

# Carbon Accounting Report 2022



Disclaimer:

This report is based on the RECAP (Real Estate Carbon Accounting Principle) that has been defined by alstria to help it assess the impact of carbon pricing change on its business and better integrate climate change consideration in its decision-making processes.\*

RECAP is not a general accepted accounting practice. Moreover, the information contained in this report has neither been audited nor reviewed. This document is being presented solely for informational purposes. It should not be treated as giving investment advice, nor is it intended to provide the basis for any evaluation or any securities and should not be considered as a recommendation that any person should purchase, hold, or dispose of any shares or other securities.

Audited financial information about alstria in accordance with IFRS and German GAAP are available on alstria's website [www.alstria.de](http://www.alstria.de).

The information compiled in the report is based upon what management believes are reasonable assumptions. Therefore, this report may also contain forward-looking statements based on these assumptions and forecasts made by the alstria management and other information currently available to alstria. However, there can be no assurance the assumption and forecasts will prove to be accurate, as actual results and future events could differ materially from those anticipated in such statements. The Company undertakes no obligation to the assumptions and forecasts if circumstances or management's estimates or opinions should change. Moreover, the Company does not intend, and does not assume any liability, to update the forward-looking statements or to conform them to future events or developments.

Certain numerical data in this presentation have been rounded according to established commercial standards.

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\* The RECAP framework is available at [www.recap.wiki](http://www.recap.wiki)

## CARBON PROFIT AND LOSS STATEMENT - FY2022 - EUR K (UNAUDITED)

	Note	FY2022		FY2021
<b>Carbon Revenues</b>				
	D.1			
<b>Transaction</b>	D.1.1			
Gain/Loss as a result of acquisition/sale of operational carbon		610	-	432
Gain/Loss as a result of acquisition/sale of Embedded Carbon		884	-	287
<b>Transaction result</b>		<b>1 494</b>	<b>-</b>	<b>720</b>
<b>Carbon Efficiency</b>	D.1.2			
Gain/Loss of Embedded Carbon as a result of change in construction technology		-	-	-
Gain/loss as a result in change in operational carbon efficiency		-	10 525	4 272
Gain/Loss as a result increase/decrease of life of standing asset		-	-	-
<b>Efficiency result</b>		<b>-</b>	<b>10 525</b>	<b>4 272</b>
<b>Carbon Market Price</b>	D.1.3			
Gain/loss as a result of change in carbon price		<b>1 631</b>		<b>17 629</b>
<b>Carbon Revenues</b>		<b>-</b>	<b>7 399</b>	<b>21 181</b>
<b>P&amp;L - Expenses</b>				
	D. II.			
Carbon Expenses resulting from operations of the assets	D II.1	-	1.580	-
Carbon expenses resulting from the write-off of construction carbon	D II.2	-	1.670	-
<b>Carbon Expenses</b>		<b>-</b>	<b>3.250</b>	<b>-</b>
<b>Carbon Net Income</b>		<b>-</b>	<b>10.649</b>	<b>18 684</b>

**CARBON BALANCE SHEET - CARBON ASSETS - FY2022**

EUR K (UNAUDITED)

	Note	FY2021	FY2022	YoY change	
Embedded Carbon asset at fair value		115 548	122.231	+	6 883
Embedded Carbon deduction as Increase/decrease of life of standing assets		- 28 887	- 30.558	-	1671
<b>Total Carbon Assets</b>	<b>E I.</b>	<b>86 661</b>	<b>91.674</b>	<b>+</b>	<b>5 012</b>

**CARBON BALANCE SHEET - CARBON EQUITY AND CARBON LIABILITIES - FY2022**

EUR K (UNAUDITED)

	Note	FY2021	FY2022	Change YoY	
Carbon Retained Earning		- 11 709	- 22.359	-	10.649
Green Dividend	E II.2	1 780	3.560	+	1 780
<b>Total Carbon Equity</b>	<b>E II.1</b>	<b>- 9 930</b>	<b>- 18.799</b>	<b>-</b>	<b>8.869</b>
Unpaid Carbon Acquired by the Company	5.2.2	36 265	32.731	-	3.535
Unpaid Carbon Used by the Company	5.2.3	2 995	4.465	+	1 470
Liability linked to future Operational Carbon	5.2.4	57 331	73.277	+	15 946
<b>Total Carbon Liability</b>		<b>96 591</b>	<b>110.473</b>	<b>+</b>	<b>13 882</b>
<b>Total Carbon Equity and Liability</b>		<b>86 661</b>	<b>91.674</b>	<b>+</b>	<b>5 012</b>

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## A. BASIS OF PRESENTATION

alstria office REIT-AG (the Company) is a listed real estate property corporation under the scope of the G-REIT Act. The main objectives of the Company and its subsidiaries (the Group or alstria) are the acquisition, management, operation, and sale of owned real estate property and the holding of participations in enterprises that acquire, manage, operate, and sell owned property. alstria prepared its 2020 carbon accounts in accordance with the Real Estate Carbon Accounting Principle (RECAP, which can be found at [www.recap.wiki](http://www.recap.wiki)).

Emission considered in this reports covers all scope 1, 2 and 3.

These principles are not accepted accounting principles and have been developed by the Company to better illustrate the potential financial impact of carbon on its underlying business.

In particular, this report's use of "Asset", "Liability" and "Equity" do not meet the respective definitions of these terms under IFRS or under German GAAP.

## B. BASIS FOR CONSOLIDATION

This carbon account considers all the assets on the Company's balance sheet during the FY2020 and all the activities carried by the company during the reporting year. For a full list of the assets in alstria's balance sheet, please see [www.alstria.de](http://www.alstria.de).

## C. KEY JUDGEMENTS AND ESTIMATES

Estimates, assessments, and assumptions have been made while preparing these carbon accounts. These can materially affect the reported amounts and recognition of carbon assets and carbon liabilities at the balance sheet date and the amounts of carbon income and carbon expenses reported for the overall period. The significant items that such estimates, assessments, and assumptions affect are described hereafter. Actual amounts may differ from the estimates. Changes in the estimates, assessments, and assumptions can materially impact the carbon accounts.

Scope 3 emissions, where not available, have been estimated. For more about the estimation of scope 3 emission and other emission boundaries, please see alstria 2022 ESG report<sup>1</sup>

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<sup>1</sup> [https://alstria.de/wp-content/uploads/2022/11/alstria\\_Sustainability\\_Report\\_2021\\_2022.pdf](https://alstria.de/wp-content/uploads/2022/11/alstria_Sustainability_Report_2021_2022.pdf)

## I. CARBON PRICE

The fair market value of carbon we used equals the daily closing price of the ECX EUA Futures, Continuous Contract, trading on ICE. The EUA Futures Contract is a deliverable contract where each clearing member with a position open at the cessation of trading for a contract month is obliged to make or take delivery of carbon emission allowances to or from the Union Registry under the ICE Futures Europe Regulations.

We used the spot price on balance sheet day for carbon balance sheet items. However, we used the mathematical average closing price for the year for carbon profit and loss statement items. The table below summarises the data.

Carbon price (EUR/ton CO <sub>2</sub> Eq) <sup>2</sup>	
Dec. 31, 2021	80.65
Dec. 31, 2022	88,00
Mathematical average price in 2022	81,33

## II. FAIR VALUE OF EMBEDDED CARBON

The fair value of embedded carbon is defined as the cost of the amount of carbon that would need to be spent to build an equivalent building using the average construction methodology currently available.

$$\text{Fair Value} = a \times c \times p$$

Where

a is the total lettable area of the asset;

c is the average amount of carbon emitted to build one m<sup>2</sup> of office;

and

p is the market price of one ton of carbon at the reporting date.

In this report, we assumed that  $c = 1 \text{ ton/m}^2$ <sup>3</sup>.

## III. LACK OF ASSET REUSABILITY

The lack of asset reusability is based on an estimate of the amount of construction that cannot or will not be reused at a later stage of the asset's life cycle. Therefore, it results in a deduction of the fair value of embedded carbon. For example, this is linked to the inner fit-out of the asset that will be

<sup>2</sup> Source: <https://ember-climate.org/data/data-tools/carbon-price-viewer/>

<sup>3</sup> Based on the estimate of LETI Embodied Carbon Primer, January 2020 ([www.leti.london](http://www.leti.london)).

torn down on regular basis as the occupation of the assets evolve (partition walls, carpets, etc.) We have assumed in the report that 25%<sup>4</sup> of the asset cannot be reused.

**IV. FUTURE OPERATIONAL CARBON LIABILITY**

Future operational carbon liability represents the capitalized cost of future carbon emission that is committed by the company as it operates the asset. This amount is calculated based on the latest know operational emission of the building, which is assumed to continue unabated in the future. Future operational carbon liability =  $C_e \times C_c / E_{qY}$

Where

$C_e$  = the latest annual carbon emissions;

$C_c$  = the cost of carbon; and

$E_{qY}$  = the equivalent yield used in the valuation of the asset at the reporting date for the IFRS FY financial statement.

**V. LACK OF EMISSION DATA FOR STANDING OR ACQUIRED ASSETS**

In a limited number of cases (and in particular for newly acquired assets), alstria does not have data related to the asset’s latest annual carbon emission. In these cases, the following assumption was made

$$C_e = A_e/m^2 \times A_a$$

Where

$C_e$  = the latest annual carbon emissions;

$A_e/m^2$  is the average latest annual carbon emission per  $m^2$  calculated as the sum of the total latest annual carbon emission of each individual asset, where the information is known, divided by the sum of  $m^2$  of the same portfolio; and

$A_a$  is the lettable area in  $m^2$  of the asset considered.

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<sup>4</sup> alstria’s own estimate



## VI. ESTIMATED EMISSION FROM AN IDENTIFIED REFURBISHMENT

Emission per m<sup>2</sup> of an asset's refurbishment is estimated as follows:

$$Re = Pb \times c$$

Where

Re is the carbon emission per m<sup>2</sup> for a given refurbishment;

Pb is the proportion of the building construction that is preserved by the planned refurbishment (expressed as a percentage); and c is the average amount of carbon emitted to build one m<sup>2</sup> of office (as defined in II above).

To estimate the actual emission from its refurbishment project during the year, we estimated the degree of progress of the construction site and assumed that the emission during the year is equal to the total emission anticipated multiplied by the amount of progression of the construction site.

## VII. ESTIMATED EMISSION FROM A NON-SPECIFIC REFURBISHMENT

During the year, alstria invests in standing assets (for example, to realise tenants fit outs, to renew a roof or an elevator, etc.), without identifying the investment as a specific refurbishment.

To estimate the emissions of these works, the following is applied:

$$EnsR = ER/IR \times InsR$$

Where

EnsR is the emission in nonspecific refurbishments;

ER is the emission from known refurbishments (as defined in VI);

IR is the total investment related to the known refurbishment (in EUR); and InsR

is the total investment in the nonspecific refurbishment (in EUR).

## D. NOTES TO THE PROFIT AND LOSS STATEMENT

### I. CARBON REVENUES

#### 1. TRANSACTION

alstria disposed over the reporting period a total of four assets representing EUR 2,651 k (2021: EUR 414 k) of net embedded carbon assets, and a liability for future operational carbon of EUR 610 k (2021: EUR 5 k).

The asset sales led to a gain of EUR 1,494 k (2021: EUR 143 k) as summarized in the table below:

#### Assets sold (EUR k)

Carrying Value of Embedded Carbon Asset Sold	-	2 651
Fair Value of Embedded Carbon Asset Sold		3 535
<b>Total Gain from Embedded Carbon Sold</b>		<b>884</b>
Gain linked to the decrease of the liability linked to future operational carbon		610
<b>Total Carbon gain from sales</b>		<b>1494</b>

No asset was acquired during the period.

In total, the transaction activities resulted in an overall gain of EUR 1,494 k (2021: loss of EUR 720k), for the period.

#### 2. CARBON EFFICIENCY

Lower carbon efficiency resulted in a loss of EUR 10,525 k (2021 : gain of EUR 4,272 k), over the reporting period, which reflects an increase in the future carbon liability. This lower carbon efficiency reflects the increase in consumption in the company assets following increased activity in the office as the COVID restriction was lifted.

#### 3. CHANGE IN CARBON PRICE

The increase of the carbon price during the year from EUR 80.65/ton of CO<sub>2</sub>Eq to EUR 88/ton of CO<sub>2</sub>Eq led to a total revenue of EUR 1,631 (2021: EUR 17,629 k).

This revenue is the net effect of the change in carbon price on (i) the embedded carbon-based assets which increased by EUR 7,663 k (2021: EUR 50,819 k), (note E I.), and (ii) on the future carbon operational liability which increased by EUR 6,032 k (2021: EUR 33,191 k) (note E II.4).

## II. CARBON EXPENSES

The price of carbon used for calculating the carbon expenses corresponded to the average carbon price over the year of EUR 81.33/ton of CO<sub>2</sub>Eq (2021: EUR 53.65/ton of CO<sub>2</sub>Eq).

### 1. OPERATION OF THE ASSETS

The location-based expenses were EUR 3 643 k (2021 EUR 1 299 k). The substantial increase in the location-based expense reflects mainly the increase in the average price of carbon during the period and, to a lesser extent, the increase in emissions by the company portfolio as reflected in the table below.

EUR k	
FY 2021 location based carbon expenses	1 299
Impact of change in carbon price	1 240
Impact of change in emission	1 104
<b>FY 2022 location based Carbon Expenses</b>	<b><u>3 643</u></b>

The location-based expenses were partially reduced by market-based activities (procurement of non-fossil fuel electricity, etc.), which went through alstria IFRS P&L. The implementation by the German government of a carbon tax on gas used for building heating means that all the gas used by the company was covered through market-based activities. Because of these market-based activities, the total operational carbon expense was reduced by EUR 2 062 k (2021: EUR 580 k).

EUR k	
Location-based operational costs	3 643
Reduction as a result of market-based activities	- 2 063
<b>Market based operational costs</b>	<b><u>1 580</u></b>

The total carbon expense for the reporting period for the assets' operation was EUR 1 580 k (2021, EUR 719 k).

### 2. CONSTRUCTION ACTIVITES

The total carbon expense resulting from the construction activities undertaken by the Company in the reporting period is equal to EUR 1,050 k (2021: EUR 1,013 k) for the identified refurbishments and EUR 620 k (2021 EUR 765 k) for nonspecific refurbishments, leading to a total of EUR 1,670 k (2021: EUR 1,778 k).

## E. NOTES TO THE CARBON BALANCE SHEET

### I. EMBEDDED CARBON ASSETS

Total carbon assets were equal to EUR 91 674 k (2020 EUR 86,661 k).

The table below illustrates the changes in the Total Carbon assets over the reporting period.

Embedded carbon asset changes (EUR k)	
Carbon Assets BoP	86 661
Net transaction impact	- 2 651
Change in carbon price	7 663
<b>Carbon Assets EoP</b>	<b><u>91 674</u></b>

### II. EMBEDDED CARBON LIABILITY

#### 1. GREEN DIVIDEND

On May 10, 2022, the general meeting of alstria approved the investment of EUR 1,780 k (2021: EUR 1,780 k) into Green Dividend Projects that are expected to be financially not profitable but would - if successful - help to improve alstria's current or future carbon footprint. For more information, please see [www.green-dividend.com](http://www.green-dividend.com)

The Green Dividend reduce the unpaid carbon used by the company as shown in the table in II.3 below.

#### 2. UNPAID CARBON ACQUIRED BY THE COMPANY

As a result of the transaction activities during the year, the liability for unpaid carbon acquired by the Company was reduced by EUR 3,535 k to EUR 32,731 k (2021: EUR 36,265 k).

The EUR 32,731 k represents the value of the embedded carbon assets the company acquired over its lifetime.

#### 3. UNPAID CARBON USED BY THE COMPANY

The total unpaid carbon used by the company increased by EUR 1,470 k to EUR 4,465 k (2021, EUR 2,995 k). This increase is the net effect of (i) the cost of carbon used by the company in the reporting year, which amount to EUR 3,250k (2021: EUR 2,489 k) and (ii) the Green Dividend of EUR 1,780 k (2021: EUR 1,780 k), which redeems part of the liability.

Unpaid Carbon used by the company (EUR k)	
Construction related carbon	1.670
Operation related carbon	1.580
Green Dividend	- 1,780
<b>Total Unpaid Carbon</b>	<b><u>1470</u></b>

#### 4. LIABILITY LINKED TO FUTURE OPERATIONAL CARBON


The liability linked to future operational carbon increased during the year by EUR 15,946 k to a total of EUR 73,277 k (2021, EUR 57,331 k).

##### Liability linked to future operational carbon (EUR k)

<b>Liability linked to future operational carbon (BoP)</b>	<b>57 331</b>
Refurbishment of existing assets	-
Transactions	610
Change in operational efficiency	10 525
Change in carbon price	6 032
<b>Liability linked to future operational carbon (EoP)</b>	<b><u>73 277</u></b>

Refurbishment of existing asset did not lead to any change in future operational carbon as no new project was started during the year.

# BUILDING YOUR FUTURE



*The most sustainable  
building is the one  
that was not built.*

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