



Annual report CO₂ Performance Ladder 2023

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1. Introduction

We are committed to managing our environmental footprint and reducing it to a minimum, as well as ensuring that our services have a positive impact on society and the communities where we are based.

Ricardo already measures and discloses elements of its impact on the environment, by greenhouse gas emissions inventory reporting.

Ricardo has the following vision regarding hybrid working:

“We are all individuals who together form our wonderful company. Our strength and added value for our customers lies in working together and sharing knowledge. We strengthen each other and that is why we need each other! The Management Team would like to meet you at the office. It is your own responsibility when you work in the office and you pay attention to your position and / or the project you are working on. You will agree on this with your manager. Together we form Ricardo, so as far as we are concerned, no one works completely from home. We are setting up our office on the Daalsesingel for this, and Ricardo also supports in setting up a good home workplace. In the coming period we will try, discover and experiment what this means for ourselves as a team and individually. In any case, we will be there at those times when our work, the customer or the organization requires it.”

Our digital-first strategy enabled us to deliver innovations such as virtual certification, remote audits and inspections. Together with the use of virtual conferencing tools, we have been able to use this approach to continue our business processes largely unimpeded.

Ricardo Nederland B.V. wants to be corporate social responsible and as such take the surroundings and the environment into account. A valuable indicator for these aspects are CO₂ emissions. These provide insight into the current state of affairs within the company and the possibility to measure changes in the future.

Environmental, Social and Governance (ESG) is at the heart of our DNA: from the solutions we deliver to the actions we take in our own ESG commitments. As part of our commitment to sustainability reporting, we communicate and demonstrate our corporate impact on the environment, economy and people, see the Ricardo plc Annual Report & Accounts 2022/23 pages 62 – 103.

ESG information is published on www.werkenbijricardorail.nl/ESG. In addition, Ricardo Nederland has a policy statement, see Appendix A1.4.

In July 2016 Ricardo Certification B.V. was established and all activities in the field of testing and certification have been incorporated into this. The technical consultancy activities fall under Ricardo Nederland B.V. Both B.V.'s are included in this report and in the associated 2023 footprint.

2. Ricardo and CO₂ Performance Ladder

2.1 Scope report and period

This report provides insight into the CO₂ emissions of Ricardo Nederland B.V. and Ricardo Certification B.V., both hereinafter referred to as Ricardo Nederland. It concerns the direct and indirect emissions that are emitted by the activities of both B.V.'s. In addition, this report describes Ricardo Nederland ambitions to limit CO₂ emissions in the future. The report describes the CO₂ emissions from 2023, which consist of scope 1, 2 and also scope 3 emissions.

As of 2017, scope 1 includes the consumption of lease cars in liters. The electrical part is processed in kWh in scope 2, but because the hybrid cars are not equipped with charging cables, the usage in 2023 is zero. The rented cars are also processed in scope 1 on the basis of kilometers driven.

The report is based on the Dutch standard for Greenhouse Gases part 1 (NEN-ISO 14064-1) and follows section 7.3.1 of this standard. That is why a cross-reference table has been included in the last chapter. In addition, in some cases, reference is made to the CO₂ Performance Ladder and the SKAO manual. The report uses the emission factors of the CO₂ Performance Ladder in accordance with the SKAO manual version 3.1 and which are published on <https://CO2emissiefactoren.nl/>.

The financial year at Ricardo Nederland runs from July 1 to June 30. However, this report is based on a calendar year (January 1 to December 31, 2023).

2.2 Responsible person

Richard Laan, Manager Finance, ICT and MT member, is responsible for this report and is internally supported by Marco Slotboom, HSEQ-Advisor. Every year a report is made on the previous calendar year. Every six months, in January and July, Daniëlle Keller, Facility & Environment Coordinator, requests information from various parties to determine the CO₂ footprint. The Facility & Environment Coordinator and the HSEQ-Advisor jointly implement the communication plan, see also A.1.6. For the chain initiatives Martijn Wolf is the coordinator and the necessary budgets are agreed with the Team Manager, HR and the Manager Finance and ICT.

3. The organisation

3.1 Ricardo plc

We are a global consultancy, delivering strategic, environmental and engineering solutions that are at the intersection of transport, energy and global climate agendas. Our operating segments are grouped into two main portfolios: Environmental and Energy Transitions and Established Mobility. These portfolios serve our clients in over 23 countries and at any time support more than 2,500 live projects. (source: Ricardo plc Annual Report & Accounts 2022/23)

3.1.1 Ricardo Clean Energy & Environmental Solutions (CE&ES)

With effect from 1 July 2023, the Rail and Energy & Environment business units merged together to Clean Energy & Environmental Solutions (CE&ES).

Rail is one of the “Practices” within CE&ES and is a global consultancy and offers the rail industry a range of technical services. With our extensive knowledge and know-how of the most critical and complex technologies in the industry, we provide our customers - carriers, manufacturers, maintenance companies, infrastructure operators, investors and regulators - with specialized technical support. We help our customers to manage risk, reduce costs and improve performance.

3.1.2 Ricardo Rail in Utrecht

Ricardo Rail in Utrecht is a leading consultancy with more than **164** specialist rail engineers. Our areas of expertise include the purchase, maintenance, performance improvement and functional safety of trains, trams, metros and rail infrastructure.

Ricardo Rail in Utrecht is represented by two companies:

Ricardo Nederland B.V. and Ricardo Certification B.V. both of which fulfill an important function in the European rail industry:

- Ricardo Nederland B.V. provides consultancy services in the field of Rolling Stock and Signaling & Infrastructure. It concerns high-quality technical advice in the field of the purchase, maintenance and performance improvement of trains, trams and metros, the rail infrastructure and the interaction between them.
- Ricardo Certification B.V. is a separate and independent B.V. and includes all testing and certification activities and is accredited to perform a wide range of specialist testing and certification activities.



3.2 Vision and Purpose

“Our vision is to create a safe and sustainable world. We do this by enabling our clients to solve the most complex and dynamic challenges to achieve a safe and sustainable world.”

(source: Ricardo plc Annual Report & Accounts 2022/23)

3.3 Strategy

“Our strategy is to focus on energy transition and environmental solutions in markets where we see the strongest growth.”

(source: Ricardo plc Annual Report & Accounts 2022/23)

4. Method and scope

A first step is to gain insight (angle A) into the current energy flows. The method of the emission inventory calculation for Ricardo Nederland for 2023 (general inventory, data, CO₂ footprint, emission factors, supporting documents, building, passenger transport (rental cars and lease cars), business travel, commuting, waste, paper consumption, electronics) corresponds to the method of the first reference year 2012.

For the calculations of 2023 data the new reference year 2022 has been used, although for insight also the data from 2012 will be listed. The scope classification in accordance with the GHG protocol method has been used.

The uniform Dutch list of emission factors from SKAO was used. (Emission factors SKAO manual, version 3.1, available at <https://CO2emissiefactoren.nl/>). In the first paragraph, this chapter describes the method for mapping the most important energy flows. Subsequently, the demarcation is described in section two. The last paragraph describes the key figures and assumptions used. Every year the latest CO₂ emission factors will be used in the calculation.

Movement

As per the 1st of January 2022 we moved to another building. Due to this movements there are changes in the calculation of the STEG.

4.1 Method

In this report the emissions (expressed in CO₂) of Ricardo Nederland are analyzed. This is done on the basis of the CO₂ footprint as described in NEN-ISO 14064-1. NEN-ISO 14064-1 distinguishes different types of CO₂ emissions. To determine Ricardo Nederland CO₂ footprint, three categories of CO₂ emissions were used (see SKAO manual version 3.1).

The emissions are classified in three scopes:

- Scope 1: Direct CO₂ emissions
- Scope 2: Indirect CO₂ emissions
- Scope 3: Other indirect CO₂-emissions

The scopes for the CO₂ Performance Ladder have been slightly adjusted, so that 'fuel consumption for business traffic by private cars' and 'fuel consumption for business air traffic' belong to scope 2 instead of scope 3 as described in NEN-ISO 14064-1, see also table 4.1 and scope diagram 4.1.

In addition to CO₂ greenhouse gases, according to Handbook 3.1, it is not mandatory to include other greenhouse gases, such as CH₄, N₂O and PFCs, and refrigerants. These are not included in the in the calculation.

4.1.1 General rules for the use of CO₂ emission factors

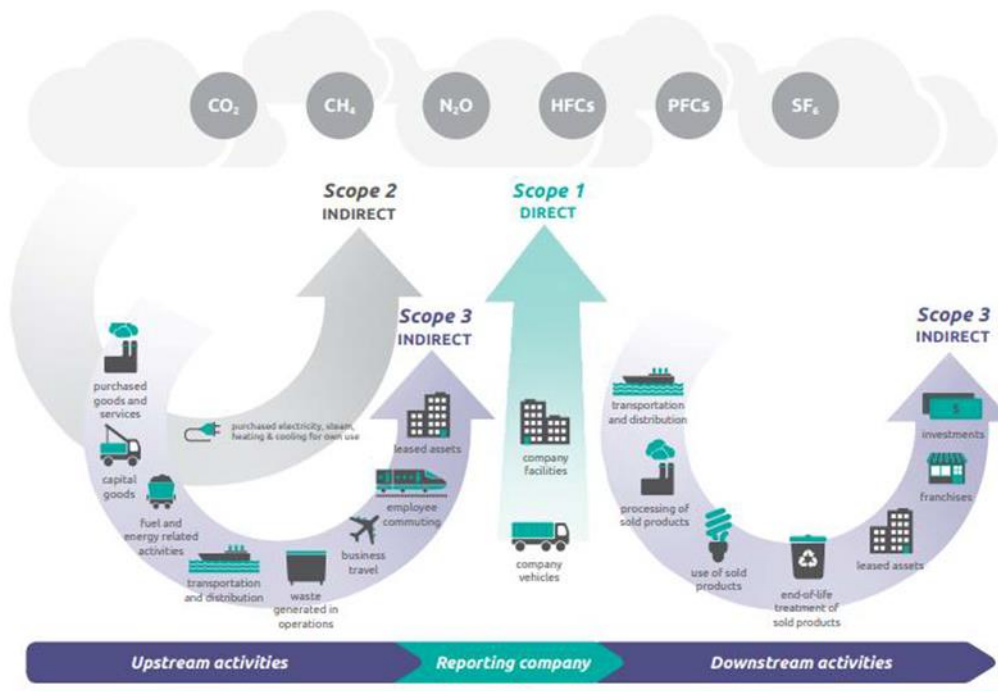
In order to determine the CO₂ footprint of Ricardo Nederland, data was collected on the emissions from scope 1 and 2. These data and emission factors were then used to calculate the amount of CO₂ emissions. The emission factors from the CO₂ Performance Ladder have been used. The CO₂ footprint includes the factors from scope 1 and 2, as used in the CO₂ Performance Ladder.

2022 is taken as the base or reference year due to the movement to the Daalsesingel in Utrecht per January 2022.

Table 4.1. Category classification *upstream en downstream* scope 3 emissions conform GHG Protocol Scope 3 Standard

Upstream:	Downstream:
1. Purchased goods and services 2. Capital goods 3. Fuel and energy-related activities (not included in scope 1 or scope 2) 4. Upstream transport and distribution 5. Production waste 6. Passenger transport during working hours (Business Travel) 7. Employee commuting 8. Upstream leased assets	9. Downstream transport and distribution 10. Processing of sold products 11. Use of sold products 12. End-of-life treatment of sold products 13. Downstream leased assets 14. Franchises 15. Investments

Scope diagram



Scope diagram 4.1. The scope diagram of the GHG Protocol Scope 3 Standard

¹ The emission factors as included in the most recent version of the 'CO₂ Performance Ladder' (SKAO manual version 3.1).

4.2 Organization description and environment

The demarcation describes the organizational boundaries of Ricardo Nederland. In addition, the calculation method for determining the floor area is explained and the number of employees is determined.

4.3 Organisational Boundary (the scope)

In the context of the Greenhouse Gas protocol, or GHG protocol, the Organizational Boundary of Ricardo Nederland B.V. has been determined. In accordance with the manual 3.1. the GHG-protocol consists of several modules.

- Corporate Accounting and Reporting Standard: 2004.
- Corporate Value Chain (scope 3) Accounting and Reporting Standard: 2011 is "GHG Protocol Scope 3 Standard"
- Product Life Cycle Accounting and Reporting Standard: 2011.

There are two options available to determine the scope. To determine the CO₂ footprint of Ricardo Nederland the (operational) control approach was used, whereby Ricardo Nederland takes responsibility for 100% of the emissions for the business units, namely Ricardo Nederland B.V. and Ricardo Certification B.V., over which it has operational control. For a detailed description, see 3.1.2. Ricardo Rail in Utrecht.

The external stakeholders of the organization have been identified and this overview is updated annually. An overview is not given in this report, but this can be found in Hya 539751 - Context analysis Ricardo Nederland, where a distinction is made between the various aspects of the environment, quality, information security and occupational health and safety.

4.4 Organisational Boundary accountability

Ricardo Nederland B.V. and Ricardo Certification B.V. are both located in the Netherlands (Utrecht). Both companies use the same office building with the same facilities. All input for the calculation of the CO₂ footprint with regard to the office, air travel, car rental, data on the use of your own car, commuting and public transport use therefore concerns both of the above-mentioned companies.

Ricardo Nederland's financial year runs from June 1 to July 1. However, data based on a calendar year is used both for determining the annual footprint and for the annual reporting. As a result, this annual report contains data from the financial years 2022-2023 and 2023-2024.

We have analyzed our purchasing from 1 January to 31 December 2023 in accordance with the method of the CO₂ Performance Ladder. In total 230 providers have delivered to Ricardo Nederland B.V. of these, **16** organizations can be characterized as type A providers. 70% of all purchases are made with these providers.

In addition, we are dealing with two Ricardo entities, which should be characterized as C providers, namely Ricardo plc. and Ricardo Rail Ltd. These companies have been excluded from the scope because they are located outside the Netherlands and are not financially and operationally managed from the Netherlands.

The Organizational Boundary for this 2023 report has been set at: Ricardo Nederland from 1 January to 31 December 2023.

4.5 Award advantage

In 2021 Ricardo Nederland have started two projects with award advantage:

- TSI certificering (NoBo/AsBo) Opwaardering Maaslijn (project number 50560, Hya 802382) - ends at the end of 2027.
- AsBo/NoBo/ISA diensten t.b.v. PHS (project number 50582, Hya 802383) – ends 31st of December 2024.

In 2022 Ricardo Nederland has become a third project with award advantage

- PHS Alkmaar – Amsterdam (project number 50668 Hya 844036) – ends 31st of December 2027.

The organization of the CO₂ Performance Ladder for these 3 projects is the same as that of the entire organization. For this reason, the energy management action program, the steering cycle and the participation in initiatives have not been described again.

The calculation of the footprint per project will be performed based on the turnover related to the total turnover from the organization. For these projects the calculation can be found in Hya 859002 and for these 3 projects the CO₂ footprints are:

CO ₂ Footprint per project in Ton CO ₂	2023		Totaal
	Jan-Jun	Juli-Dec	
Project 50560 Scope 1	0,01	0,00	0,01
Project 50560 Scope 2	0,05	0,00	0,05
Project 50560	0,06	0,00	0,06
Project 50582 Scope 1	0,03	0,03	0,06
Project 50582 Scope 2	0,15	0,13	0,29
Project 50582	0,19	0,16	0,35
Project 50668 Scope 1	0,01	0,01	0,02
Project 50668 Scope 2	0,06	0,04	0,10
Project 50668	0,07	0,05	0,12

5. Size of Ricardo Nederland and choice relativity

5.1 Size

For the CO₂ Performance Ladder, a distinction is made in size of companies, namely small, medium and large companies. This distinction is determined on the basis of the total CO₂ emissions by the organization. Figure 5.1 shows the conditions per organization size.

	Services ⁷	Working/supplying
Small organisation (S)	Total CO ₂ emissions amount to no more than (≤) 500 tonnes per year.	Total CO ₂ emissions <i>of the offices and industrial premises</i> amount to no more than (≤) 500 tonnes per year, and the total CO ₂ emissions <i>of all building sites and production locations</i> amount to no more than (≤) 2,000 tonnes a year.
Medium organisation (M)	Total CO ₂ emissions amount to no more than (≤) 2,500 tonnes per year.	Total CO ₂ emissions <i>of the offices and industrial premises</i> amount to no more than (≤) 2,500 tonnes per year, and the total CO ₂ emissions <i>of all building sites and production locations</i> amount to no more than (≤) 10,000 tonnes a year.
Large organisation (L)	Total CO ₂ emissions amount more than (≤) 2,500 tonnes per year.	Other

Table 5.1: Size categories CO₂ Performance Ladder (SKAO handbook version 3.1)

Ricardo Nederland provides services and falls within the "small business" category. The total CO₂ emissions of services provided amount to 90,4 tons of CO₂ in 2023. Ricardo Nederland is granted exemptions from the audit checklist, because it belongs to this category.

5.1.1 Floor space Ricardo Nederland

As per the first of January 2022 Ricardo Nederland and Ricardo Certification have moved to the Daalsesingel 51 and 51A in Utrecht. The offices are situated on the first floor and a measurement room and archive in the cellar. The Lettable Floor Space (LFS) for the first floor is 1710,37 m² and the cellar 154,68 m². However we have to count in accordance with the NEN2580 with the use of the general spaces for the first floor 275,99 m² and for the cellar 24,96 m² for the cellar. Total first floor 1.988,36 m² and cellar 275,99 m². Total is 2.165,97 m².

5.1.2 Floor space Ricardo Nederland

Ricardo Nederland's turnover is not directly related to energy consumption and also the number of m₂ cannot be directly influenced. This is the reason why the energy consumption per FTE is shown.

5.1.3 Number of employees

The number of employees in 2023 is calculated by the number of employees and the time period in which they were employed. In addition, the hiring of employees from secondment agencies and employment agencies is included. "Hiring" includes employees who work structurally at Ricardo Nederland; in day-to-day business no difference is made with permanent employees. These employees are also treated in the same way for the report as permanent employees. We calculate with the number of FTE instead of the number of employees. We use this number to calculate the CO₂ footprint. For 2023 we assume 164,4 FTE.

5.1.4 Key figures & starting points for calculations

This section describes the key figures and starting points for determining the CO₂ emissions for scope 1, 2 and 3, thus the CO₂ footprint of Ricardo Nederland. All calculations are registered in a collective Excel sheet, see Hya 859002. The results are presented below.

5.1.5 Office heat and energy consumption

The heat and energy consumption of the entire office building is measured centrally by the owner and the total m² of the office building is 8309,74 m². As mentioned in paragraph 5.1.1 Ricardo Nederland uses 2.165,97 m² and this is 26,1 % of the total m² office building.

The total heat and energy consumption of the entire office building is 1.604 GJ and 579.510 kWh over 2023. As Ricardo Nederland uses 26.1% of the office building m², the heat and energy consumption for Ricardo Nederland is 26,1% * 1604GJ = 418 GJ and 26,1% * 579.510 kWh= 151.052 kWh.

We obtain district heating by means of an installation based on the STEG technology, a combination of a gas and steam turbine system. Therefore the emission factor 25.05 kg CO₂/GJ is used.

5.1.6 Office energy consumption

Ricardo Nederland is located in an office building where electricity consumption is determined for the whole building. Using the data and the CO₂ emission factor, a calculation has been made of the CO₂ emissions from purchased electricity consumption.

From the first of January 2022 we are situated at the Daalsesingel 51 and 51A and the deliverer of our green wind energy is arranged by the tenant.

An overview is available of all electrical appliances in use, such as multifunctionals, screens etc. See Hya 560344.

5.1.7 Transport and mobility

Ricardo Nederland uses both lease cars and rental cars, both of which fall under scope 1. Under scope 2, the use of private cars (declared kilometers) is processed. The fuel type and driven kilometers of the lease cars are known and the consumption in liters is calculated based on the WLTP-consumption figures from RDW. These are included in scope 1.

The rental cars are also included in scope 1, however, use was made of driven kilometers and the emission factor for fuel type unknown. Although it has not been calculated exactly what the deviation is compared to the detailed calculation, it is assumed that the negligible deviation mentioned below also applies here.

Business trips with private cars are known on the basis of declared kilometers. For administrative reasons, but also in the context of GDPR, it has been decided to use the emission factor for fuel type unknown in this calculation as well. The calculation for 2017 has shown that there is only 0,06% deviation between the calculation using the different emission factors per fuel type and the calculation using the emission factor for fuel type unknown.

Air travel was also undertaken for the work of Ricardo Nederland. Air travel has been analyzed on the basis of the bookings. These bookings are made through FCM travel organization. We have also taken so-called intermediate stops into account. We calculate with kms (emission factor) based on travel distances, as provided by FCM.

Two sources are available for traveling on public transport for business purposes:

- Most Ricardo Nederland employees have a NS Business Card, which they use for commuting as well as for business and private travel. It is not possible to receive a detailed view per card due to privacy legislation.
- Employees who do not have their own NS Business Card can borrow an NS Business Card for business travel from Office Support.

The details of both types of Business Card are transparent and provided by NS. Also FCM and NS Internationaal provides us with international public transport data.

Because employees can also use the NS Business Card for private travel, the total number of kilometers for commuting is deducted from the total number of kilometers driven. Because, just like before 2020 due to COVID19, it was no longer possible to determine the exact business kilometers, the percentage of private versus business kilometers of 2019 (18%) has been used for the calculation for 2023. From NS the total driven kilometers are received quarterly and 18% from these kilometers are business train travel.

5.1.8 Biomass and CO₂ removal

Section 7 of NEN-ISO 14049-1 refers to CO₂ emissions from the combustion of biomass and greenhouse gas removal. No biomass combustion took place at Ricardo Nederland, and no greenhouse gases (CO₂) were removed.

5.1.9 Accuracy and uncertainties

For the CO₂ calculation of the use of a private car for business purposes, lease and rental cars, use is made of the actually declared or recorded kilometers.

Travel calculation is described in paragraph 5.1.7.

We have no insight in the actual kilometers flown between two places. Airline companies only state the total distance of the journey (ticket). We have therefore tried to arrive at a better approximation of the actual emissions.

To compensate for stopovers, the following adjusted calculation has been made:

- If the total distance divided by the number of routes is less than 700 km, the factor 0,234 is used.
- If the total distance is between 700 and 2500 km, factor 0,172 is used.
- At a distance of more than 2500 km, factor 0,157 is used.

In our opinion, this calculation gives the best approximation of the actual emission. A possible small error cannot be ruled out, but the effect will be very small due to the flight share on the total.

In conclusion, we can say that the total emission is not equal to the exact CO₂ emission of Ricardo Nederland.

6. CO₂-footprint 2023

6.1 CO₂-footprint

The total CO₂ emission by Ricardo Nederland in 2023 is 90,4 tons of CO₂. This is 0,55 tons of CO₂ per FTE (average 2023: 164,4 FTE's). The distribution of the emissions per scope is shown in table 6.1a and figure 6.1. The table (6.1b) shows the distribution across the scopes and sources.

Distribution scope 1 and 2	CO ₂ [ton]	%
Scope 1: Direct CO ₂ -emissions	16,0	18%
Scope 2: Indirect CO ₂ -emissions	74,4	82%
Total	90,4	100%

Table 6.1a Distribution scope 1 and 2

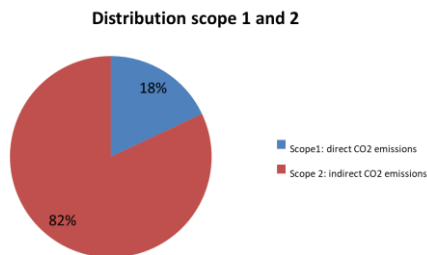


Figure 6.1: Overview CO₂ emissions from scope 1 en 2 divided (source Hya 875523)

Activity	Scope	CO ₂ [ton]	%
Scope 1: Direct CO ₂ -emissions			
• Fuel consumption for business traffic (lease and rental)	scope 1	16,0	18%
Scope 2: Indirect CO ₂ -emissions			
• Heat consumption (energy)	scope 2	10,5	12%
• Electricity usage	scope 2	0	0%
• Electricity lease car	scope 2	0	0%
• Business traffic private cars	scope 2	18,2	20%
• Air travel	scope 2	44,1	49%
• Business public transport	scope 2	1,6	2%
Total		90,4	100%

Table 6.1b: Overview CO₂ emissions from scope 1 en 2 (divided)

6.2 Direct CO₂-emissions

Direct emissions, scope 1, include fuel consumption for office heating and business traffic in lease and rental cars, in addition to coolants for cooling installations. The direct emission of coolants in cooling installations has not been taken into account; this is permitted according to the conditions of the CO₂ Performance Ladder. There are no direct emissions for heating, because we use district heating. These are therefore reported under scope 2. See table 6.2 for the direct CO₂ emissions.

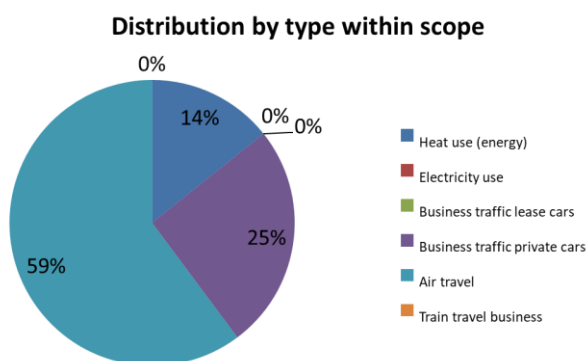
Scope 1: Direct CO ₂ emissions	CO ₂ [ton]	%
Scope 1: Fuel consumption		
• Fuel consumption lease cars	10,2	64%
• Fuel consumption rental cars	5,8	36%
Total	16,0	100%

Table 6.2: CO₂ emissions Scope1 Direct Emissions

6.3 Indirect-emissions

This section deals with scope 2: indirect emissions. This category includes warmth consumption, electricity consumption, fuel consumption “business travel private cars”, air travel and business public transport (train).

Scope 2: Indirect emissions (verdeling)	CO ₂ [ton]	%
• Heat consumption (energy)	10,5	14%
• Electricity consumption	0	0%
• Business travel electricity lease cars	0	0%
• Business travel private cars	18,2	25%
• Air travel	44,1	59%
• Business travel public transport	1,6	0%
Total	74,4	100%

Table 6.3a: CO₂ emission Scope 2 Indirect EmissionsFigure 6.3: Overview CO₂ emissions from scope 2 (divided) (source 03-875523)

6.3.1 Heat and electricity consumption

For the calculation of the heat and electricity consumption by Ricardo Nederland, use has been made of the data as described in 6.3.

Scope 2: Heat and electricity	Type	Quantity	CO ₂ -factor	CO ₂ [ton]	%
Heat consumption	STEG	418	25050	10,5	100%
Electricity	Wind	151.052	0	0	0%
Total				10,5	100%

Table 6.3b: CO₂ emission Scope 2 Indirect Emissions: Heat and electricity consumption

6.3.2 Fuel consumption air travel

Ricardo Nederland also travels by plane for business travel. The results are shown in table 6.3d.

Scope 2: Details flight kilometers	km's	Factor (g/km)	CO ₂ [ton]	%
Travel distance <700 km	13.272	234	3,1	7%
Travel distance >=700 - <2.500 km	120.153	172	20,7	47%
Travel distance >=2.500 km	129.618	157	20,4	46%
Total			44,1	100%

Table 6.3d: CO₂ emission Scope 2 Indirect Emissions: air travel

6.3.3 Business public transport (train)

Ricardo Nederland also travels by train for business traffic. The results are shown in Table 6.3e

Scope 2: Details train kilometers	km's	Factor (g/km)	CO ₂ [ton]	%
Train type unknown	199.095	3	0,6	38%
Train International	56.945	17	1,0	62%
Train type unknown	256.040		0,6	100%

Table 6.3e: CO₂ emission Scope 2 Indirect emissions: business travel public transport

7. Progress, trends and targets from 2012

This is the tenth report and contains a representation compared to our first reference year 2012 and second reference year 2022.

Because we have been moved to a smaller and more energy efficient office in January 2022, we use 2022 now as new reference year. Nevertheless the overview from 2012 until 2023 will be shown in the next paragraphs.

If necessary the new reference year will be recalculated on the basis of the SKAO manual version 3.1. The Annual Report for 2023 will be published on [CO₂-prestatieladder \(ricardo.com\)](https://www.ricardo.com/co2-prestatieladder) and on the SKAO website (angle C).

7.1 Trends over the years

	CO ₂ [ton/jaar]											
	2012*	2013	2014	2015*	2016	2017	2018	2019	2020	2021	2022**	2023
Fuel consumption business travel	8	6	0	16	38,1	51,8	30,1	21,2	13,3	12,9	16,2	16,0
Warmth consumption (energy)	33	11	9	30	33,7	30,7	30,5	30,2	28,2	24,0	14,3	10,5
Electricity usage	140	140	116	0	0	0	0	0	0	0	0	0
Business travel private cars	62	57	60	51	99,2	29,2	29,4	22,1	27,0	35,6	22,8	18,2
Air travel	169	142	141	111	107,7	135	124,4	72,8	14,5	16,0	38,6	44,1
Business travel public transport (train)	9	-	-	9	11,1	16,9	2,8	3,5	0,3	0,2	0,6	1,6
Total	423	357	326	218	289,8	264,1	217,2	149,8	83,4	88,7	92,5	90,4
	CO ₂ [ton/fte]											
Fuel consumption business travel	0,04	0,03	0,00	0,08	0,17	0,22	0,14	0,11	0,07	0,07	0,10	0,10
Heat consumption (energy)	0,17	0,06	0,05	0,14	0,15	0,13	0,14	0,15	0,15	0,14	0,09	0,06
Electricity consumption	0,74	0,73	0,60	0	0	0	0	0	0	0	0	0
Business traffic private cars	0,34	0,29	0,31	0,24	0,45	0,13	0,13	0,11	0,15	0,21	0,14	0,11
Air travel	0,93	0,73	0,73	0,53	0,48	0,58	0,57	0,37	0,08	0,09	0,23	0,27
Business travel public transport (train)	0,05	-	-	0,04	0,05	0,07	0,01	0,02	0	0	0	0,01
Total	2,27	1,84	1,69	1,03	1,30	1,14	1,00	0,78	0,45	0,51	0,56	0,55

Table 7.1a: CO₂ emission compared per year

* Start year 2012 and from 2015 based on SKAO manual version 3.0 and with addition of business public transport in 2012 and from 2015. From 2020 based on SKAO manual version 3.1.

** New reference year after moving to smaller office.

Note: Numbers are rounded and may differ slightly from the original footprint.

Absolute CO₂ FTE

CO ₂ [ton/year]												
	2012*	2013	2014	2015*	2016	2017	2018	2019	2020	2021	2022**	2023
Total	423,1	355,3	324,6	217,7	289,8	264,1	217,2	149,8	83,4	88,7	92,7	90,4
CO ₂ [ton/fte]												
	2012*	2013	2014	2015*	2016	2017	2018	2019	2020	2021	2022	2023
Total	2,22	1,87	1,69	1,04	1,30	1,14	1,00	0,78	0,45	0,51	0,56	0,55

Table 7.1b: CO₂ emission compared per year

* Start year 2012 and from 2015 based on SKAO manual version 3.0 and with the addition of business public transport in 2012 and from 2015. From 2020 SKAO manual version 3.1.
 ** New reference year after moving to smaller office.

We have shown the trends in the table above and graph below.

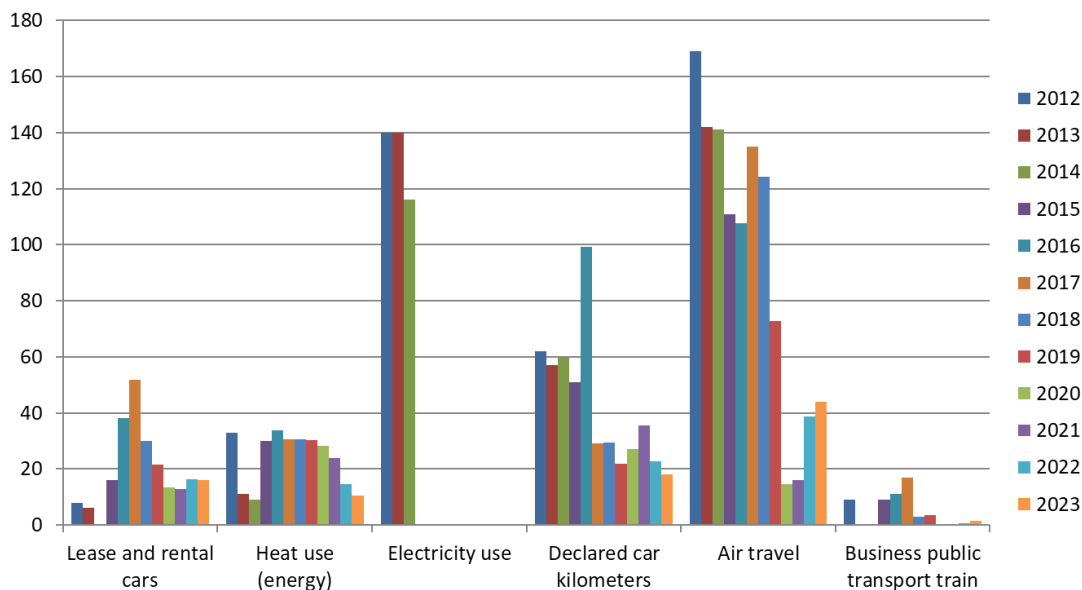


Table 7.1c: CO₂ emission trends based on table 6.1 b with emission factors 3.0 (except 2013 and 2014) and 3.1 from 2020. Business travel train added in 2015 and changed the first reference year 2012 and second reference year 2022 accordingly.

7.2 Goals, progress and conclusion

In response to the reference year 2022, a target for energy and CO₂ reduction (approach B) has been formulated for the period 2022-2025.

Ricardo Nederland's objective is to reduce CO₂ emissions by 20% (measured per FTE) in the period 2022 - 2025.

Compared to the start year 2012 this means a reduction from 80%, but because of the movement to a smaller and more efficient office the reference year has been changed to 2022.

The targets for the distribution per scope up to and including 2025 has been 15% for scope 1 and 85% for scope 2, respectively.

Table 7.2 shows a recalculation (SKAO Manual version 3.1):

	2012	2015	2016	2017	2018	2019	2020	2021	2022	2023
CO ₂ ton	423	218	289,9	264,1	217,2	149,8	83,4	88,7	92,7	90,4
CO ₂ Ton/FTE	2,22	1,039	1,30	1,14	1,00	0,78	0,45	0,51	0,56	0,55

Table 7.2 Realisation CO₂ footprint

In 2023 we travelled more by train and airplane. On the travel by plane we see an increase of 5,5 CO₂ tons. The traveling by train increased with 1,0 CO₂ ton. From 2023 on we mention the international train travels separately from the national train travels.

The travel by car has been decreased by 0,2 and 4,6 CO₂ tons.

From the beginning of 2022, the office is relocated to a smaller and more efficient building also with sun panels. Also from the beginning of 2023 the temperature setting in the building went down from 21 to 19 degrees. Therefore the heating energy decreased with 4,0 CO₂ tons.

Due to more tenants in the building the total electricity usage increased and therefore also we see an increase for Ricardo Nederland with almost 12.002 kWh. There are no other explanations for this increase to be mentioned.

Also for the period until 2025 the objective related to 'Green Energy' is to maintain the supply of electricity based on green wind energy and thus an emission factor of 0.

The conclusion is that in 2023 the CO₂ emissions per FTE have decreased with 0,01 CO₂ ton/FTE compared to 2022.

7.3 CO₂ Performance Ladder from level 3 to level 5

In 2015, management decided to qualify Ricardo Nederland for level 5 on the CO₂ Performance Ladder.

A qualitative and quantitative chain analysis (03-875717) has been carried out for 2023 to calculate the upstream emissions for requirements 4.A.1 and 5.A.1.

The scope 3 emissions top 5 consist of (in order of size)

Scope 3 emissions top 5	CO ₂ ton
1. Computer Services	106,17
2. Hired staff	69,46
3. Real estate services	45,78
4. Specialized construction work	39,65
5. Other products/services	27,59
Total	288,65

In total scope 3 emissions are 360,45 ton CO₂, so the above mentioned top 5 is about 80% of the total emissions. For more details about the qualitative and quantitative chain analysis see Hya (03-875717).

For scope 3 chain analyse and plans a reference is made to the documents: Hya 708248 – ketenanalyse (4.D.1) Ricardo Nederland, Hya 876370 - Strategie en PvA Ketenanalyse CO₂-Prestatieladder 2023, Hya 876371 - Jaarverslag 2023 ketenanalyse CO₂-Prestatieladder Hya 875729 - Keten Initiatieven CO₂-Prestatieladder verslag 2023.

7.4 Progress on the measures and actions

This section provides insight into how we performed in relation to the planning. Sometimes there is a reason for postponement, because resources or options are lacking. We have indicated this with additional information about the circumstances and, if possible, a new schedule. Our chain initiatives are published separately at <https://www.ricardo.com/en/who-we-are/governance/policies/co2-prestatieladder> and at the SKAO website (initiative D).

The results for 2013 to 2023 can be found in appendix A.1.2. See A.1.5 for an analysis of the SKAO's List of Measures 2023. Progress achieved and actions taken within the chain in 2023 are documented in Hya 875729 – Keteninitiatieven CO₂-Prestatieladder verslag 2023, see also above mentioned website.

7.5 Supplementing opportunities for 2024

- Less multicopy facilities (from 4 to 2 facilities) - Realised
- Active energy monitoring to detect high consumption by Hello Energy portal – Ongoing
- Due to partly working at home/office less travel, communication via teams for meetings (Hybrid working) - Ongoing
- Monitoring energy, city heating, water use, paper use – Ongoing
- Certification for the CO₂ Performance Ladder level 5 over 2023 – Ongoing
- Sustainable procurement – Ongoing
- Comply to ESG (Environmental, Social & Governance) standards – Ongoing
- Server room heat reduction – Research

8. Reporting in accordance with NEN-ISO 14064-1

The CO₂ emission inventory report has been drawn up in accordance with the requirements of ISO 14064-1, section 9.3.1. In the table below, a cross table has been made of the parts from ISO 14064-1 and the entry in this file.

ISO 14064-1 §9.3.1	BESCHRIJVING	VERMELDING
A	Description of the reporting organization	Chapter 3
B	Person or entity responsible for the report	§2.2
C	Reporting period covered	§2.1
D, E	Documentation of organizational and reporting boundaries, including criteria to define significant emissions	Chapter 4
F	Direct GHG emissions	§6.2
G	Treatment of biogenic CO ₂ emissions and removals	§5.1.8
H	GHG removals	§5.1.8
I	Exclusion of sources or sinks	Chapter 4
J	Indirect GHG emissions	§6.3
K	Base year	Chapter 7
L	Changes and recalculations	Chapter 7
M	Quantification approaches	Chapter 4
N	Changes to methodologies	Chapter 4
O, T	Emission or removal factors used	§2.1
P, Q	Uncertainties	§5.1.9
R	Statement in accordance with ISO 14064-1	§2.1
S	Verification	Chapter 8

Table 8: Comparison ISO 14064 and report

9. Literature

- Netherlands Standardization Institute (2007), NEN 2580, Surfaces and volumes of buildings - Terms, definitions and determination methods,
http://nl.wikipedia.org/wiki/Bestand:NEN_2580.JPG
The content of NEN 2580 is regularly revised; the latest version dates from 2007, supplemented in 2008 with a correction sheet C1 (NEN 2580:2007/C1:2008).
- Greenhouse Gas Protocol
Since the publication of Greenhouse Gas Protocol's Corporate Accounting and Reporting Standard (2004), Corporate Value Chain (Scope 3) Standard (2011), Scope 3 Calculation Guidance (2013), and Scope 2 Guidance (2015), there have been many important developments in greenhouse gas accounting and reporting. Among these are the Science Based Targets initiative (SBTi), the trend toward net-zero targets, mandatory climate disclosure regulations, use of the standards by thousands of companies, and academic research on their use and impact.
www.ghgprotocol.org.
- Green Gold Label
www.greengoldlabel.com
- Netherlands Standardization Institute (2006). NEN ISO 14064-1:2006, Greenhouse gases — Part 1: Specification with guidance at the organisation level for quantification and reporting of greenhouse gas emissions and removals, Delft.
NEN-EN-ISO 14064-3:2019 en NEN-EN-ISO 14064-3 specifies principles and requirements and provides guidance for verifying and validating greenhouse gas (GHG) statements. It is applicable to organization, project and product GHG statements. The ISO 14060 family of standards is GHG programme neutral.
www.CO2emissiefactoren.nl – calculating the CO₂ emissions with the CO₂ emission factors.
- CO₂ Performance Ladder, generic manual V3.1 22 June 2020 of SKAO
www.skao.nl.
- NEN-EN-ISO / IEC 17021-1: 2015 en Description: Conformity assessment - Requirements for bodies providing audit and certification of management systems - Part 1: Requirements

Bijlagen

A.1.1 – Nederlandse Wind Milieukeur Groencertificaat

Groencertificaat

Verklaring van oorsprong van energie

MAIN Energie B.V. verklaart hierbij dat

ASR Dutch Mobility Office Fund

Daalsesingel 71, 3511SW Utrecht

871687400002076321

groene energie, met een garantie van oorsprong, afneemt van MAIN Energie B.V. gedurende de looptijd van het contract.

01-01-2023 t/m 31-12-2023 met als bron Nederlandse Zon.

MAIN Energie B.V. zal voor het elektriciteitsverbruik dat wordt toegerekend aan bovengenoemde aansluiting(en) Garanties van Oorsprong inkopen en afboeken en/of heeft hiervoor reeds Garanties van Oorsprong ingekocht en afgeboekt met het kenmerk 'GO Renewable Electricity'. De afgeboekte Garanties van Oorsprong zijn gecertificeerd door CertiQ, de enige organisatie die hiervoor in Nederland bevoegd is. Dit proces wordt gecontroleerd door de Autoriteit Consument en Markt.

Deze Garanties van Oorsprong zijn het enige geldige bewijs dat energie duurzaam is opgewekt.

Almere,

18-01-2023



Dhr. K.J. Bus

Algemeen Directeur MAIN Energie B.V.

A.1.2 Results 2013-2023

Results for the year 2013

- Increase waste separation with separation of plastic and organic waste (realised according to plan)
- Continue separation of paper, residual waste, batteries and glass (realised on schedule)
- Awareness in cleaning of waste separation (realised according to plan)
- Awareness of and implementation by security for switching off the lights at the end of the day. (realised in 2013 ahead of planning)
- Digitizing the archive (realised by divestiture of external archive)
- Drawing up an energy balance / CO₂ footprint 2012 and 2013 (realised according to plan)

Results for the year 2014

- Switch to green electricity. The green energy mix was realised as of May 2014 (however, this has been calculated as gray because we could not obtain the correct data in accordance with the NTA and the ladder and Dutch wind energy as of 1 November 2014).
- Digital monitoring of energy consumption. This is going well, insight via the Stedin portal. That is why we have also decided for this year to start reporting and processing on a calendar year and per month. Has been realised and remains to be a continuous process.
- Transparency in waste flows and making choices for further reduction and/or separation. This has been realised via WIAR and is part of scope 3 and at the moment we do nothing with it in terms of calculations.
- Verification of the prepared CO₂ footprint reports by an external organisation will be realised in mid-2015. Was realised on May 1, 2015.
- Internal and external communication of our CO₂ footprint and progress on measures can be further refined. Continuous point of attention.
- Certification for the CO₂ Performance Ladder by an external organisation will be realised after verification in 2015. Was achieved on June 30, 2015.
- Turn off lighting at the end of the day (by security).
- It is known that employees from our organisation leave the lights on when they leave the building. This has already been communicated, of course, but we have identified that it is possible to prevent the lights from being on all night as well. That is why we will make agreements with security that they switch off the light that is still on. This allows us to estimate the savings. Expected savings based on internet sources: 1-5%. Unfortunately, this is not easy to measure. Update: Completed in 2014 and is still being continued.

Results for the year 2015

- Research into more environment energy/ CO₂-friendly rental cars. This is an ongoing process in which we maintain contact with our supplier Avis.
- Maintain a green electricity contract and, if possible, switch to a better version of green electricity. Realised as of November 1, 2014.
- Drawing up an energy balance / CO₂ footprint for 2014. Realised on April 17, 2015.
- Verification of the prepared CO₂ footprint by an external organisation (delayed measure from 2014). Realised May 1, 2015.
- Internal and external communication of our CO₂ footprint and progress on measures. Has been brought to the attention by the CSR communication plan and the Communication Manager.

Certification for the CO₂ Performance Ladder by an external organisation (delayed measure in 2014).
Completed June 30, 2015.

Results for the year 2016

- Maintain green electricity (wind energy) contract. Before October 2016. Realised.
- Analyze (2012-2016) and improve energy consumption and CO₂ emissions in the next 5 years. Continuous.
- Drawing up an energy balance/ CO₂ footprint for 2015. Realised in April 2016.
- Internal audit February/March 2016. Completed in April 2016.
- Internal and external communication of our CO₂ footprint and progress on measures. Continuous.
- Transition to CO₂ Performance Ladder level 5 with insight into quantitative and qualitative analysis, so that the reduction measures are determined aimed at the chain. Deadline May 2016. Realised.
- Drawing up the CO₂ Performance Ladder for Ricardo Certificering B.V. May 2016. Realised.
- Reassessment for the CO₂ Performance Ladder at level 5 by external organisation according to annual cycle, before 1 August 2016. Realised.
- Monitor, optimize and communicate the implementation of MS Lync so that a reduction target can be formulated for the coming years. Partly realised. MS Lync (now Skype) is used, but it is not clear how often.
- Investigate whether there are differences in airlines with regard to CO₂ emissions. Deadline May 2016. Researched, but this has not led to concrete adjustments.
- Review lease contracts and enter into discussions with the lease company about possible CO₂ reduction. It has been decided not to take any further concrete action on this.
- Checking which employees drive a lot of private kilometers (eg top 5) and discuss alternatives with the employee themselves or at company level. Discussed with MT. Decided not to include concrete action yet.
- Where possible, Avis will arrange for us to rent a more eco-friendly car to reduce CO₂ emissions and fuel consumption. It has been decided not to take any further concrete action on this.
- Renovation of housing July - October 2016
 - In the renovation of the housing, investments were made in LED lighting, payback period of 5 years, see Hya 661473.
 - 90% of the office furniture is reused.
 - 85% of the separation walls have been reused.
 - Data and electrical installations are 100% reused.
 - Climate system: adjusted and kept intact as much as possible, updated and 85% reused.
 - Ceilings are acoustic and only with redistributions some adjustments have been made.
 - Recycled materials have been used.
 - Energy-saving taps and sensor lights have been used in the toilet groups.
 - The beamers in the meeting rooms have been replaced by LED screens.
 - During the renovation, there was a check on the removal of packaging materials and construction waste.
 - The paper is disposed of by Shred-it and Renewi and recycled.

The main impact and results were achieved in 2013-2016 through the switching off of the lighting, new LED lighting, switching to green electricity, improvements in insight into actual emissions where 'worst-case'

calculations were used previously and by raising awareness in the organisation.

Results for the year 2017

- Retain green electricity (wind energy) contract - has been extended until 01-01-2019
- Monitoring energy consumption after renovation (LED lighting) - is tracked
- Analyze (2012-2016) and improve energy consumption and CO₂ emissions in the next five years.
- Drawing up an energy balance/ CO₂ footprint for 2016. Realised
- Internal and external communication of our footprint and progress on measures. Realised
- Certification for the CO₂ Performance Ladder level 5 by an external organisation.
- More insight into the refueled liters of the lease cars instead of the kilometers (electricity consumption). Realised

Results for the year 2018

- Better separation of waste flows by removing waste bins in workspaces and meeting rooms 6th; at strategic locations pantries, copy areas and some workspaces placing of separation bins (4 waste streams).
- Separation of waste (confidential paper as well as glass, environmental bins, computer waste) via two waste companies. Realised
- Maintain green electricity (wind energy) contract. Realised
- Monitoring energy consumption (reduction due to fewer desktops and other multifunctionals possible). Realised
- Monitoring paper/print consumption and communication to employees, minimal printing, black and white if necessary and color by exception. Realised
- Internal and external communication of our footprint and progress on measures. Realised
- Certification for the CO₂ Performance Ladder level 5 by an external organisation. Realised
- Listed in the Green Register municipality of Utrecht. Realised

Results for the year 2019

- Drawing up a reduction plan for 2019 – Realised
- Monitoring energy consumption (reduction due to fewer desktops and other multifunctionals possible)- Ongoing.
- Monitor paper/print consumption and communication to employees, minimum printing, black and white if necessary and color by exception. Ongoing
- Installed follow-me printers. Realised
- Digital sending of salary slips. Realised
- 5th floor rented out and therefore more efficient use of 5th and 6th floor. Realised
- Drawing up an energy balance/ CO₂ footprint for 2019. Realised
- Certification for the CO₂ Performance Ladder level 5 by external organisation for 2019. Realised

Results for the year 2020

- Drawing up reduction plan 2020 - Realised

- Monitoring energy consumption (reduction due to fewer desktops and other multifunctionals possible) - Ongoing
 - Monitoring paper/print consumption and communication to employees, minimal printing, black and white if necessary and color by exception – Ongoing
 - Drawing up an energy balance / CO₂ footprint for 2020 - Realised
- Certification for the CO₂ Performance Ladder level 5 by an external organisation over 2020 – Ongoing

Results for the year 2021

- Transferring of report to manual 3.1 of SKAO - Realised
- Promoting Teams for meetings, so that no or less travel is required. - Ongoing
- Drawing up reduction plan 2021 - Realised
- Monitoring energy consumption (reduction due to fewer desktops and other multifunctionals possible) - Ongoing
- Monitoring paper/print consumption and communication to employees, minimal printing, black and white if necessary and color by exception – Ongoing
- Drawing up an energy balance / CO₂ footprint for 2020 - Realised
- Certification for the CO₂ Performance Ladder level 5 by an external organisation over 2020 - Realised.

Results for the year 2022

- Movement to smaller office – Realised per 1/1/2022
- Due to partly working at home/office less travel, communication via teams for meetings (Hybrid working) - Ongoing
- Monitoring energy, city heating, paper use – Ongoing
- Certification for the CO₂ Performance Ladder level 5 by an external organization over 2021 – Ongoing
- Survey Employee Commuting 2022 across Ricardo Group - Realised
- Sustainability and Digital week for employee awareness (non-commercial) - Realised
- Lighting to LED and sensor. Lifts, bicycle shed, garage and parking deck have recently been converted. - Realised
- Insulation work district heating space - Realised

Results for the year 2023

- Active energy monitoring to detect high consumption by Hello Energy portal – Ongoing
- Due to partly working at home/office less travel, communication via teams for meetings (Hybrid working) - Ongoing
- Monitoring energy, city heating, water use, paper use – Ongoing
- Certification for the CO₂ Performance Ladder level 5 by an external organization over 2022 - Realised
- Sustainable procurement – Ongoing

- Comply to ESG (Environmental, Social & Governance) standards – Ongoing
- Energy saving information obligation completed at RVO - Realised
- Adjustment office temperature from 21 to 19 degrees – Realised
- Server room heat reduction – Research
- Waste reduction from confidential paper from 2.5 to 1 container – Realised

Raw materials (paper, lamps, office supplies, PPE, etc.)

- Keeping smaller stocks of materials/determining optimal order quantities. Is being done.
- Minimal purchase and stock of qualified hazardous substances. See Aspects and Impacts Beheersplan wet- en regelgeving Hya 559824.- Ongoing.

Waste separation

- Waste total overview created, see Hya 871993. - Ongoing

Renewable energy

- Only 100% green electricity generated by Dutch wind farms. Realised.

Communication

- Periodic internal and external communication about the progress of the energy reduction targets (requirement(s) for the CO₂ Performance Ladder). Footprint, objectives, target, progress, measures every six months - Ongoing
- Periodic internal and external communication about the Carbon footprint (requirement(s) for CO₂ Performance Ladder). Semi-annually - Ongoing

Travel

Offer Safe & Eco driving training to employees who drive more than 4,800 km annually (this training has already been followed and repeated by several employees) - annually, ongoing process.

A.1.3 Energy measurement plan (2.C.2, 3B2, 4A2)

The NEN-EN-ISO 50001: 2018 serves as a guideline for setting up the Energy Measurement Plan. The introduction of an energy measurement plan ensures that a complete, reliable and up-to-date consolidation of the energy performance of Ricardo Nederland can take place. The core of the energy measurement plan is continuous evaluation of the activities and identified deviations to realize improvements and are therefore drawn up in accordance with the Plan-Do-Check-Act cycle as included in the NEN-EN-ISO 50001: 2018.

Ricardo Nederland has insight into the power consumption in various areas:

1. Numbers and consumption Multifunctionals, monitors, computers, laptops, mices, keyboards and telephones - Hya 560344
2. Contractual agreement with our landlord ASR who has a contract with Main Energie B.V., see .A.1.1. Green certificate with statement of origin of energy
3. Large-scale consumer is our server space.
4. Climate control is provided by the Reinvent energy data monthly-export, see Hya 824716
5. Net floor area 2.165,97 m² – Hya 810580.
6. In 2023 164,4 FTE have been contracted.

Ricardo Nederland has measured the energy over the past years and the historical data you will find in the below overview.

Supplier	Year	Total consumption	Difference from previous year
Essent variable	2013	302777	
Greenchoice 3 yr fixed	2014	301863	-914
Greenchoice 3 yr fixed	2015	289866	-11997
Greenchoice 3 yr fixed	2016	287511	-2355
Greenchoice 3 yr fixed	2017	245231	-42280
Greenchoice 3 yr fixed	2018	239686	-5545
Greenchoice 3 yr fixed	2019	229687	-9999
Greenchoice 3 yr fixed	2020	206926	-22761
Greenchoice 1 yr fixed/Hello Energy	2021	197656	-9270
Hello Energy	2022	139050	-58606
Main Energie	2023	151052	12002

Overview of energy consumption per year in Kwh

A.1.4 Policy statement CO₂-Performance Ladder Ricardo Nederland

Hya 853374



Policy statement CO₂ Performance Ladder Ricardo Nederland

Utrecht, March 12, 2024

Ricardo Nederland B.V. and Ricardo Certification B.V., hereinafter referred to as Ricardo Nederland, are a leading rail consultancy and certification company respectively. Both recognize their broad social responsibility with regard to people and the environment. Sustainability is an important factor nowadays. In order to consciously deal with this, we strive for CO₂-conscious business operations. This results in a continuous improvement of our emission reduction policy and a growing awareness of employees.

CO₂ ambition

In response to the reference year 2022, a target for energy and CO₂ reduction has been formulated for the period 2022-2025.

Ricardo Nederland's objective is to reduce CO₂ emissions by 20% (measured per FTE) in the period 2022 - 2025.

Compared to the start year 2012 this means a reduction from 80%, but because of the movement to a smaller and more efficient office the reference year has been changed to 2022.

The targets for the distribution per scope up to and including 2025 has been 15% for scope 1 and 85% for scope 2, respectively.

The company's CO₂ footprint indicates that CO₂ emissions are mainly related to our business travel (flights and car travel) and accommodation. Ricardo Nederland will concentrate in the coming years on economically responsible reduction of energy consumption and the associated CO₂ emissions. This will take place in as many areas and reference points as possible in the chain. Also Ricardo will enlarge, where possible, it's insight of the emission figures further.

When assessing new investments, energy performance in relation to economic life and our investment are taken into consideration. Ricardo Nederland management team monitors the progress and results of these processes.

Ricardo Nederland efforts consist of:

- Structurally reducing energy consumption and achieving the intended CO₂ reduction;
- Structural internal and external communication about the results and intentions achieved;
- Creating awareness of the topic of CO₂ reduction both within the organization and in the chain and industry by participating in and contributing to innovations, research and working groups.

The numerical substantiation will be made available in accordance with the requirements of the CO₂ Performance Ladder. Publications are visible on [CO₂-prestatieladder \(ricardo.com\)](https://www.ricardo.com) and on the SKAO website. Furthermore, all interested parties, both inside and outside the organization, are regularly informed of the results achieved.

On behalf of Management Team Ricardo Nederland,

Richard Laan
Manager Finance and ICT



A.1.5 Analysis List of Measures CO₂ Performance Ladder 2023 SKAO

Below is an overview of the measures as stated in the CO₂ Performance Ladder 2023 SKAO Measure List. These measures have been implemented in recent years.

Overview of measures

Advice

Research and innovation in relation to carbon emissions	
Organisation-wide measure	
Between 2% and 10% of the research and innovation budget is spent on topics that could also Categorie A cut carbon emissions	Implemented on 06/2017
<i>ICT services</i>	
<i>Purchase of green power and/or power made greener with GOs.</i>	
<i>Renewable energy</i>	
<i>Categorie A Over 98% of the electricity consumed is green power or power made greener with national GOs.</i>	<i>Implemented on 01/2022 Per 1/1/2022 in nieuw pand met zonnepanelen en label A.</i>
<i>Logistics & transport</i>	
<i>Use of energy saving tyres</i>	
<i>Increasing the efficiency of the activity</i>	
<i>Categorie B All new tyres purchased are tyres with energy label B (rolling resistance criterion) or higher.</i>	<i>Implemented on 05/2020 Pirelli band van 2020 bij Mercedes</i>
<i>Material use / Scope 3</i>	
<i>Carbon capture through weathering of materials</i>	
<i>Carbon capture</i>	
<i>Categorie C</i>	<i>Implemented on 01/2022 Sedumdak op terras Meubilair begane grond Huismeesters cradle to cradle Buitengevel duurzaam product zonder CO2 belasting</i>
<i>The company uses building materials that provide long-term capture of CO₂ during their use phase as a result of weathering and the company reports on the CO₂ reduction achieved in this way.</i>	
<i>Development of additional reduction measures</i>	
<i>Organisation-wide measure</i>	
<i>The company can demonstrate that it has implemented and arranged financing for measures</i>	
<i>Categorie A that further reduce carbon emissions in one or several of its projects.</i>	<i>Implemented on 04/2019</i>
<i>Offices</i>	
<i>Accredited Measures for buildings</i>	
<i>Increasing the efficiency of the activity</i>	

<i>All Accredited Measures for energy saving in offices have been implemented, in so far as</i>		<i>Implemented on 01/2022</i>
<i>Categorie A indicated in that list. Measures are implemented at natural times</i>		<i>Nieuw pand betrokken per 1 januari 2022.</i>
<i>Active energy-management offices</i>		
<i>Increasing the efficiency of the activity</i>		
<i>Categorie C</i>	<i>In at least 90% to 100% of offices, the organisation engages in active energy management, supported by a building management system, including providing energy consumption feedback to the building users (e.g. a panel in the lobby).</i>	<i>Implemented on 01/2022</i>
<i>Agreements on energy performance in leases</i>		
<i>Increasing the efficiency of the activity</i>		
<i>Improvement of the building's energy performance forms part of the negotiations when lease</i>		<i>Implemented on 11/2021</i>
<i>Categorie A agreements for office space are concluded or amended.</i>		<i>Breaam excellent certificate</i>
<i>Benchmarking and optimising energy consumption</i>		
<i>Increasing the efficiency of the activity</i>		
<i>For at least 75% of offices, data from the main meter is recorded and benchmarked annually</i>		<i>Implemented on 01/2022</i>
<i>Categorie A against similar premises (via Milieubarometer, e-nolis or similar).</i>		<i>Benchmark though Hello Energy</i>
<i>Improvement of the energy label of offices</i>		
<i>Organisation-wide measure</i>		
<i>Categorie B</i>	<i>Offices have an average energy label of at least A.</i>	<i>Implemented on 07/2020</i> <i>Energie label A</i> <i>Daalsesingel 51-71,</i> <i>Utrecht geldig tot 09-07-2030</i>
<i>Make charge points available for electric vehicles.</i>		
<i>Electrification</i>		
<i>Categorie B</i>	<i>Minimally 1 charge point per 10 parking spaces</i>	<i>Implemented on 01/2022</i> <i>3 parking places, charging units ...</i>
<i>Optimisation of air conditioning systems</i>		
<i>Increasing the efficiency of the activity</i>		
<i>The air conditioning systems of all offices taken into use in the past 5 years have been optimised</i>		<i>Implemented on 01/2022</i>
<i>Categorie A by a professional installation contractor.</i>		
<i>Public transport location choice</i>		
<i>Organisation-wide measure</i>		
<i>Categorie C</i>	<i>At least 50% of the building area is located near public transport (maximally 500 m).</i>	<i>Implemented on 01/2022</i>

	<i>Office move within 500 meters.</i>
<i>Purchase of green power and/or power made greener with GOs.</i>	
<i>Renewable energy</i>	
<i>Categorie B Over 98% of the electricity consumed is green power or power made greener with national GOs.</i>	<i>Implemented on 01/2022 Verhuizing per 1/1/2022</i>
<i>Renewable electricity generation (in-house)</i>	
<i>Renewable energy</i>	
<i>Between 5% and 25% of the electricity used is met by renewable electricity generated in-house</i>	<i>Implemented on 01/2022 less than 5% through 50 solar panels on the rooftop.</i>
<i>Categorie A (through own investment or a lease).</i>	
<i>Use of sustainable heat and/or heat and cold storage</i>	
<i>Renewable energy</i>	
<i>Space heating using sustainable heat accounts for more than 80% of the total energy consumed</i>	<i>Implemented on 01/2022</i>
<i>Categorie C in the organisation's offices for heating and cooling.</i>	

<i>Awareness of carbon emissions among staff</i>	
<i>Organisation-wide measure</i>	
<i>CO2 reduction is demonstrably addressed in the induction process for over 50% of new</i>	<i>Implemented on 01/2019 Inductie gesprek, Share Point trainingen en filmpjes.</i>
<i>Categorie B consultants and project leaders</i>	
<i>Facilitating renewable energy generation (for third parties)</i>	
<i>Renewable energy</i>	
<i>Making roofs or grounds available for renewable energy production under the responsibility of a</i>	<i>Implemented on 01/2022 Zonnepanelen op dak en groene sedum daken.</i>
<i>Categorie B third party</i>	
<i>Implementation of energy saving measures</i>	
<i>global measure</i>	
<i>The company structurally implements all scope 1 and 2 energy saving measures that have a</i>	<i>Implemented on 01/2022</i>
<i>Categorie A payback time of less than 5 years.</i>	
<i>Net 0 CO2 goal 2050</i>	
<i>Reduction target 2050</i>	

<p>Organization has a net 0 CO₂ by 2050 target and an implementation pathway with actions and Categorie C measures, for scope 1, 2 and business travel</p>	<p>Implemented on 07/2023 Baseline Year: 2020 (July 2019-June 2020). Assuming a linear trajectory towards our net zero targets, emissions will need to decrease 39% by 2030 (July 2030-June 2031) to remain on track. This target was achieved in 2022, demonstrating good progress towards achieving net zero by 2050. The expected progress towards net zero is illustrated as a linear trajectory between 2020 and 2030 for Scopes 1 and 2 and between 2020 and 2050 for Scope 3. Our target defines net zero as achieving at least a 90% reduction in baseline emissions, whilst offsetting the remaining through robust industry standard practice. This is in line with Science Based Targets initiative (SBTi) guidance. We will seek to achieve a reduction beyond this if the situation allows.</p>
<p>Renewable electricity generation (via PPA) Renewable energy Categorie C 100% of electricity used is met by the generation of renewable electricity through a PPA contract.</p>	<p>Implemented on 01/2022 Groene Nederlandse windenergie</p>
<p>Renewable energy generation (for third parties) Renewable energy Supply of a quantity of self-generated or produced renewable energy to third parties, thereby Categorie C avoiding substantial CO₂ emissions at these third parties (at least 10% of the footprint (scope 1 and 2) of the certified organization).</p>	<p>Implemented on 01/2023 zonnepanelen en groene sedum daken</p>
<p>Supply of materials or gases to third parties Useful applications of CO₂ Supply of materials or gases to third parties, enabling these third parties to avoid carbon Categorie C emissions</p>	<p>Implemented on 01/2022 Post en koeriers</p>
<p>People mobility Encourage car pools and the use of car sharing. Increasing the efficiency of the activity Categorie B The company provides shared cars for communal travel to the office or project locations.</p>	<p>Implemented on 10/2014</p>
<p>Parking policy Organisation-wide measure</p>	

<p>The organisation only offers parking spaces, free or otherwise, to staff who: - require a car for the <i>Categorie C performance of their duties</i></p>	<p>Implemented on 01/2022</p>
<p>Provision of bicycles, electric bikes or electric scooters <i>Organisation-wide measure</i></p>	
<p>Where meaningful, the company makes available bicycles, electric bikes or electric scooters at <i>Categorie A its project or office locations that can be used to cover short distances</i></p>	<p>Implemented on 01/2019</p>
<p>Reduce personal mobility by working from home and teleconferencing <i>Restricting activity</i></p>	<p>Implemented on 06/2020</p>
<p>The average amount of travel (commuting, business trips) per employee with an administrative <i>Categorie C job is demonstrably reduced by 40% compared to before the coronavirus outbreak (2019)</i></p>	<p>Every employee can register themselves before they come to the office. From September 2021 we have place for max. 90 persons of the 173 total of employees. The average persons in the office are about 30 persons a day.</p>
<p>Reducing car usage <i>Restricting activity</i></p>	
<p>Introduction of an individual mobility budget for all staff with the aim of reducing the number of <i>Categorie C lease cars and/or cutting down on the number of kilometres travelled by car.</i></p>	<p>Implemented on 12/2016</p>
<p><i>Procurement</i></p>	
<p>Application of award advantage for CO₂ targets in tenders for services <i>Organisation-wide measure</i></p>	
<p><i>Categorie A up to 25% of the services</i></p>	<p>Implemented on 04/2021</p>

A.1.6 Communication plan

WHAT (Message)	WHO (executor)	HOE (Resources)	TARGET GROUP	WHEN (Planning & frequency)	WHY (objective)
CO ₂ -footprint of company and projects with award advantage	Coordinator Facility & Environment, HSEQ-advisor	Sharepoint, internal mail	Internal	Semi-annually	Increase internal awareness of the CO ₂ -footprint
CO ₂ -footprint of company and projects with award advantage	Coordinator Facility & Environment, HSEQ-advisor	Website	External	Semi-annually	Increase awareness of the footprint among external parties
CO ₂ -reduction targets + progress and measures for company and projects with an award advantage	Coordinator Facility & Environment, HSEQ-advisor	Internal mail	Internal	Semi-annually	Increase awareness of the objective and measures among employees
CO ₂ -reduction targets + progress and measures for company and projects with award advantage	Coordinator Facility & Environment, HSEQ-advisor	Website	External	Semi-annually	Increase awareness of the objective and measures among external parties
Opportunities for individual contribution, current energy consumption and trends within the company and projects	Coordinator Facility & Environment, HSEQ-advisor	Internal mail	Internal	Semi-annually	Stimulating employee involvement and encouraging employees to reduce CO ₂ emissions
Website update	Coordinator Facility & Environment, HSEQ-advisor	Website	External	Semi-annually	Update documents
Publication obligation SKAO	Coordinator Facility & Environment, HSEQ-advisor	Website SKAO	SKAO	Annual	Publish documentation associated with requirement 3.D.1 and update the list of measures annually



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