

CO₂ Performance Ladder Progress Report

VenhoevenCS
architecture+urbanism

Year
Period

2023
Q1 – Q2

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Conclusions

Usage: Scope 1 Gas / Scope 2 Electricity

It is possible that with the introduction of the new ventilation system in 2023, the gas use goes down, and the electricity use goes up.

See slides 12 and 13 for data

Emissions: Scope 2 Business Travel Operations

The prognosis for 2023 emissions seems low, but most of the excursions will take place in the second half of the year. So the simple extrapolation of Q1 and Q2 emissions gives a somewhat distorted outcome.

See slide 14 for details

Conclusions

Emissions: Scope 2 Business Travel Projects

The impact of the opening up of China in 2023 is visible in our CO₂ Emissions.

However, we are not yet at pre-corona level.

2023 prognoses	406
2022	164
2019	856 kg CO ₂ per FTE

See slide 15 for details

Conclusions

Progress on scope 1

It is possible that with the introduction of the new ventilation system in 2023, the gas use goes down, and the electricity use goes up. We will monitor and evaluate this over the next year and may adjust our goals accordingly.

See slide 17 for details

Progress on scope 2 Business Travel Car Operations & Projects

Calculations for car travel are for a significant part based on reimbursements by personnel. Several heavy private car users have submitted their reimbursements after 30 June. These kilometers driven before 30 June are therefore not included in these calculations. This will be corrected in the full year calculations. For now, the 2023 prognosis gives a somewhat distorted outcome.

See slides 21-24 for details

Conclusions

Progress on scope 3 Chain Responsibility

N/A

Progress on Quantitative Scope 3 Analysis

N/A

Definitions

Definitions

Scope 1 **Direct emissions inside the company**

Definition: through the use of fuel (like gas for heating or petrol for cars)

VenhoevenCS: use of gas for heating the office

Scope 2 **Indirect emissions inside the company**

Definition: through purchased energy

VenhoevenCS: electricity use in the office

km with cars (private, rented, shared)

km made through use of public transport (train, tram, bus, metro)

km made through flights

Scope 3 **Indirect emissions in the value chain**

Definition: both upstream and downstream

VenhoevenCS: emissions made by subcontractors and suppliers

commuting (negligible)

paper use (negligible)

waste (negligible)

Definitions

Scope 3 Chain Responsibility

In order to have as much influence as possible on the ultimate sustainability of the realized project, VenhoevenCS has to engage with clients and project partners as early in the project process as possible: by offering a concept design with undoubtedly the best shadow price and thus the lowest CO₂ emissions.

The concept design contains several components that have a great influence on the total CO₂ emissions caused during the construction process. The main building support structure (which is mostly made of concrete, steel or wood) has high emissions, especially in production.

VenhoevenCS, together with **IMd** Raadgevende Ingenieurs, has developed a tool to measure the shadow price of the main support structure: The Environmental Impact Tool.

Scope 1 & 2

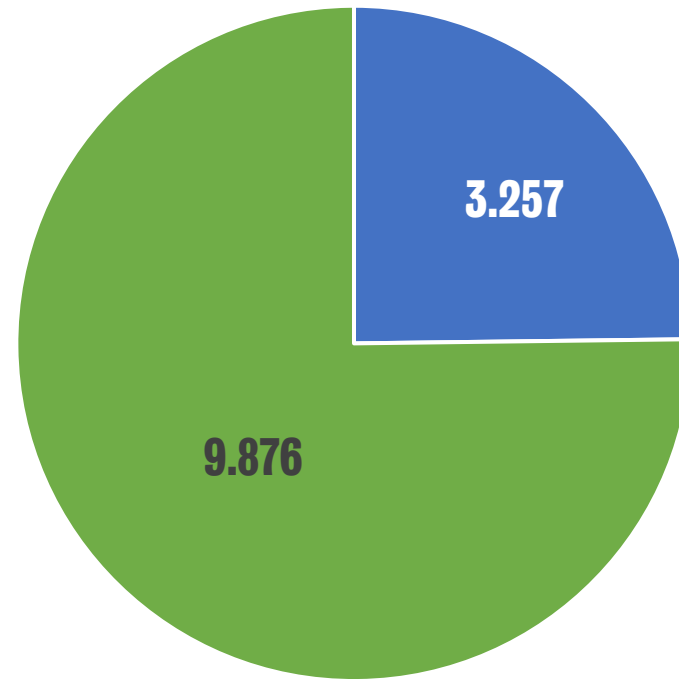
Emissions 2023

Q1 – Q2

Emissions Scope 1 & 2

2023 Q1 – Q2

Kg CO₂ emissions



■ Scope 1 ■ Scope 2

Emissions Scope 1

Gas use

	2022	2023 Q1 & Q2	Prognoses 2023
Use in m ³	3,325	1,567	
Conversion factor	2,085	2,079	
Total kg CO ₂	6,933	3,257	
Office Surface m ²	955	955	
Total kg CO ₂ per m ²	7,26	3,41	6,82

We switched to green (forest compensated) gas in May 2017

Emissions Scope 2

Electricity

	2022	2023 Q1 & Q2	Prognoses 2023
Use in kWh	34,748	19,827	39,654
Conversion factor	0	0	0
Total kg CO ₂	0	0	0
Office Surface m ²	955	955	955
KWh CO ₂ per m ²	36,39	20,76	41,52

We switched to 100% certified Dutch wind energy in May 2017

Emissions Scope 2

Business Travel Operations

	km	Conversion	Kg CO ₂		2023 Prognoses		2022
Business travel private car	0	0,193	0				
Business travel private car electric (grey)	484	0,094	46				
Business travel private car electric (green)	0	0,002	0				
Business travel shared car (petrol-small)	0	0,174	0				
Business travel shared car electric (grey)	295	0,094	28				
Business travel shared car electric (green)	0	0,002	0				
Train International	570	0,017	10				
Flights regional < 700 km	0	0,234	0				
Flights European 700 – 2500 km	3.780	0,172	650				
Flights Intercontinental > 2500 km	0	0,157	0				
TOTAL kg CO₂			733		1.466		
FTE					45		
TOTAL kg CO₂ per FTE					33		74

Emissions Scope 2

Business Travel Projects

	km	Conversion	Kg CO ₂		2023 Prognoses		2022
Business travel private car	330	0,193	64				
Business travel private car electric (grey)	1.603	0,094	151				
Business travel private car electric (green)	0	0,002	0				
Business travel shared car (petrol-small)	3.792	0,174	660				
Business travel shared car electric (grey)	2.297	0,094	216				
Business travel shared car electric (green)	0	0,002	0				
Train International	1.040	0,017	18				
Flights regional < 700 km	840	0,234	188				
Flights European 700 – 2500 km	12.026	0,172	2.068				
Flights Intercontinental > 2500 km	36.803	0,157	5.778				
TOTAL kg CO₂			9.143		18.285		
FTE					45		
TOTAL kg CO₂ per FTE					406		164

The impact of the opening up of China in 2023 is visible in our CO₂ Emissions.

However, we are not yet at pre-corona level.

2019 kg CO₂ per FTE: 856

Scope 1 & 2

Goals & Progress 2023

Prognoses

Goal scope 1

Gas use calculated in kg CO₂ per m²

49% reduction of emissions in 2028 compared to reference year 2022

2022

7,26 kg CO₂ per m²

2028

3,41 kg CO₂ per m²

Goals scope 2

Business travel by car calculated in kg CO₂ per FTE

Operations:

49% reduction of emissions in 2028 compared to reference year 2022

2022

41 kg CO₂ per FTE

2028

21 kg CO₂ per FTE

Projects:

54% reduction of emissions in 2028 compared to reference year 2022

2022

105 kg CO₂ per FTE

2028

56 kg CO₂ per FTE

Progress Scope 1

Gas use

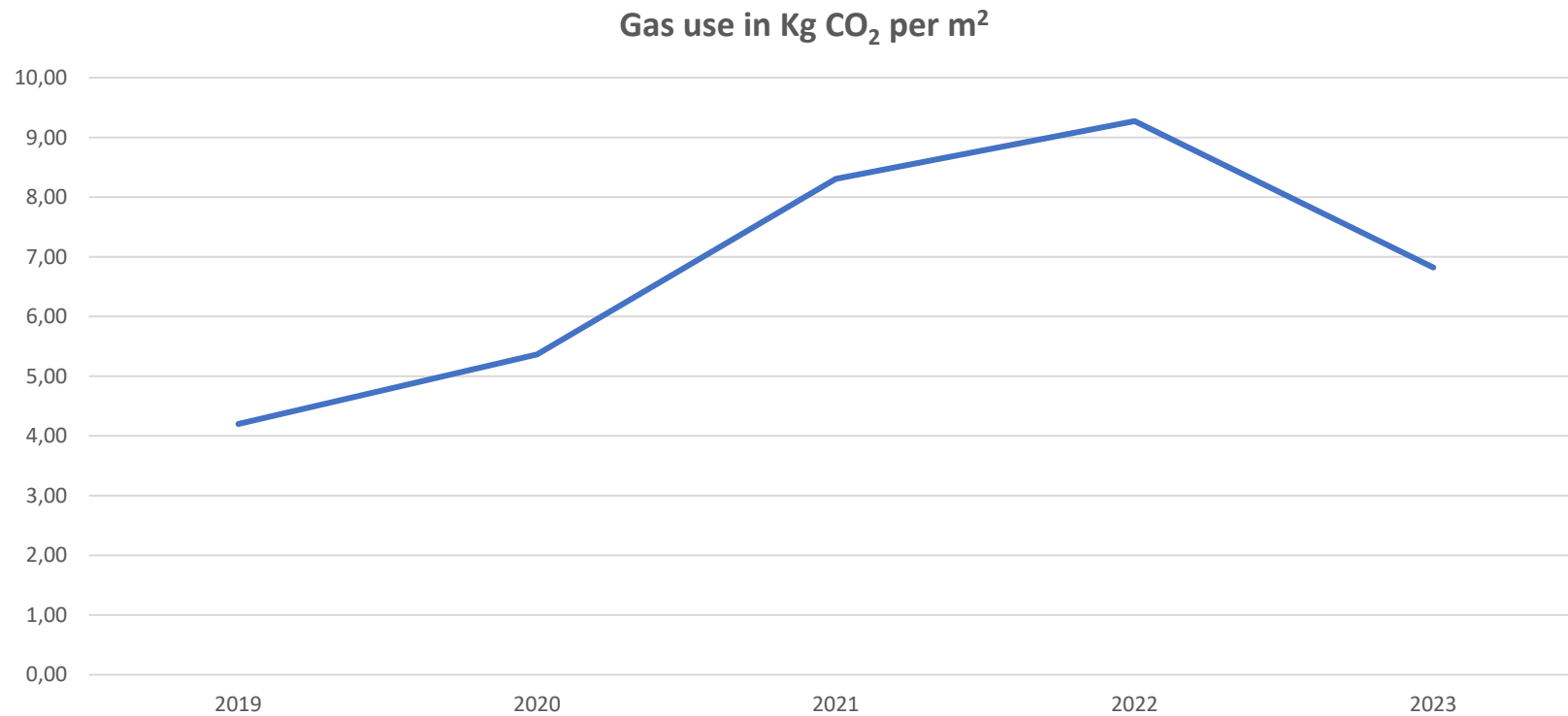
49% reduction of emissions in 2028 compared to reference year 2022

	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>	<u>2027</u>	<u>2028</u>	
Goal	-	6,86	6,07	5,37	4,75	4,20	3,70	kg CO ₂ per m ²
Realized	7,26	6,82						kg CO ₂ per m ²

NB prognoses 2023 based on calculation Q1 and Q2 extrapolated for the whole year

We switched to green (forest compensated) gas in May 2017

Progress Scope 1



Progress Scope 2

Business Travel by Car: operations

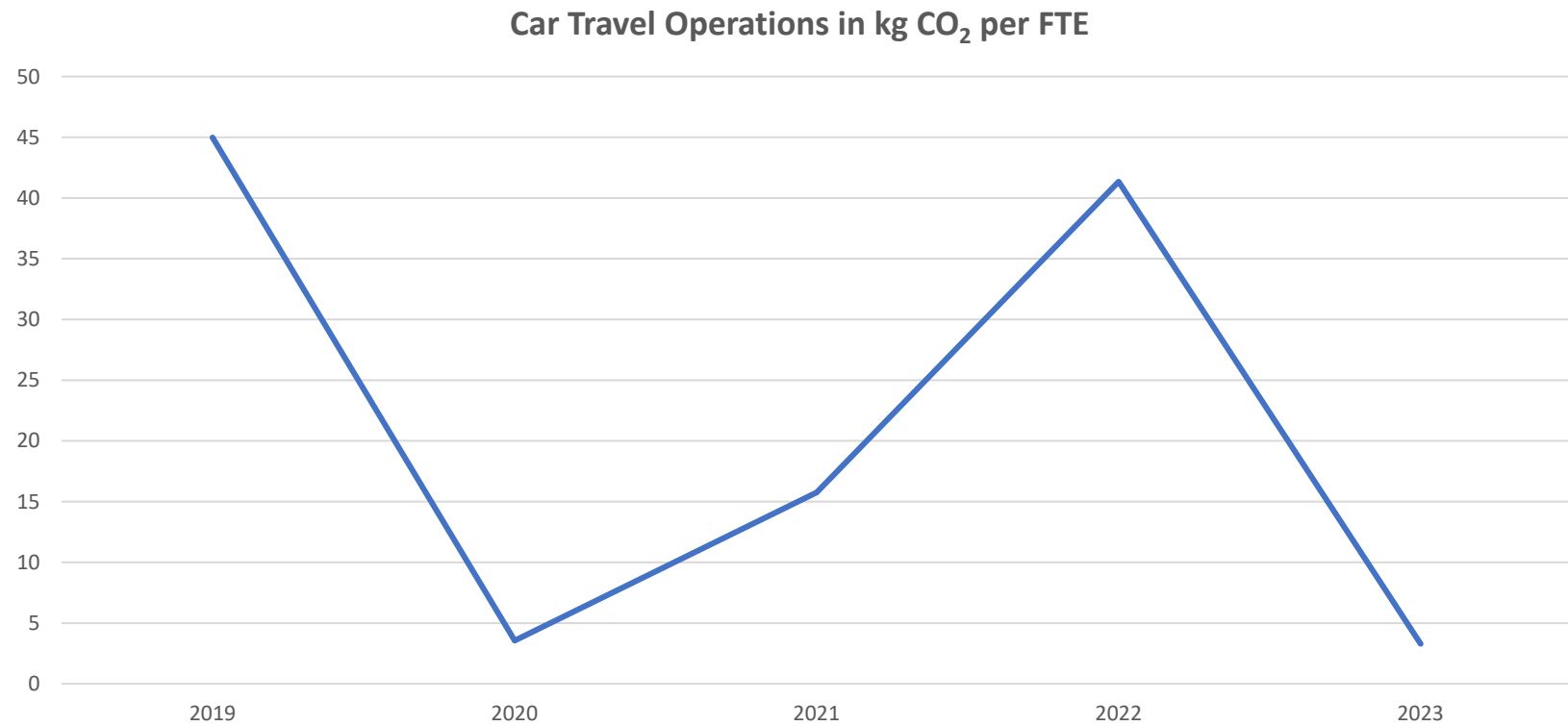
49% reduction of emissions in 2028 compared to reference year 2022

	2022	2023	2024	2025	2026	2027	2028	
Goal	-	39	34	28	25	23	21	kg CO ₂ per FTE
Realized	41	4						kg CO ₂ per FTE

The amount for 2023 gives a distorted picture and is not representative: these km are based on reimbursements and it is very well possible that employees have not submitted their reimbursements on time

NB prognoses 2023 based on calculation Q1 and Q2 extrapolated for the whole year

Progress Scope 2



Progress Scope 2

Business Travel by Car: projects

54% reduction of emissions in 2028 compared to reference year 2022

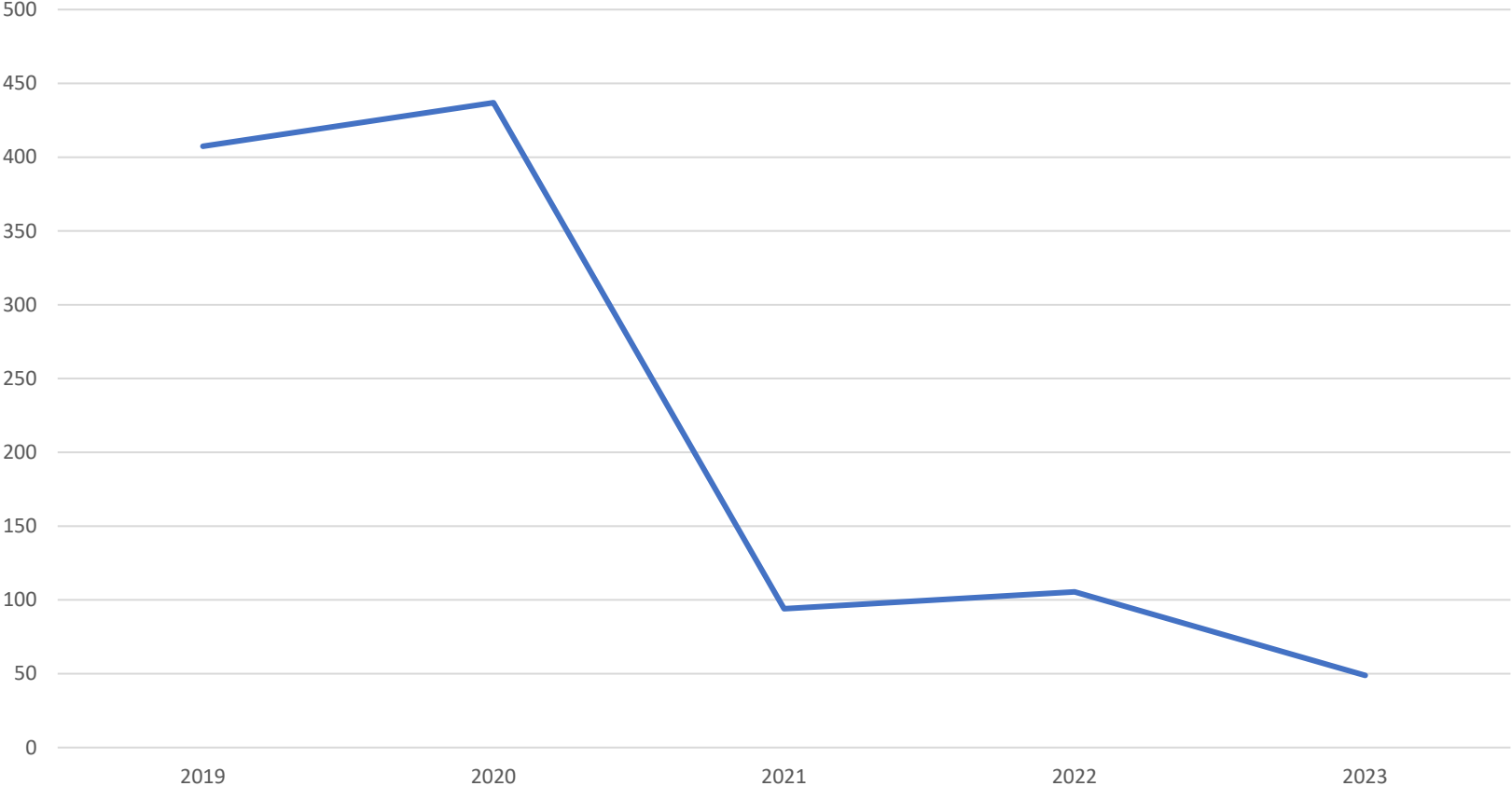
	2022	2023	2024	2025	2026	2027	2028	
Goal	-	121	115	100	82	67	56	kg CO ₂ per FTE
Realized	105	49						kg CO ₂ per FTE

The amount for 2023 gives a distorted picture and is not representative: these km are based on reimbursements and it is very well possible that employees have not submitted their reimbursements on time

NB prognoses 2023 based on calculation Q1 and Q2 extrapolated for the whole year

Progress Scope 2

Car Travel Projects in kg CO₂ per FTE



Scope 3

Goals & Progress 2023

Q1 & Q2

Goals Scope 3

Scope 3 Chain Responsibility

To create impact awareness of the CO₂ emission impact among ourselves, our clients and our project partners, we will use the Environmental Impact Tool in at least

- 75% of new Dutch architecture projects in 2023
- 50% of all new architecture projects in 2024
- 75% of all architecture projects in 2025

We will use it in all architecture projects, not in consultancy, studies or urban planning.

We will use it in all category of projects, including complex sports and mixed-use buildings

Scope 3 Quantitative Analysis

We will engage with 1 supplier / subcontractor per year to discuss their GHG emission impact and possible reduction measures.

Chain Responsibility

Since the new goals have only been set (28 August 2023) we do not have a progress report for the first half of 2023.

Quantitative Scope 3

A supplier has been chosen but engagement is planned to start in October.

Proposed Measures

2023-2028

Scope 1 measures

Gas use

Measures 2023

- ✓ Purchase and installation of smart thermostat
- ✓ Installation of smart gas meter

Expected reduction 5.5 %

Measures 2024

- ✓ Installing 1 hybrid heat pump

Expected reduction 11,5%

Measures 2026

- ✓ Installing 1 hybrid heat pump

Expected reduction 11,5%

Measures 2028

- ✓ Installing 1 hybrid heat pump

Expected reduction 11,5%

Scope 2 measures

Business Travel by car - Operations

Measures 2024

✓ At least 1 electric private car can show charging by renewal energy only. This will change the conversion factor from grey to green for the km driven of at least 1 electric private car.

Expected reduction: 15%

Measures 2025

✓ All shared car use is electric (grey).

✓ At least 2 electric private car can show charging by renewal energy only.

Expected reduction: 17%

Measures 2026 - 2028

✓ Every year another 1/3 of all kilometres driven by private car will be done by electric private car (grey) instead of petrol, so in 2028 all kilometres driven by private car will be electric.

Expected reduction: 9% per year

Scope 2 measures

Business Travel by car - Projects

Measures 2024

✓ At least 1 electric private car can show charging by renewal energy only. This will change the conversion factor from grey to green for the km driven of at least 1 electric private car.

Expected reduction: 9%

Measures 2025

✓ All shared car use is electric (grey).

✓ At least 2 electric private car can show charging by renewal energy only.

Expected reduction: 13%

Measures 2026 - 2028

✓ Every year another 1/3 of all kilometres driven by private car will be done by electric private car (grey) instead of petrol, so in 2028 all kilometres driven by private car will be electric

Expected reduction: 18% per year