoided-car-kilometres: about 9 Mio.
- Net reduction of GHG emissions by modal shift and electrification: about 3,000 t CO_2e
- Net reduction of air pollutants by modal shift and electrification:
  - Particulate matter: about 0.2 t PM
  - Nitrogen oxides: about 5.8 t NO_x
  - Sulphur oxide: about 1.0 t SO_2

Additional information can be found:

- Differentiation of impact KPIs by financing instrument (Chapter 5)
- Methodology of Impact assessment (Chapter 6)

4.3 hvv switch app + service points (integrated mobility solutions)

The mobility transformation will only become a reality if the current public transport system is aligned very closely with new public mobility services. As a driver of sustainable mobility in Hamburg, HOCHBAHN is therefore expanding its core business to include complementary intuitive mobility services. HOCHBAHN plans to combine its regular public transport services with new mobility services to create a coherent product range that is easy and convenient to use.

The hvv switch platform offers passengers in Hamburg a multimodals service that adapts to their individual mo- bility needs and will therefore play a decisive role in the implementation of the mobility transformation. The aim of the hvv switch app is to provide users with easy and quick access to their favourite means of public transport services and new sharing services.

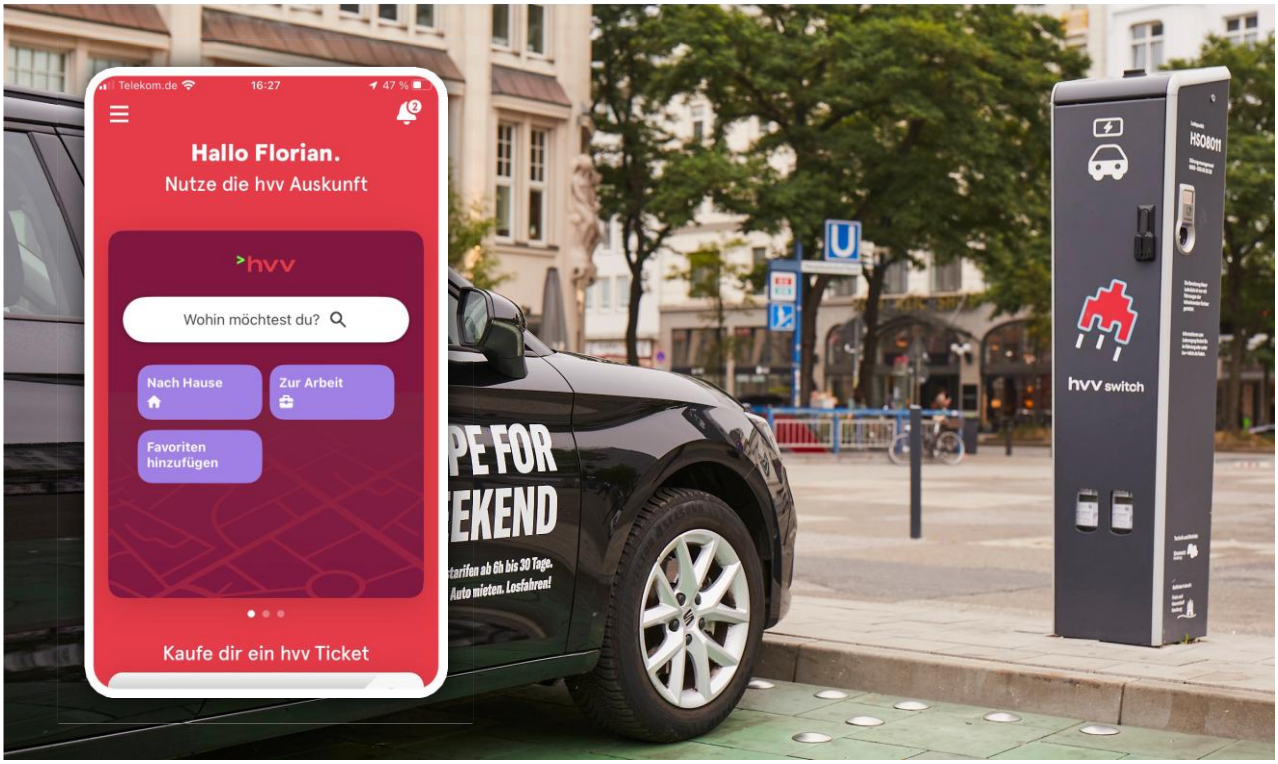
As well as being a key part of the digital mobility platform, the hvv switch concept is based on a network of mobility service points that bring together various complementary services, such as car and bike sharing, in one place.

The impact balance of hvv switch financed in 2024 is estimated to:

- Number of new hvv mobility service points: 66
- Number of new hvv switch app registrations: about 660,000

Additional information can be found:

- Differentiation of impact KPIs by financing instrument (Chapter 5)

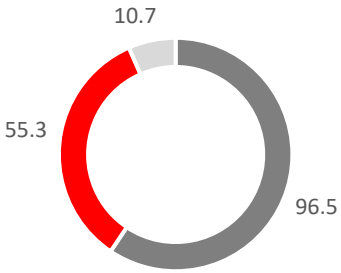


5 Impact and Allocation of Proceeds 2024

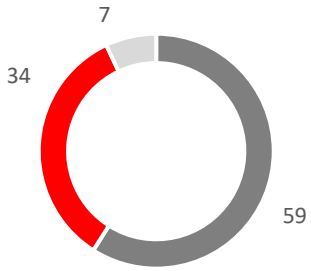
By the end of 2024, HOCHBAHN has allocated the proceeds from the SSD, No.16353 fully. An additional € 176.445 million has been allocated from proceeds of the new issued instruments. Thereof 100 % was used to finance new projects. Pending full allocation, the balance was deposited on money market accounts of ESG-compliant banks.

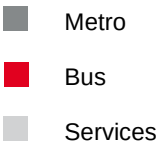
5.1 Inst. Number SSD, No. 16353

Allocated amount (Mio. €)



Share of allocated amount (%)





The following table provides a detailed view on the use of proceeds

Clean Transportation Portfolio	Signed Amount (Mio. €)	Share of Total Project Financing	Eligibility for green bonds	Clean Transportation portfolio component	Allocated Amount (Mio. €)	Portfolio lifetime
Metro: Refurbishment of our existing metro network	6,182.3	100%	100%	100%	96.5	+40Y
Bus: Expansion and refurbishment of our bus network; transformation to a zero-emission bus fleet	632.4	100%	100%	100%	55.3	+40Y
Services: Refurbishment and improvements of stations, integration of new customer services and on-demand services contributing to increase the share of integrated public transport over individual car use	232.0	100%	100%	100%	10.7	+15Y
Total	7,046.7	100%	100%	100%	162.5	+40Y

The following table provides a detailed view on the Impact of proceeds 2024[3]

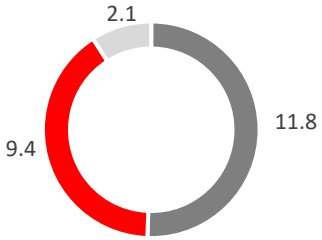
Clean Transportation Portfolio	Passenger-kilometer (km)	GHG emissions net reduction (tCO_2e in 2024)	GHG emissions net reduction (tCO_2e over depreciation period)	Air pollutants net reduction	(kg in 2024)	(kg over depreciation period)	Other Indicators in 2024[4]	
Metro: Refurbishment of our existing metro network	48,844,036.1	-5,404.1	-135,101.8	Particulate matter (kgPM)	-307.8	-7,693.8	Kilometres of refurbished metro tracks:	3.7
				Nitrogen oxides ($kgNO_x$)	-7,423.8	-185,595.3	Avoided car-kilometres:	28,329,541
				Sulphur oxides ($kgSO_2$)	-1,893.1	-47,327.9		
Bus: Expansion and refurbishment of our bus network; transformation to a zero-emission bus fleet	7,967,061.9	-1,561.8	-14,991.3	Particulate matter (kgPM)	-101.9	-978.9	Number of new electric buses:	29
				Nitrogen oxides ($kgNO_x$)	-3,085.9	-29,635.1	Avoided car-kilometres:	4,620,896
				Sulphur oxides ($kgSO_2$)	-558.3	-5,361.8		
	56,811,097.9	-6,965.9	-150,093.2	Particulate matter (kgPM)	-409.7	-8,672.7		
				Nitrogen oxides ($kgNO_x$)	-10,509.7	-215,230.4		
				Sulphur oxides ($kgSO_2$)	-2,451.4	-52,689.6		
Services: Refurbishment and improvements of stations, integration of new customer services and on-demand services contributing to increase the share of integrated public transport over individual car use							Number of new mobility hubs (hvv switch):	27
							Number of new hvv-switch-app registrations:	270,784
							Energy savings through lighting refurbishment (kWh):	207,114

[3] Impact calculations are based on precise data with multiple decimal places. For reporting purposes, figures have been rounded for readability, which may result in minor rounding differences

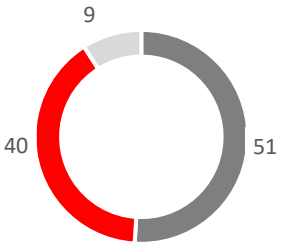
[4] Determination proportionally according to the allocation of the proceeds from the financial instruments

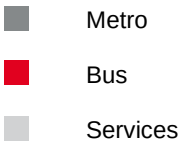
52 Inst. Number NSV, No. 17066

Allocated amount (Mio. €)



Share of allocated amount (%)





The following table provides a detailed view on the use of proceeds

Clean Transportation Portfolio	Signed Amount (Mio. €)	Share of Total Project Financing	Eligibility for green bonds	Clean Transportation portfolio component	Allocated Amount (Mio. €)	Portfolio lifetime
Metro: Refurbishment of our existing metro network	6,182.3	100%	100%	100%	11.8	+40Y
Bus: Expansion and refurbishment of our bus network; transformation to a zero-emission bus fleet	632.4	100%	100%	100%	9.4	+40Y
Services: Refurbishment and improvements of stations, integration of new customer services and on-demand services contributing to increase the share of integrated public transport over individual car use	232.0	100%	100%	100%	2.1	+15Y
Total	7,046.7	100%	100%	100%	23.3	+40Y

The following table provides a detailed view on the Impact of proceeds 2024[3]

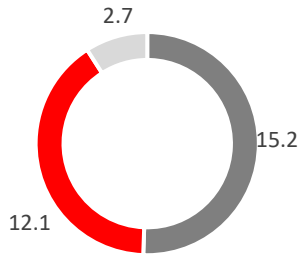
Clean Transportation Portfolio	Passenger-kilometer (km)	GHG emissions net reduction (tCO_2e in 2024)	GHG emissions net reduction tCO_2e over depreciation period	Air pollutants net reduction (kg in 2024)	Air pollutants net reduction (kg in 2024)	Air pollutants net reduction kg over depreciation period	Other Indicators in 2024[4]	
Metro: Refurbishment of our existing metro network	13,244,061.1	-1,465.3	-36,632.9	Particulate matter (kgPM)	-83.4	-2,086.2	Kilometres of refurbished metro tracks:	1.0
				Nitrogen oxides ($kgNO_x$)	-2,013.0	-50,324.2	Avoided car-kilometres:	7,681,555
				Sulphur oxides ($kgSO_2$)	-513.3	-12,832.9		
Bus: Expansion and refurbishment of our bus network; transformation to a zero-emission bus fleet	1,303,709.5	-253.5	-2,534.8	Particulate matter (kgPM)	-16.7	-166.8	Number of new electric buses:	8
				Nitrogen oxides ($kgNO_x$)	-505.0	-5,049.6	Avoided car-kilometres:	756,152
				Sulphur oxides ($kgSO_2$)	-91.4	-913.6		
	14,547,770.6	-1,718.8	-39,167.7	Particulate matter (kgPM)	-100.1	-2,253.0		
				Nitrogen oxides ($kgNO_x$)	-2,517.9	-55,373.8		
				Sulphur oxides ($kgSO_2$)	-604.7	-13,746.6		
Services: Refurbishment and improvements of stations, integration of new customer services and on-demand services contributing to increase the share of integrated public transport over individual car use							Number of new mobility hubs (hvv switch):	7
							Number of new hvv-switch-app registrations:	73,423
							Energy savings through lighting refurbishment (kWh):	56,159

[3] Impact calculations are based on precise data with multiple decimal places. For reporting purposes, figures have been rounded for readability, which may result in minor rounding differences

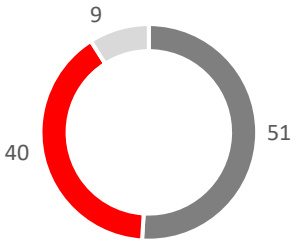
[4] Determination proportionally according to the allocation of the proceeds from the financial instruments

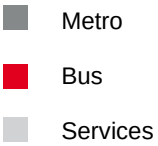
5.3 Inst. Number NSV, No. 17065

Allocated amount (Mio. €)



Share of allocated amount (%)





The following table provides a detailed view on the use of proceeds

Clean Transportation Portfolio	Signed Amount (Mio. €)	Share of Total Project Financing	Eligibility for green bonds	Clean Trans-portation portfolio component	Allocated Amount (Mio. €)	Portfolio lifetime
Metro: Refurbishment of our existing metro network	6,182.3	100%	100%	100%	15.2	+40Y
Bus: Expansion and refurbishment of our bus network; transformation to a zero-emission bus fleet	632.4	100%	100%	100%	12.1	+40Y
Services: Refurbishment and improvements of stations, integration of new customer services and on-demand services contributing to increase the share of integrated public transport over individual car use	232.0	100%	100%	100%	2.7	+15Y
Total	7,046.7	100%	100%	100%	30.0	+40Y

The following table provides a detailed view on the Impact of proceeds 2024[3]

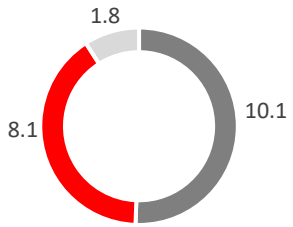
Clean Transportation Portfolio	Passenger-kilometer (km)	GHG emissions net reduction (tCO_2e in 2024)	GHG emissions net reduction tCO_2e over depreciation period	Air pollutants net reduction (kg in 2024)	Air pollutants net reduction (kg in 2024)	Air pollutants net reduction kg over depreciation period	Other Indicators in 2024[4]	
Metro: Refurbishment of our existing metro network	17,088,813.6	-1,890.7	-47,267.4	Particulate matter (kgPM)	-107.7	-2,691.8	Kilometres of refurbished metro tracks:	1.3
				Nitrogen oxides ($kgNO_x$)	-2,597.3	-64,933.3	Avoided car-kilometres:	9,911,512
				Sulphur oxides ($kgSO_2$)	-662.3	-16,558.4		
Bus: Expansion and refurbishment of our bus network; transformation to a zero-emission bus fleet	1,682,176.6	-327.1	-3,270.6	Particulate matter (kgPM)	-21.5	-215.2	Number of new electric buses:	10
				Nitrogen oxides ($kgNO_x$)	-651.6	-6,515.5	Avoided car-kilometres:	975,662
				Sulphur oxides ($kgSO_2$)	-117.9	-1,178.8		
	18,770,990.1	-2,217.8	-50,538.0	Particulate matter (kgPM)	-129.2	-2,907.0		
				Nitrogen oxides ($kgNO_x$)	-3,248.9	-71,448.8		
				Sulphur oxides ($kgSO_2$)	-780.2	-17,737.2		
Services: Refurbishment and improvements of stations, integration of new customer services and on-demand services contributing to increase the share of integrated public transport over individual car use							Number of new mobility hubs (hvv switch):	10
							Number of new hvv-switch-app registrations:	94,738
							Energy savings through lighting refurbishment (kWh):	72,462

[3] Impact calculations are based on precise data with multiple decimal places. For reporting purposes, figures have been rounded for readability, which may result in minor rounding differences

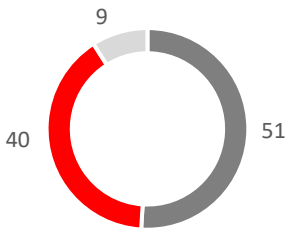
[4] Determination proportionally according to the allocation of the proceeds from the financial instruments

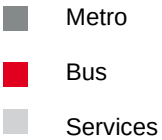
5.4 Inst. Number NSV, No. 17070

Allocated amount (Mio. €)



Share of allocated amount (%)





The following table provides a detailed view on the use of proceeds

Clean Transportation Portfolio	Signed Amount (Mio. €)	Share of Total Project Financing	Eligibility for green bonds	Clean Transportation portfolio component	Allocated Amount (Mio. €)	Portfolio lifetime
Metro: Refurbishment of our existing metro network	6,182.3	100%	100%	100%	10.1	+40Y
Bus: Expansion and refurbishment of our bus network; transformation to a zero-emission bus fleet	632.4	100%	100%	100%	8.1	+40Y
Services: Refurbishment and improvements of stations, integration of new customer services and on-demand services contributing to increase the share of integrated public transport over individual car use	232.0	100%	100%	100%	1.8	+15Y
Total	7,046.7	100%	100%	100%	20.0	+40Y

The following table provides a detailed view on the Impact of proceeds 2024[3]

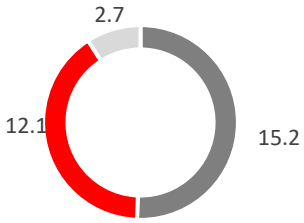
Clean Transportation Portfolio	Passenger-kilometer (km)	GHG emissions net reduction (tCO_2e in 2024)	GHG emissions net reduction tCO_2e over depreciation period	Air pollutants net reduction (kg in 2024)	Air pollutants net reduction kg over depreciation period	Other Indicators in 2024[4]	
Metro: Refurbishment of our existing metro network	11,392,542.4	-1,260.5	-31,511.6	Particulate matter (kgPM)	-71.8	-1,794.5	Kilometres of refurbished metro tracks: 0.9
				Nitrogen oxides ($kgNO_x$)	-1,731.6	-43,288.8	Avoided car-kilometres: 6,607,675
				Sulphur oxides ($kgSO_2$)	-441.6	-11,038.9	
Bus: Expansion and refurbishment of our bus network; transformation to a zero-emission bus fleet	1,121,451.0	-218.0	-2,180.4	Particulate matter (kgPM)	-14.3	-143.5	Number of new electric buses: 7
				Nitrogen oxides ($kgNO_x$)	-434.4	-4,343.7	Avoided car-kilometres: 650,442
				Sulphur oxides ($kgSO_2$)	-78.6	-785.9	
	12,513,993.4	-1,478.5	-33,692.0	Particulate matter (kgPM)	-86.1	-1,938.0	
				Nitrogen oxides ($kgNO_x$)	-2,165.9	-47,632.5	
				Sulphur oxides ($kgSO_2$)	-520.1	-11,824.8	
Services: Refurbishment and improvements of stations, integration of new customer services and on-demand services contributing to increase the share of integrated public transport over individual car use						Number of new mobility hubs (hvv switch): 6	
						Number of new hvv-switch-app registrations: 63,159	
						Energy savings through lighting refurbishment (kWh): 48,308	

[3] Impact calculations are based on precise data with multiple decimal places. For reporting purposes, figures have been rounded for readability, which may result in minor rounding differences

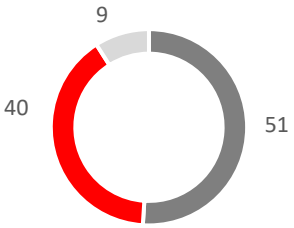
[4] Determination proportionally according to the allocation of the proceeds from the financial instruments

5.5 Inst. Number 9703935308

Allocated amount (Mio. €)



Share of allocated amount (%)



The following table provides a detailed view on the use of proceeds

Clean Transportation Portfolio	Signed Amount (Mio. €)	Share of Total Project Financing	Eligibility for green bonds	Clean Transportation portfolio component	Allocated Amount (Mio. €)	Portfolio lifetime
Metro: Refurbishment of our existing metro network	6,182.3	100%	100%	100%	15.2	+40Y
Bus: Expansion and refurbishment of our bus network; transformation to a zero-emission bus fleet	632.4	100%	100%	100%	12.1	+40Y
Services: Refurbishment and improvements of stations, integration of new customer services and on-demand services contributing to increase the share of integrated public transport over individual car use	232.0	100%	100%	100%	2.7	+15Y
Total	7,046.7	100%	100%	100%	30.0	+40Y

The following table provides a detailed view on the Impact of proceeds 2024[3]

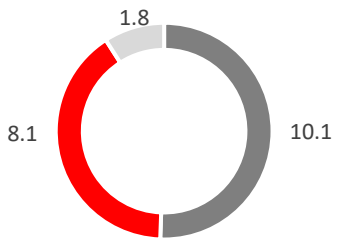
Clean Transportation Portfolio	Passenger-kilometer (km)	GHG emissions net reduction (tCO_2e in 2024)	GHG emissions net reduction tCO_2e over depreciation period	Air pollutants net reduction (kg in 2024)	Air pollutants net reduction (kg in 2024)	Air pollutants net reduction kg over depreciation period	Other Indicators in 2024[4]	
Metro: Refurbishment of our existing metro network	17,088,813.6	-1,890.7	-47,267.4	Particulate matter (kgPM)	-107.7	-2,691.8	Kilometres of refurbished metro tracks:	1.3
				Nitrogen oxides ($kgNO_x$)	-2,597.3	-64,933.3	Avoided car-kilometres:	9,911,512
				Sulphur oxides ($kgSO_2$)	-662.3	-16,558.4		
Bus: Expansion and refurbishment of our bus network; transformation to a zero-emission bus fleet	1,682,176.6	-327.1	-3,270.6	Particulate matter (kgPM)	-21.5	-215.2	Number of new electric buses:	10
				Nitrogen oxides ($kgNO_x$)	-651.6	-6,515.5	Avoided car-kilometres:	975,662
				Sulphur oxides ($kgSO_2$)	-117.9	-1,178.8		
	18,770,990.1	-2,217.8	-50,538.0	Particulate matter (kgPM)	-129.2	-2,907.0		
				Nitrogen oxides ($kgNO_x$)	-3,248.9	-71,448.8		
				Sulphur oxides ($kgSO_2$)	-780.2	-17,737.2		
Services: Refurbishment and improvements of stations, integration of new customer services and on-demand services contributing to increase the share of integrated public transport over individual car use							Number of new mobility hubs (hvv switch):	10
							Number of new hvv-switch-app registrations:	94,738
							Energy savings through lighting refurbishment (kWh):	72,462

[3] Impact calculations are based on precise data with multiple decimal places. For reporting purposes, figures have been rounded for readability, which may result in minor rounding differences

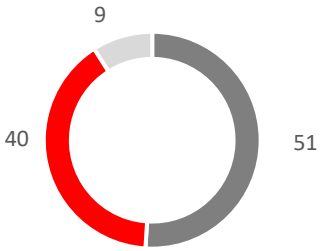
[4] Determination proportionally according to the allocation of the proceeds from the financial instruments

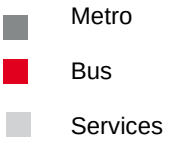
5.6 Inst. Number 200610145221

Allocated amount (Mio. €)



Share of allocated amount (%)





The following table provides a detailed view on the use of proceeds

Clean Transportation Portfolio	Signed Amount (Mio. €)	Share of Total Project Financing	Eligibility for green bonds	Clean Trans-portation portfolio component	Allocated Amount (Mio. €)	Portfolio lifetime
Metro: Refurbishment of our existing metro network	6,182.3	100%	100%	100%	10.1	+40Y
Bus: Expansion and refurbishment of our bus network; transformation to a zero-emission bus fleet	632.4	100%	100%	100%	8.1	+40Y
Services: Refurbishment and improvements of stations, integration of new customer services and on-demand services contributing to increase the share of integrated public transport over individual car use	232.0	100%	100%	100%	1.8	+15Y
Total	7,046.7	100%	100%	100%	20.0	+40Y

The following table provides a detailed view on the Impact of proceeds 2024[3]

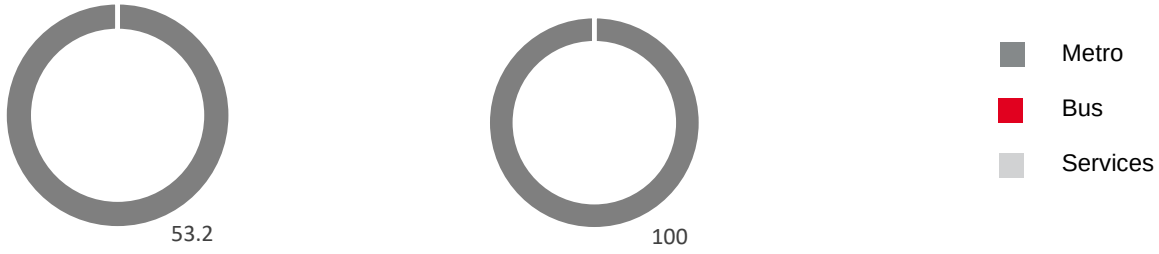
Clean Transportation Portfolio	Passenger-kilometer (km)	GHG emissions net reduction (tCO_2e in 2024)	GHG emissions net reduction tCO_2e over depreciation period	Air pollutants net reduction (kg in 2024)	Air pollutants net reduction (kg in 2024)	Air pollutants net reduction kg over depreciation period	Other Indicators in 2024[4]	
Metro: Refurbishment of our existing metro network	11,392,542.4	-1,260.5	-31,511.6	Particulate matter (kgPM)	-71.8	-1,794.5	Kilometres of refurbished metro tracks:	0.9
				Nitrogen oxides ($kgNO_x$)	-1,731.6	-43,288.8	Avoided car-kilometres:	6,607,675
				Sulphur oxides ($kgSO_2$)	-441.6	-11,038.9		
Bus: Expansion and refurbishment of our bus network; transformation to a zero-emission bus fleet	1,121,451.0	-218.0	-2,180.4	Particulate matter (kgPM)	-14,3	-143,5	Number of new electric buses:	7
				Nitrogen oxides ($kgNO_x$)	-434.4	-4,343.7	Avoided car-kilometres:	650,442
				Sulphur oxides ($kgSO_2$)	-78.6	-785.9		
	12,513,993.4	-1,478.5	-33,692.0	Particulate matter (kgPM)	-86.1	-1,938.0		
				Nitrogen oxides ($kgNO_x$)	-2,165.9	-47,632.5		
				Sulphur oxides ($kgSO_2$)	-520.1	-11,824.8		
Services: Refurbishment and improvements of stations, integration of new customer services and on-demand services contributing to increase the share of integrated public transport over individual car use							Number of new mobility hubs (hvv switch):	6
							Number of new hvv-switch-app registrations:	63,159
							Energy savings through lighting refurbishment (kWh):	48,308

[3] Impact calculations are based on precise data with multiple decimal places. For reporting purposes, figures have been rounded for readability, which may result in minor rounding differences

[4] Determination proportionally according to the allocation of the proceeds from the financial instruments

5.7 Inst. Green Syndicated Loan (KfW)

Allocated amount (Mio. €) **Share of allocated amount (%)**



The following table provides a detailed view on the use of proceeds

Clean Transportation Portfolio	Signed Amount (Mio. €)	Share of Total Project Financing	Eligibility for green bonds	Clean Trans-portation portfolio component	Allocated Amount (Mio. €)	Portfolio lifetime
Metro: Refurbishment of our existing metro network	6,182.3	100%	100%	100%	53.2	+40Y
Bus: Expansion and refurbishment of our bus network; transformation to a zero-emission bus fleet	632.4	100%	100%	100%	0	+40Y
Services: Refurbishment and improvements of stations, integration of new customer services and on-demand services contributing to increase the share of integrated public transport over individual car use	232.0	100%	100%	100%	0	+15Y
Total	7,046.7	100%	100%	100%	53.2	+40Y

Note on the Impact of the Green Indicated Loan (KfW)

In 2024, HOCHBAHN incorporated a Green Syndicated Loan (KfW) into its Green Finance Framework to support the procurement of new DT6 metro vehicles. The loan enables pre-financing of these assets in 2024, with delivery scheduled to commence in 2028. As the vehicles are not yet operational during the reporting year, no quantifiable environmental benefits have been realized to date. Consequently, no impact table or key performance indicators are presented for this financing. The associated green impacts—particularly GHG emissions net reductions —will be disclosed in future reports once the vehicles are in service.

6 Methodology of impact assessment

The main positive impacts are based on reduction and avoidance of greenhouse gas (GHG) emissions as well as air pollution due to

- **Modal Shift (from private car use to public transport use) and**
- **Electrification (electric bus compared to diesel bus).**

Therefore, the reduction and avoidance of GHG emissions and of air pollution has been estimated for the project categories "Metro: Refurbishment of our metro network" and "Bus: Expansion and refurbishment of our bus network; transformation to a zero-emission bus fleet". When estimating the net reduced and avoided emissions, emissions caused by operating our own metro and bus services were taken into account (Well-to-Wheel).[5]

Net avoided emissions = Avoided emissions – Caused emissions

Details regarding the methodology can be found below (the numbers in brackets refer to the respective calculation factors found in 6.3).

6.1 Calculation of avoided emissions

6.1.1 Modal shift

Emissions	Calculation
Greenhouse gases (CO_2e)	passenger-km with financed e-buses resp. on financed refurbished metro tracks[6] (pkm) x Modal transfer rate (%) (1) x emission factor cars (CO_2e / passenger-km) (2)
Air pollutants (NO_x, PM, SO_2)	passenger-km with financed e-buses resp. on financed refurbished metro tracks[6] (pkm) x Modal transfer rate (%) (1) x emission factor cars (NO_x (3) resp. PM (4) resp. SO_2 (5) / passenger-km)

6.1.2 Electrification (bus fleet)

Emissions	Calculation
Greenhouse gases (CO_2e)	vehicle-km of financed e-buses x emission factor diesel-bus / vehicle-km (6)
Air pollutants (NO_x, PM, SO_2)	passenger-km of financed e-buses x emission factor diesel-bus (NO_x (3) resp. PM (4) resp. SO_2 (5) / passenger-km)

[5] Well-to-Wheel includes both emissions from the production and distribution of the used energy (Well-to-Tank) and emissions generated during the vehicle's operation (Tank-to-Wheel)

[6] To calculate the passenger kilometers on refurbished metro tracks used here, the proportion of refurbished track kilometers to the total metro network is used (in 2024: 9.032 km of renovated track length; total network: 105.8 km -> 8.54%) and applied to the total passenger kilometers. In the previous Green Finance Allocation and Impact Report (2021–2023), a different methodology for impact estimation of metro-network investments was applied due to the project focus on the procurement of new DT5 metro vehicles.

6.2 Calculation of caused emissions

Emissions	Calculation
Greenhouse gases (CO_2e)	passenger-km with financed e-buses resp. on financed refurbished metro tracks[6] (pkm) x emission factor e-buses resp. metro-vehicles (CO_2e / passenger-km) (2)
Air pollutants (NO_x, PM, SO_2)	passenger-km with financed e-buses resp. on financed refurbished metro tracks[6] (pkm) x emission factor e-buses resp. metro-vehicles (NO_x, PM, SO_2 / passenger-km) (3, 4, 5)

6.3 Calculation factors

(1) Used modal transfer rate in %[7]

	2022	2023	2024	Data Base
Share of HOCHBAHN customers using their own private car, taxi or car sharing in Hamburg when public transport services are not available	61%	58%	58%	Customer surveys conducted every two years (here 2021 and 2023)

(2) Used GHG emission factors per passenger-km (Well-to-Wheel) in g CO_2e / passenger-km

	2022	2023	2024	Data Base
Metro	3.36	3.36	3.75	Own calculation (Fleet data)
Electric Bus	13.91	12.10	12.66	Own calculation (Fleet data)
Electric Bus (articulated)	14.35	13.59	13.92	Own calculation (Fleet data)
Diesel Bus	119.05	99.75	96.06	Own calculation (Fleet data)
Diesel Bus (articulated)	109.71	91.92	88.52	Own calculation (Fleet data)
Private Car (urban)[8]	199.32	198.49	197.22	TREMOD 6.71B

(3) Used Nitrogen oxides (NO_x) emission factors per passenger-km (Well-to-Wheel) in g NO_x / passenger-km

	2022	2023	2024	Data Base
Metro	0.062	0.045	0.040	TREMOD 6.71B
Electric Bus	0.095	0.085	0.086	TREMOD 6.71B
Diesel Bus	0.351	0.304	0.281	TREMOD 6.71B
Private Car (urban)[8]	0.363	0.349	0.330	TREMOD 6.71B

[7] Question in survey: Now please imagine that the last time you travelled by public transport there was no public transport, e.g. due to a strike. How would you have reacted then?

[8] Identical emission factors are applied to both taxis and car sharing

(4) Used Partikel (PM) emission factors per passenger-km (Well-to-Wheel) in g PM / passenger-km

	2022	2023	2024	Data Base
Metro	0.003	0.002	0.002	TREMOD 6.71B
Electric Bus	0.004	0.004	0.004	TREMOD 6.71B
Diesel Bus	0.010	0.009	0.009	TREMOD 6.71B
Private Car (urban)[8]	0.015	0.015	0.014	TREMOD 6.71B

(5) Used Partikel (SO_2) emission factors per passenger-km (Well-to-Wheel) in g SO_2 / passenger-km

	2022	2023	2024	Data Base
Metro	0.029	0.022	0.019	TREMOD 6.71B
Electric Bus	0.045	0.041	0.041	TREMOD 6.71B
Diesel Bus	0.054	0.052	0.054	TREMOD 6.71B
Private Car (urban)[8]	0.101	0.101	0.100	TREMOD 6.71B

(6) Used GHG emission factors per vehicle-km (Well-to-Wheel) in g CO_2e / vehicle-km

	2022	2023	2024	Data Base
Electric Bus	151.8	157.4	171.1	Own calculation (Fleet data)
Electric Bus (articulated)	227.8	236.4	256.9	Own calculation (Fleet data)
Diesel Bus[9]	1,299.5	1,298.0	1,298.0	Own calculation (Fleet data)
Diesel Bus (articulated)[9]	1,796.3	1,794.2	1,794.2	Own calculation (Fleet data)

(7) Used Well-to-Wheel emission factors per energy unit

	2022	2023	2024	Data Base
Onshore wind energy in g CO_2e / kWh	35.4	38.3	45.1	UBA & DBEIS
Diesel in g CO_2e / l	3,227.5	3,223.7	3,223.7	UBA
Heating oil in g CO_2e / l	3,127.5	3,127.5	3,127.5	UBA

[8] Identical emission factors are applied to both taxis and car sharing

[9] Due to unchanged emission factors for diesel and heating oil, as well as constant specific consumption rates, the values for diesel buses remained consistent between 2022 and 2024

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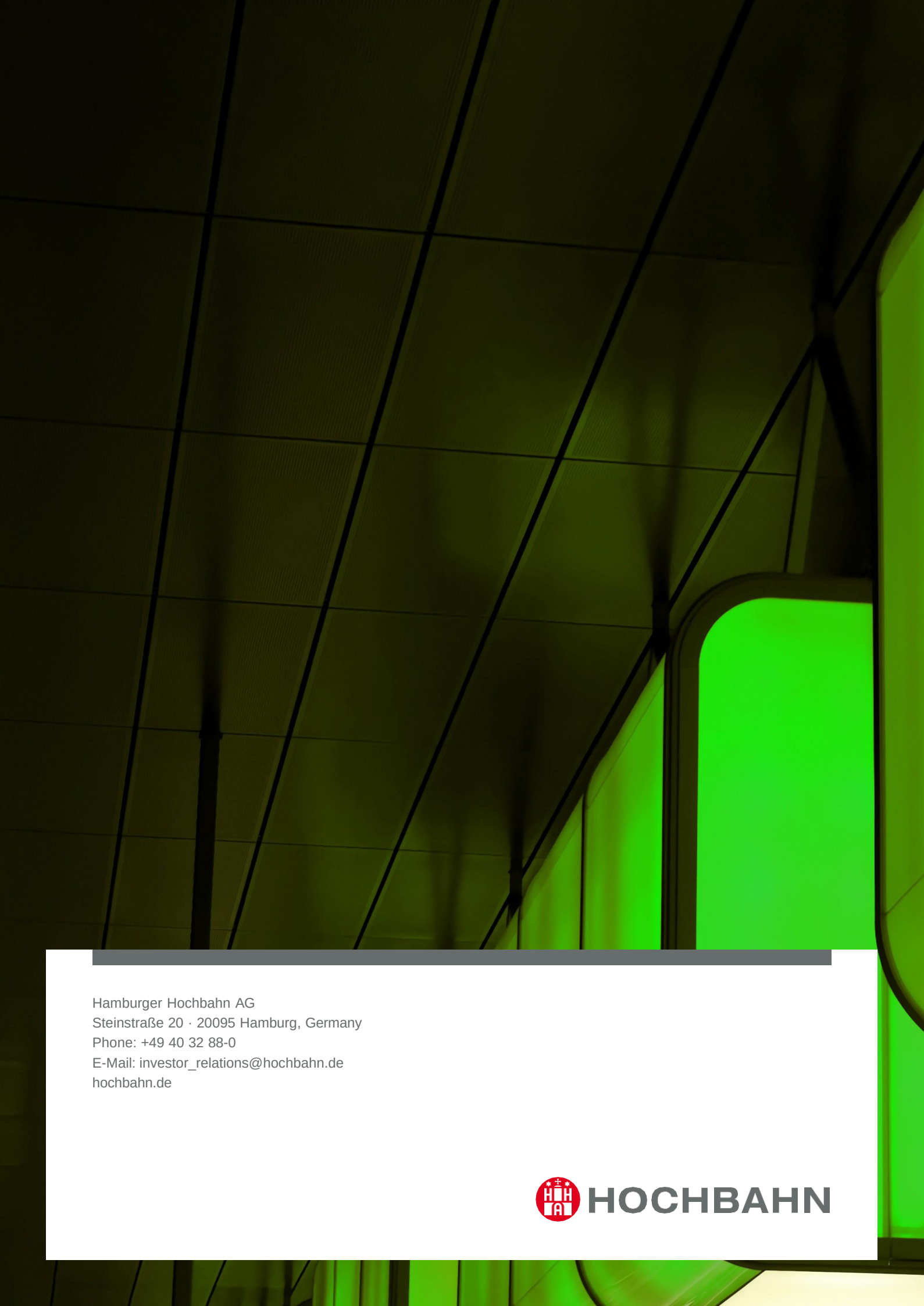

Hamburger Hochbahn AG
Steinstraße 20 · 20095 Hamburg, Germany
Phone: +49 40 32 88-0
E-Mail: investor_relations@hochbahn.de
hochbahn.de

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