

Verification of greenhouse gas assertions Hufvudstaden AB for the year 2023

Used standard: SS-EN ISO 14064-3:2006

Reporting organization

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Introduction

2050 Consulting was commissioned by Hufvudstaden to provide independent third-party assurance over the content of their greenhouse gas (GHG) accounting and the energy consumption in facilities covering 1 January 2023 to 31 December 2023. Hufvudstaden needed an independent third-party assurance for their GRESB-reporting in 2024. The verification of Hufvudstaden's greenhouse gas assertions was performed according to the standard SS-EN ISO 14064-3:2006.

Hufvudstaden has been responsible for providing relevant climate-impact related data and the data for energy consumption. 2050 Consulting has assessed GHG data, energy consumption data, GHG information and information systems control in order to validate the reliability and completeness of GHG information and assertion.

No significant changes in the organization's GHG inventory have been made since the last reporting period.

Verification scope

Hufvudstaden's climate impact occurs in the company's properties situated in Gothenburg and Stockholm, Sweden. The impact in scope 1-2 includes car travel, own purchased energy sources for properties, energy consumption for heating and cooling, electricity use and leakage from entropy pumps. For the second year Hufvudstaden also reports energy consumption in the building projects. Scope 3 emissions include renovation, adjustments and special projects, waste and energy use from tenants and construction and demolition, fuel and energy related activities and purchased transports for NK Retail.

Criteria

GHG Protocol: Corporate standard and ISO 14064-3.
GRI Guidelines for GHG accounting and reporting.

Level of assurance

Reasonable assurance engagement.

Types of GHG

CO₂ and HFCs.

Time period

January 1, 2023 - December 31, 2023

Verification techniques

- Interviews with Hufvudstaden employees responsible for collecting and compiling the data.
- Control of samples of the vouchers of used data.
- Control of all sources of used emission factors.
- Control of the calculations, key ratios and baseline scenario.

Hufvudstaden's GHG disclosure 2023

The table below contains the following information:

- Year-over-year change in emissions (scope 1)
- Year-over-year change in emissions (scope 2)

Tons CO ₂ -eq		2023	2022	Change 2023-2022
Scope 1	Total	106	78	+36%
	Refrigerants	106	77	
	Cars	0	1	
Scope 2	Total	853	820	+4%
	Heating & Cooling	762	765	
	Electricity	0	0	
	Energy consumption in projects	91	55	
TOTAL	Total	959	898	+7%

Hufvudstaden has chosen to report normal year corrected heat consumption in the section Energy.

For the calculation of GHG's though the actual heat consumption has been used in accordance with ISO 14064-3.

Hufvudstaden has chosen the **market-based method** for the calculation of the scope 2 emissions. In the table below you find the comparison of the scope 2 emissions if Hufvudstaden had chosen the location-based method:

Tons CO ₂ -eq. 2023	Location-based method	Market-based method
Electricity	2 230	0
District heating ¹	853	853
Total scope 2 emissions	3 083	853

The energy consumption has been validated both regarding the actual consumption and the normal year corrected heat consumption.

The reason for the changes of emissions is basically:

- Leakage of refrigerants vary from year to year. The climate impact from the leakage was 38% higher than 2022.
- The consumption of district heating in properties was 8% higher than 2022, but the average emission factor for district heating was 8% lower, which explains almost unchanged emissions from district heating in properties.
- Because of an increase in emissions from district heating in projects the total emissions from district heating, with both properties and projects included, increased by 4%.
- The consumption of district cooling decreased with 38%, which is explained by an unusual activity during 2022, when the quarter of Rännilen closed down the cooling equipment. The consumption of district cooling during 2023 compared to 2021 is a decrease by 12%.

The electricity consumption had a minor increase of 0,4%. In total the energy consumption decreased by 2%.

Energy (MWh)	2023	2022	Change
Electricity	32 025	31 903	+0,4%
District heating	15 001	13 890	+8%
- whereof Stockholm	11 858	10 859	+9%
- whereof Gothenburg	3 143	3 031	+4%
District cooling	3 815	6 178	-38%
- whereof Stockholm	2 132	4 445	-52%
- whereof Gothenburg	1 684	1 733	-3%
TOTAL	50 841	51 972	-2%

For the third year Hufvudstaden also disclose emissions in scope 3. Reported emissions in scope 3 are higher in 2023 than 2022. A comparison between 2023 and 2022, shows a 26% increase where the main part of the difference comes from increased emissions for renovations. Also, emissions from waste from construction and demolition has increased. Note though that the accuracy of the scope 3 emissions is lower¹ than for the scope 1 and scope 2 emissions.

¹ Including 91 tons CO₂-eq. for district heating in projects.

Tons CO ₂ -eq		2023	2022
Real estate	Total	4 534	3 593
	Renovation/Adjustments	1 500	900
	Special projects	1 500	1 500
	Waste from tenants	40	40
	Waste from construction and demolition	400	200
	Fuel and energy related activities	220	150
	Business travel	4	3
	Tenants' energy use	870	800
NK Retail	Total	83	70
	Purchased transports and district heating	83	70
Scope 3	Total	4 617	3 663

Conclusion statement

Hufvudstaden has accounted for their GHG emissions in accordance with GHG protocol: Corporate standard, ISO 14064-3 and GRI reporting guidelines. Hufvudstaden has a proper control over the company's energy use in its buildings and the leakage of refrigerants. All relevant aspects of Hufvudstaden's activities in scope 1 and 2 are accounted for, except for minor emissions from usage of gas. 2050 Consulting has verified the calculations, samples of vouchers for the data and origin of used emission factors. Based on the verification process, the GHG assertions is materially correct and is a fair representation of the GHG data and information. With a reasonable assurance, the presented figures give a correct estimate of Hufvudstaden's GHG emissions in scope 1 and 2 and the energy consumption during 2023. The energy consumption data has been verified, both the actual consumption and normal year corrected heat consumption. Hufvudstaden's disclosure of scope 3 emissions cover many of the most material emissions but not all. Examples of relevant emission sources that are not disclosed are purchased goods and services for NK Retail.

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