Annual report CO_2-Performance Ladder 2020

in accordance with manual version 3.1

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Distribution list

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Contents

1. Introduction

The COVID-19 pandemic has changed the world, our industry and our business, what we have learned during this time will guide and shape our way of working and global office needs.

Our digital-first strategy has provided us with the flexibility to work remotely and where physical requirements demand and has 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.

We are able to conduct our activities in such a way that we protect the environment and in a structured way we improve systems and processes that lead to energy performance, energy efficiency and consumption.

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 CO_2 emissions. These provide insight into the current state of affairs within the company and the possibility to measure changes in the future.

Corporate Social Responsibility (CSR) is more than a topic for the management table. At Ricardo Nederland we believe that all our employees can contribute to a fairer and cleaner world. At home, at the office, on the road or at the customer. That is why we are committed to working in a socially responsible manner every day in various ways.

In the Ricardo plc Annual Report & Account 2019/20 pages 16 – 33 information is found about Engaging with Stakeholders, Innovation, Our people, Environmental Social and Governance (ESG).

A CSR report for Ricardo Nederland was also published in 2016, see https://www.werkenbijricardorail.nl/nl/mvo. In addition, Ricardo Nederland has a policy statement, see Appendix A1.5.

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 2020 footprint.

2. Ricardo and CO_2 Performance Ladder

2.1 Scope report and period

This report provides insight into the CO_2 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 CO_2 emissions in the future. The report describes the CO_2 emissions from 2020, 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. 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 CO_2 Performance Ladder and the SKAO manual. The report uses the emission factors of the CO_2 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, 2020).

2.2 Responsible person

Richard Laan, Manager Finance, ICT & Sales Support and MT member, is responsible for this report and is internally supported by Marco Slotboom, HSEQ Advisor. Every year in May, 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 CO_2 footprint. The Facility & Environment Coordinator and the HSEQ advisor jointly implement the communication plan, see also A.1.7.

3. The organisation

3.1 Ricardo plc

Ricardo plc. is a global technical advice organisation in the field of strategy, technology and the environment. Ricardo is also a specialist niche manufacturer of high performance products. The company employs more than 2,850 expert engineers, consultants and scientists committed to delivering high-quality projects. Ricardo's diversified business creates and delivers cross-sector solutions, tools and products which help our clients address some of the most pressing issues in the areas of decarbonized and secure transport, clean air and the sustainability of scarce resources. (source: Annual Report, page 13) We enable us to carry out our activities in such a way to preserve and protect our environment (Ricardo strategy booklet).Wherever possible, we avoid modes of travel that contribute to our global climate emergency and we walk, cycle or use video conferencing.

3.1.1 Ricardo Rail

Ricardo Rail 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 than185specialist 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. stands for reliable and high-quality technical advice.
- Ricardo Certification B.V. is engaged in the testing of rolling stock and tests, assesses and certifies rolling stock and rail infrastructure against national and European regulations.

3.2 Vision and mission

Ricardo Rail's vision worldwide is:
"Create a world fit for the future"

(https://ricardo.com/about-us/our-mission-and-vision)

Our mission is: We create and deliver innovative cross sector sustainable, efficient and secure energy environmental and mobility solutions.

3.3 The Ricardo values

Ricardo's corporate standards and values are expressed in so-called Ricardo Values. These are the basic principles we work on:

Quote

Passion

- Having a relentless desire individually and collectively to be the best in our business.
- Where good enough is never good enough.
- Celebrating individual and team success.
- Being excited about who we are and what we do.

Integrity

- Being honest, ethical and above reproach with each other and with our stakeholders in all our business dealings.
- Delivering on commitments as the foundation for building trusting relationships.
- Achieving our individual and collective goals in a way that makes us proud.

Respect

- Treating all others as we would like to be treated.
- Being prepared to listen with an open mind and having the courage to change our position.
- Accepting that the views, ideas and values of our clients, colleagues and other stakeholders are as *important as our own."*

Innovation

- Creating the environment that encourages each of us to ask the "what if?" question.
- Investing in our people and business to realise the most from our creative ideas.
- Having the courage and determination to bring new ideas to reality

Unquote

(https://ricardo.com/about-us/our-values)

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 2020 (general inventory, data, CO_2 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 reference year 2012. The scope classification in accordance with the GHG protocol method has been used.

In 2019, a reorganization and a disposal of the 5th floor took place, which have no impact on the CO_2 footprint. The 5th floor is let to an external party and because there are no separate energy meters, the totals for both heat and electricity have been included in the calculation.

The uniform Dutch list of emission factors from SKAO was used in the study. (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 of this research is described in section two. The last paragraph describes the key figures and assumptions used.

A change in the CO_2 emission factor as a result of a methodology change in the calculation of the CO_2 emission factor always leads to recalculation of the reference year.

4.1 Method

In this report the emissions (expressed in CO_2) of Ricardo Nederland are analyzed. This is done on the basis of the CO_2 footprint as described in NEN-ISO 14064-1. NEN-ISO 14064-1 distinguishes different types of CO_2 emissions. To determine Ricardo Nederland CO_2 footprint, three categories of CO_2 emissions were used (see SKAO manual version 3.1).

The emissions are classified in three scopes:
- Scope 1: Direct CO_2 emissions
- Scope 2: Indirect CO_2 emissions
- Scope 3: Other indirect CO_2-emissions

The scopes for the CO_2 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 figure 4.1 a and 4.1b.

In addition to CO_2 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 CO_2 emission factors

In order to determine the CO_2 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 CO_2 emissions. The emission factors from the CO_2 Performance Ladder have been used. The CO_2 footprint includes the factors from scope 1 and 2, as used in the CO_2 Performance Ladder. The first year (2012) of the CO_2 inventory is taken as the base or reference year.

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

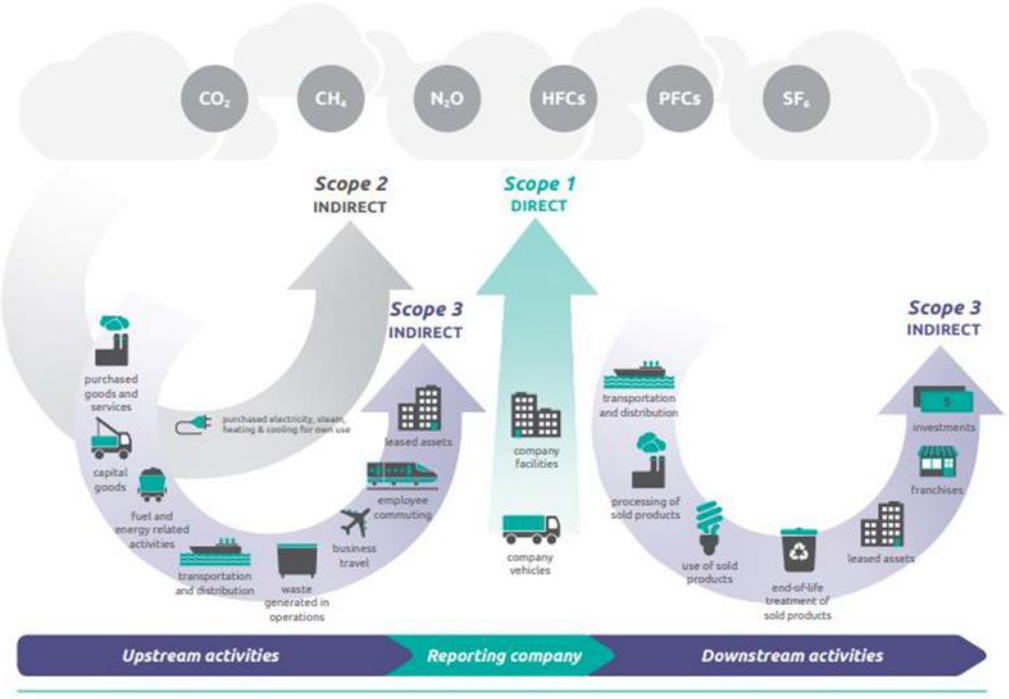

Figure 4.1. The scope diagram of the GHG Protocol Scope 3 Standard

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

4.2 Organisation description and environment

The demarcation describes the organisational 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 Organisational Boundary of Ricardo Nederland has been determined. In accordance with the manual 3.1. the GHG-proto col 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 CO_2 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.

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 CO_2 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 2019-2020 and 2020-2021.

We have analyzed our purchasing from 1 January to 31 December 2020 in accordance with the method of the CO_2 Performance Ladder. In total 252 providers have delivered to Ricardo Nederland B.V. of these, 9 organisations can be characterized as type A providers. Approximately 65 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 Organisational Boundary for this 2020 report has been set at: Ricardo Nederland from 1 January to 31 December 2020.

4.5 Award advantage

To date there have been no projects with award advantage.

5. Size of Ricardo Nederland and choice relativity

5.1 Size

For the CO_2 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 CO_2 emissions by the organisation. Figure 5.1 shows the conditions per organisation 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 *of the offices and industrial premises* amount to no more than (≤) 500 tonnes per year, **and** the total CO_2 emissions *of all building sites and production locations* 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 *of the offices and industrial premises* amount to no more than (≤) 2,500 tonnes per year, **and** the total CO_2 emissions *of all building sites and production locations* 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 CO_2 Performance Ladder (SKAO handbook version 3.1)

Ricardo Nederland provides services and falls within the "small business" category. The total CO_2 emissions of services provided amount to 149.8 tons of CO_2 in 2020. Ricardo Nederland is granted exemptions from the audit checklist, because it belongs to this category.

5.1.1 Floor space Ricardo Nederland

For the accommodation of Ricardo Nederland, only the office location on the 5th and 6th floor in the Radboudtoren at Catharijnesingel 33 and 33J in Utrecht will be used. The floor area has been calculated in accordance with NEN 2580, where based on the most realistic approach with respect to the measurement data, the Lettable Floor Space (LFS) is assumed. The standard LFS for Ricardo Nederland is 3.998 m2. The 5th floor has been sublet as of April 1, 2019, but is included in the calculation, see also chapter 4. This concerns a surface area of 5: 1077.6 m2. The 6th floor where Ricardo is located consists of 2920.7 m2.

5.1.2 Relativity

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 2020 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 CO_2 footprint. For 2020 we assume 185 FTE.

5.1.4 Key figures & starting points for calculations

This section describes the key figures and starting points for determining the CO_2 emissions for scope 1, 2 and 3, thus the CO_2 footprint of Ricardo Nederland. All calculations are registered in a collective Excel sheet. The results are presented below.

5.1.5 Office heat and energy consumption

The building is used as an office. For the most part offices are located on the other floors. The heat consumption of the entire office building is measured centrally by the owner and is not transparent to tenants. As a result, an estimate must always be made.

We know from public sources that 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 35.97 kg CO_2/GJ is used. We also looked at a comparable building in the immediate vicinity with a comparable energy profile. This is where we ended up at Movares.

From public sources (Movares website) it can be read that Movares also has district heating. The figures in the Movares emission report for 2012 indicate that 2.6 kg of CO_2 per m2 / year is emitted by heating the buildings with district heating. For 2011 this was 2.4 kg CO_2 per m2 / year. At that time, Movares was still housed in a building that was comparable in terms of energy label. However, the figures for 2013 and beyond are missing.

Because there are no more comparable numbers available and current measurements cannot take place, we have decided to continue to use the base numbers of Movares. In order to attain more reliable figures, we recalculate the number of kg CO_2 per m^2 year per weighted degree day from 2013 with weighted degree days for the location closest to our office, being De Bilt (source: Kwa business advisers and KNMI).

We use 2012 as a reference date. This means that we determine the number of kg CO_2 per m^2/year per weighted degree day (2.6 / 2902.33 = 0.00089583). We use this number and the weighted degree days of the year in question to calculate the factor kg CO_2 per m^2/year. (Example 2014: 0.00089583 x 2418.00 = 2.2 rounded).

DEGREE DAYS A YEAR
LOCATION IN THE NETHERLANDS: De Bilt
Source: KWA business advisers and KNMI (http://www.kwa.nl/gradedagen-en-koeldagen)

	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
month	weighted degree days	weighted degree days	weighted degree days	weighted degree days	weighted degree days	weighted degree days	weighted degree days	weighted degree days	weighted degree days	weighted degree days
	K.d.	K.d.	K.d	K.d	K.d	K.d	K.d	K.d	K.d	K.d
1	402,1	494,2	422,1	560,5	450,7	476,7	421,08	545,05	447,37	493,79
2	344,4	366,7	533,4	398,9	428,0	446,9	354,20	503,25	548,68	413,38
3	346,6	308,8	411,1	291,6	391,9	367,1	297,20	481,90	300,90	370,50
4	165,2	169,9	141,5	226,6	223,7	216,2	141,28	236,96	230,80	118,08
5	123,0	155,8	62,9	91,6	95,8	139,8	120,16	161,36	103,36	105,20
6	37,5	28,3	28,2	21,8	40,8	67,4	52,40	74,24	80,40	59,52
7	33,8	25,4	2,1	19,1	21,3	27,8	10,16	13,44	38,16	53,12
8	18,7	16,9	24,7	24,2	24,3	17,8	54,40	21,44	16,80	36,00
9	71,8	84,1	85,3	104,2	35,3	110,4	52,56	92,24	93,20	61,44
10	207,9	199,7	190,5	145,0	251,5	251,4	141,70	180,80	232,40	204,10
11	300,5	383,9	369,3	354,3	415,4	268,0	324,28	371,91	368,28	356,73
12	425,5	414,6	404,5	447,4	454,6	285,5	448,58	411,73	441,98	392,81
Total	**2477,0**	**2648,3**	**2675,4**	**2685,3**	**2833,2**	**2674,94**	**2418,00**	**3094,32**	**2902,33**	**2664,67**

year	weighted degree day	Kg CO_2 per m^2/year	Surface (m^2)	CO_2 (kg)	heat (GJ)
2011	2664,67	2,4	3998	9595,20	849,1
2012	2902,33	2,6	3998	10394,80	919,9
2013	3094,32	2,8	3998	11082,42	980,7
2014	2418,00	2,2	3998	8660,15	766,4
2015	2674,94	2,39	3998	9555,22	845,6
2016	2833,3	2,54	4170	10591,8	937,3
2017	2685,3	2,41	3998	9635,18	852,7
2018	2675,4	2,4	3998	9595,2	849,1
2019	2648,3	2,37	3998	9475,26	838,5
2020	2477	2,22	3998	8871,45	785,1

Table 5.1 Weighed degree days

For us, this would mean that in 2020 we had a rented surface area of 3,998 m2 * 2.4 kg CO_2 / year = 9,595.2 kg CO_2 emissions as a result of district heating. This number is equal to the use of 785,1 GJ of heat for Ricardo Netherland's office in Utrecht.

Because there are no better data available, we are unfortunately forced to work with an estimate and a calculation. We realise that this method contains inaccuracies and if actual measurement data is available, we will of course switch to these. However, these are not expected in the short term given the rental situation and the absence of meters.

5.1.6 Office energy consumption

Ricardo Nederland is located in an office building where electricity consumption is determined with its own meter. Using the data and the CO_2 emission factor, a calculation has been made of the CO_2 emissions from purchased electricity consumption.

The purchase of energy (gray electricity) for the office space was supplied by Essent until May 2014. We then switched to green electricity from Greenchoice. Unfortunately, this was not demonstrable in accordance with the CO_2 Performance Ladder. That is why we switched to green electricity from "Nederlandse Wind" on 1 November 2014. From 2014 onwards we also switched from annual accounts (from May to May) to monthly accounts.

From April 1, 2019 we rent out the 5th floor. Because there are no separate energy meters, the totals for both heat and electricity are included in the calculation.

This is the seventh year that we report a calendar year. It is important to mention that this two-way switch has resulted in a small shift compared to previous reports. We do not adjust previous reports to this, because that data was previously missing. For 2016, the electricity consumption of the extra rented space on the 5th floor for the period July - October has also been included

An overview is available of all electrical appliances in use, such as multifunctionals (printers, copiers, etc.), 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 consumption in liters of the lease cars are known and these are included in scope 1. The rental cars are also included in scope 1, however, use was made of driven kilometers where the fuel type is 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 organisation. Since 2015, we have also taken so-called intermediate stops into account. We calculate with kms (emission factor) based on single 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 at the Reception.

The details of both types of Business Card are transparent and provided by NS.

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.

5.1.8 Biomass and CO_2 removal

Section 7 of NEN-ISO 14049-1 refers to CO_2 emissions from the combustion of biomass and greenhouse gas removal. No biomass combustion took place at Ricardo Nederland, and no greenhouse gases (CO_2) were removed.

5.1.9 Accuracy and uncertainties

As already indicated, we had to make some estimates, for example for the energy consumption for office heating. For this we are connected to district heating (see 5.1.5).The calculations performed with measurement data (for example electricity and fuel consumption) have an accuracy in accordance with the measuring equipment. The calculation method is in line with NEN-ISO 14064-1, further determined (see 5.1.6).

For the CO_2 calculation of the use of a private car for business purposes, use is made of the actually declared kilometers.

We have no insight into 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: Note is this the case again this year?

• If the total distance divided by the number of routes is less than 700 km, the factor 0.297 is used.

• If the total distance is between 700 and 2500 km, factor 0.200 is used.

• At a distance of more than 2500 km, factor 0.147 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 CO_2 emission of Ricardo Nederland.

6. CO_2-footprint 2020

6.1 CO_2-footprint

The total CO_2 emission by Ricardo Nederland in 2020 is 83,4 tons of CO_2. This is 0,45 tons of CO_2 per FTE (average 2020: 185 FTEs). 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	13,3	16%
Scope 2: Indirect CO_2-emissions	70,1	84%
Total	83,4	100%

Table 6.1a Distribution scope 1 and 2

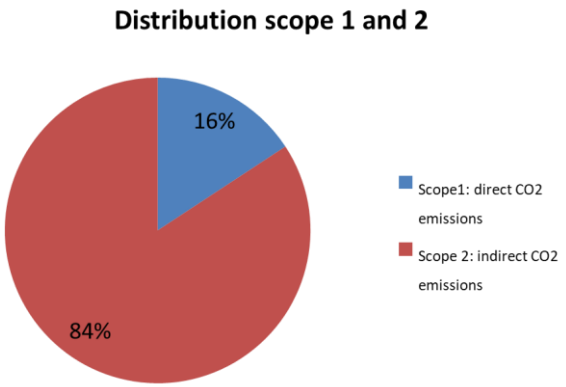

Figure 6.1: OverviewCO_2 emissions from scope 1 en 2 (divided) (source 03-768755)

Activity	Scope	CO_2 [ton]	%
Scope 1: Direct CO_2 emissions			
• Fuel consumption for business traffic (lease and rental)	scope 1	13,3	16%
Scope 2: Indirect CO_2 emissions			
• Heat consumption (energy)	scope 2	28,2	34%
• Electricity usage	scope 2	0	0%
• Electricity lease car	scope 2	0,1	0%
• Business traffic private cars	scope 2	27,0	32%
• Air travel	scope 2	14,5	17%
• Business public transport	scope 2	0,3	0%
Total		83,4	100%

Table 6.1b: Overview CO_2 emissions from scope 1 en 2 (divided)

6.2 Direct CO_2 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 CO_2 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 CO_2 emissions.

Scope 1: Direct CO_2 emissions	CO_2 [ton]	%
Scope 1: Fuel consumption		
• Fuel consumption lease cars	9,9	74%
• Fuel consumption rental cars	3,5	26%
Total	13,3	100%

Table 6.2: CO_2 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]	%
• Warmth consumption (energy)	28,2	40%
• Electricity consumption	0	0%
• Business travel electricity lease cars	0,1	0%
• Business travel private cars	27,0	39%
• Air travel	14,5	21%
• Business travel public transport	0,3	0%
Total	70,1	100%

Table 6.3a: CO_2 emission Scope 2 Indirect Emissies

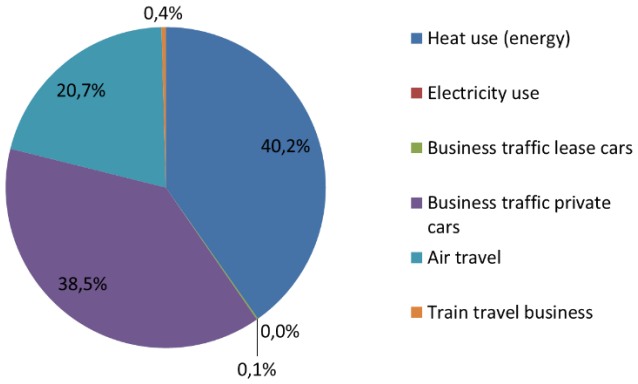

Figure 6.3: Overview CO_2 emissions from scope 2 (divided) (source 03-738902)

6.3.1 Warmth 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	Factor (gram / unit)	CO_2 [ton]	%
Warmth consumption	STEG	785	35970	28,2	100%
Electricity	Wind	206.926	0	0	0%
Total				28,2	100%

Table 6.3b: CO_2 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	1.276	297	0,4	3%
Travel distance >=700 - <2.500 km	49.604	200	9,9	68%
Travel distance >=2.500 km	28.592	147	4,2	6%
Total			14,5	100%

Table 6.3d: CO_2 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	Type	km's	Factor (g/km)	CO_2 [ton]	%
Train type unknown		132.382	2	0,3	100%

Table 6.3e: CO_2 emission Scope 2 Indirect emissions: business travel public transport

7. Progress, trends and targets compared to the reference year (2012)

This is the seventh report and contains a representation compared to the reference year 2012 for Ricardo Nederland. The reference year has been recalculated on the basis of the SKAO manual version 3.1. The Annual Report for 2020 will be published on http://www.werkenbijricardorail.nl 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
Fuel consumption business travel	8	6	0	16	38,1	51,8	30,1	21,2	13,3
Warmth consumption (energy)	33	11	9	30	33,7	30,7	30,5	30,2	28,2
Electricity usage	140	140	116	0	0	0	0	0	0
Business travel private cars and rental cars	62	57	60	51	99,2	29,2	29,4	22,1	27,0
Air travel	169	142	141	111	107,7	135	124,4	72,8	14,5
Business travel public transport (train)	9	-	-	9	11,1	16,9	2,8	3,5	0,3
Total	423	357	326	218	289,8	264,1	217,2	149,8	83,4
	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
Heat consumption (energy)	0,17	0,06	0,05	0,14	0,15	0,13	0,14	0,15	0,15
Electricity consumption	0,74	0,73	0,60	0	0	0	0	0	0
Business traffic private cars and rental cars	0,34	0,29	0,31	0,24	0,45	0,13	0,13	0,11	0,15
Air travel	0,93	0,73	0,73	0,53	0,48	0,58	0,57	0,37	0,08
Business travel public transport (train)	0,05	-	-	0,04	0,05	0,07	0,01	0,02	0
Total	2,27	1,84	1,69	1,03	1,30	1,14	1,00	0,78	0,45

Table 7.1a: CO_2 emission compared per year

** Reference 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.*

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

Absolute CO_2 FTE

	CO_2[ton/year]								
	2012*	2013	2014	2015*	2016	2017	2018	2019	2020
Total	423,1	355,3	324,6	217,7	289,8	264,1	217,2	149,8	83,4
	CO_2 [ton/fte]								
	2012*	2013	2014	2015*	2016	2017	2018	2019	2020
Total	2,22	1,87	1,69	1,04	1,30	1,14	1,00	0,78	0,45

Table 7.1b: CO_2 emission compared per year

** Base 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 with recalculation from reference year if emission factors changes.*

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

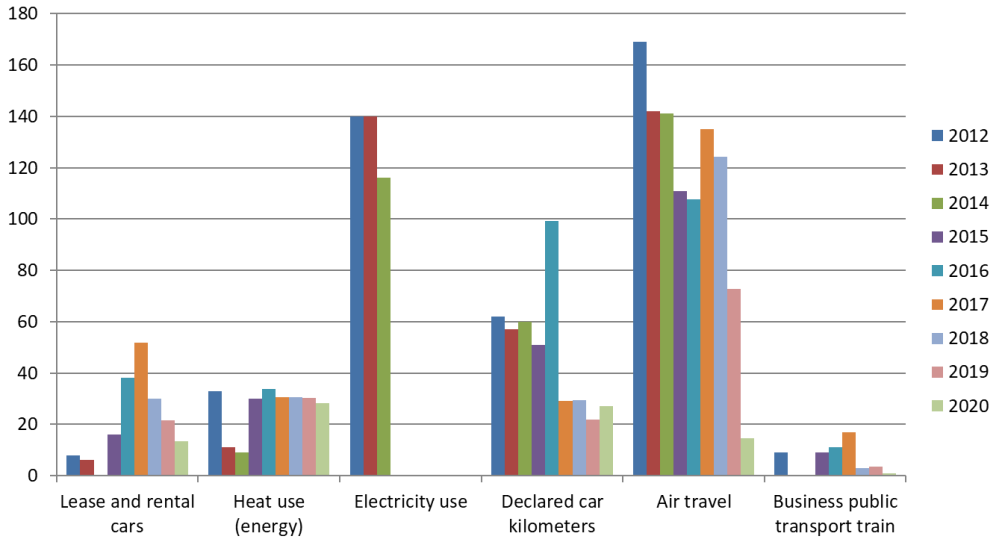

Table 7.1c: CO_2 emission trends based on table 6.1 b with emission factors 3.0 (except 2013 and 2014). Business travel train added in 2015 and changed the reference year 2012 accordingly.

7.2 Goals, progress and conclusion

In response to the reference year, a target in 2015 for energy and CO_2 reduction (approach B) has been formulated for the period 2012 - 2020.

Ricardo Nederland's objective is to reduce CO_2 emissions by 67% (measured per FTE) in the period 2012-2020 compared to the reference year 2012. This objective has now been tightened for the second time from 55% to 67% given the realization over the past years. The previous tightening concerned from 41.3% to 55%.

The targets for the distribution per scope up to and including 2020 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
CO_2 ton	423	218	289,9	264,1	217,2	149,8	83,4
CO_2 Ton/FTE	2,22	1,039	1,30	1,14	1,00	0,78	0,45

Table 7.2 Realisation CO_2 footprint

Because of COVID-19 less billable consultancy hours have been made in 2020 and the result was therefore less than in the previous year. This has also translated into less business travel compared to the previous year. In total there has been 64,4 CO_2 tons less emissions from travel compared to 2019.

Compared to 2019, a lower value can be seen on almost all different aspects. An increase can only be seen in the use of the private car for business purposes. All this can be explained by the effects of Covid-19.

The conclusion is that in 2020 the CO_2 emissions per FTE have decreased compared to 2019. In 2020 the realization of 0,45 ton/FTE is well below the target of 0,73 ton/FTE in 2020. Also the targets per scope have been achieved with a deviation of 1%.

At the end of 2021, the office will be relocated to a different and smaller location. In addition, Covid-19 also have had and will be having a major but also unpredictable impact on our CO_2 emissions. Therefore, a new objective is issued for only 2021. Ricardo Nederland's objective is to reduce CO_2 emissions by 70% (measured per FTE) in the period 2012-2021 compared to the reference year 2012. This objective has now been tightened for the third time.

7.3 CO_2 Performance Ladder from level 3 to level 5

In 2015, management decided to qualify Ricardo Nederland for level 5 on the CO_2 Performance Ladder.

A qualitative and quantitative chain analysis (03-761101) has been carried out for 2020 to calculate the upstream emissions for requirements 4.A.1 and 5.A.1 The scope 3 emissions mainly consist of (in order of size) :

Scope 3 emissions	Size CO_2 ton	Influenceable	Source
1. Purchased Goods & Services	1.529	Moderate	2012 Guidelines to Defra / DECC's GHG Conversion Factors for Company Reporting
2.Waste generated in operations	478	Moderate	Prognos, 2008. "Resource savings and CO_2 reduction potential in waste management in Europe and wijzigen the possible contribution to the CO_2 reduction target in 2020";

Actions for scope 3 reduction are:

- Asking suppliers about sustainability of delivered products and alternatives. Tightening purchasing policy (obligation to implement CO_2 reduction policy).

- Waste separation; paper, plastic, greenery, other, glass, ICT waste, KGA
- Reduction in public transport limited possible.

  Mention of PD- MRPI-certificate (in accordance with Harmonization decision 22).

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 http://www.werkenbijricardorail.nl and at the SKAO website (initiative D). The results for 2013 to 2020 can be found in appendix A.1.3. See A.1.6 for an analysis of the SKAO's List of Measures 2020.

The results achieved in the first half of 2020 are shown in *italics* below. Although in 2020the results for the first six months are not separately mentioned on the website, they will be mentioned separately for 2020 when the data is published.

7.4.1 Results for the year 2020

- Transferring of report to manual 3.1 of SKAO - Realised
- Promoting Teams for meetings, so that no or less travel is required. - Ongoing
- Encouraging the use of trains instead of aircraft.Ongoing

  The CO_2 reduction due to less travel per component will influence scope 1 and 2 ánd actions that have overlap with scope 3.Ongoing

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 / CO_2 footprint for 2020 - .Realised

Certification for the CO_2 Performance Ladder level 5 by an external organisation over 2020 - Ongoing.

7.5 Supplementing opportunities for 2021

The various opportunities for savings are not only focused on energy, but have been identified for the environment as a whole. Concrete plans for the period 2021-2022 are:

- Change of housing, less m^2, more working from home, more modern building with more environmentally friendly options

8. Reporting in accordance with NEN-ISO 14064

This report has been drawn up in accordance with the requirements of NEN-ISO 14064-1; 2006 chapter 7 and paragraph 7.3 for the mandatory elements of this paragraph. In this chapter the cross-references have been included to make the report transparent.

NEN ISO 14064-1	§7.3 GHG report content	Description	Chapter present report
	A	Reporting organisation	
	B	Person responsible	
	C	Reporting period	
4.1	D	Organisational boundaries	2.2
4.2.2	E	Direct GHG emissions	3
4.2.2	F	Combustion of biomass	2.5.4 / n/a
4.2.2	G	GHG removals	2.5.4 / n/a
4.3.1	H	Exclusion of sources or sinks	2 / 3
4.2.3	I	Indirect GHG emissions	3
5.3.1	J	Base year	4
5.3.2	K	Changes or recalculations	n/a, first report
4.3.3	L	Methodologies	3
4.3.3	M	Changes to methodologies	n/a, first report
4.3.5	N	Emission or removal factors used	2 / 3
5.4	O	Uncertainties	2.6
	P	Statement in accordance with NEN-ISO 14064	1.2
	Q	Statement on the verification	Attachement, if available, not required

Table 8: Comparison ISO 14064 and report

9. Literature

- Royal Netherlands Meteorological Institute (2010), Data of the weather in the Netherlands, http://www.knmi.nl/klimatologie/daggegevens/download.html?language=nl
- 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
- Greenhouse Gas Protocol (2004+2012), Corporate Accounting and Reporting Standard, revised documents.

The GHG Protocol consists of several modules. Manual 3.1 refers to three modules: • A Corporate Accounting and Reporting Standard: 2004. • Corporate Value Chain (scope 3) Accounting and Reporting Standard: 2011. (in Manual 3.1, this standard is referred to as 'GHG Protocol Scope 3 Standard') • Product Life Cycle Accounting and Reporting Standard: 2011. www.ghgprotocol.org.

- Green Gold Label See 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 14064-1:2018

NEN-EN-ISO 14064-3:2019

- www.movares.nl in connection with the comparison of energy consumption in GJ for district heating consumption.
  www.kwa.nl/graaddagen-en-koeldagen from KWA business advisers and KNMI for heat calculations.
- www.skao.nl in connection with the CO_2 Performance Ladder, generic manual V3.1 22 June 2020 of SKAO.
- www.CO_2emissiefactoren.nl – calculating the CO_2 emissions with the CO_2 emission factors.

NEN-EN-ISO / IEC 17021-1: 2015 Description: Conformity assessment - Requirements for bodies providing audits and certification of management systems - Part 1: Requirements

A.1 Bijlagen

A.1.1 SMK Greenchoice

CERTIFICAAT

MILIEUKEUR
GROENE ELEKTRICITEIT

QS Certification verklaart op basis van toetsing dat het hieronder vermelde product voldoet aan de eisen van het certificatieschema Milieukeur Groene Elektriciteit, dat werd vastgesteld door het Centraal College van Deskundigen Milieukeur non-food van SMK.

Certificaat nummer	:	QSC-16022011
Certificaat houder	:	Greenchoice Pieter de Hoochweg 108 3024 BG Rotterdam
Productnaam	:	100% Nederlandse Wind
Productsoort	:	Windenergie
Land van herkomst	:	Nederland
Code en nr. certificatieschema	:	GE.10 / MK.67

Dit certificaat vervangt certificaat DNV287970 van 26 juni 2015 en heeft een onbepaalde geldigheidsduur. Actuele informatie over gecertificeerde producten en certificatieschema's staat gepubliceerd op www.milieukeur.nl.

Bennekom, 27 juni 2016

Quality Services Certification BV

Certificatie Manager

P.G.M. Roelofs

Algemeen Directeur

J. Bronsvoort

QS
Kierkamperweg 33
6721 TE Bennekom

P.O. Box 46
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W www.qsbv.com

QSC-16022011
QS Certification
F14.2C

A.1.2 Results 2013-2019

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 / CO_2 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 CO_2 footprint reports by an external organisation will be realised in mid-2015. Was realised on May 1, 2015.
- Internal and external communication of our CO_2 footprint and progress on measures can be further refined. Continuous point of attention.
- Certification for the CO_2 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/ CO_2-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 / CO_2 footprint for 2014. Realised on April 17, 2015.

- Verification of the prepared CO_2 footprint by an external organisation (delayed measure from 2014). Realised May 1, 2015.
- Internal and external communication of our CO_2 footprint and progress on measures. Has been brought to the attention by the CSR Environment communication plan and the Communication Manager.
  Certification for the CO_2 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 CO_2 emissions in the next 5 years. Continuous.
- Drawing up an energy balance/ CO_2 footprint for 2015. Realised in April 2016.
- Internal audit February/March 2016. Completed in April 2016.
- Internal and external communication of our CO_2 footprint and progress on measures. Continuous.
- Transition to CO_2 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 CO_2 Performance Ladder for Ricardo Certificering B.V. May 2016. Realised.
- Reassessment for the CO_2 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 CO_2 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 CO_2 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 themself 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 CO_2 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 revovation 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 CO_2 emissions in the next five years.
- Drawing up an energy balance/ CO_2 footprint for 2016. Realised
- Internal and external communication of our footprint and progress on measures. Realised
- Certification for the CO_2 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 CO_2 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/ CO_2 footprint for 2019. Realised.
- Certification for the CO_2 Performance Ladder level 5 by external organisation for 2019. 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 Legislation Management Plan, Aspect and Impact Register hya 559824. In progress.
- When purchasing new raw materials, research is first conducted into alternatives that are less harmful to the environment. Is being done.

Waste separation

- Better separation of various waste flows. This has our constant attention.
- Consult with the waste collector about further separation options. Cannot be further separated in this housing. No insight into the amount of standard waste (paper, green, other, glass, plastic), but we do have for separate disposal of computer waste.

Renewable energy

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

Sustainability in general

- Send all invoices digitally. Has been realised.
- Receiving digital invoices is preferred. Has been realised.

Communication

- Periodic internal and external communication about the progress of the energy reduction targets (requirement(s) for the CO_2 Performance Ladder). Footprint, objective, target, progress, measures every six months
- Periodic internal and external communication about the Carbon footprint (requirement(s) for CO_2 Performance Ladder). Semi-annually
- The CSR report is periodically reviewed and sent on request. Digital version can be found on the website. Version 2016 - 17 is available.
- Encouraging individual contribution and ideas from all employees and, if possible, from visitors/guests.

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) - annual, 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 identifiedd deviations to realise 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, mice, keyboards and telephones - hya 560344
2. Contractual agreement with Greenchoice 2019 - 2020, contract runs until 1-1-2021. Adjust in due course.

Our energy purchase is based on 100% green wind energy with SMK certificate.

Supplier	Year	High	Low	Total consumption	Difference from previous year
Essent fixed	2012-2013	206.213	102.312	308.525	
Essent variable	2013-2014	209.755	98.034	307.789	-736
Greenchoice 3 yr fixed	2014-2015	202.800	92.033	294.833	-12.956
Greenchoice 3 yr fixed	2015-2016	202.983	87.131	290.114	-4.719
Greenchoice 3 yr fixed	2016-2017	176.758	95.731	272.489	-17.625
Greenchoice 3 yr fixed	2017-2018	147.173	94.695	241.868	-30.621
Greenchoice 3 yr fixed	2018-2019	144.224	96.573	240.797	-1.071
Greenchoice 3 yr fixed	2019-2020	139.270	80.989	220.259	-20.538
Greenchoice 3 yr fixed	2020-2021	120.059	79.088	199.147	-21.112

Overview of energy consumption per year in Kwh

3. In 2016, a renovation took place whereby the lighting was replaced by LED. The difference in consumption with the previous period is included in hya 661753 and visible in the Joulz e-Data portal.
4. Large-scale consumer is our server space.
5. Climate control is provided by the landlord Klépierre, with the exception of the fan coil units.
6. Net floor area 3,998.3 m2 - hya 634467. In 2020 we assume 185 FTE.

An energy report and analysis is available via the Joulz e-DataPortal.
https://joulzdiensten.nl/inzicht/e-dataportal

This provides insight into energy consumption and CO_2 emissions. We have an overview of the different periods, so that we can make a comparison with previous years.

A.1.4 Adjust policy statement CO_2 Performance Ladder Ricardo Nederland in 2021

HYA 03-789396

Policy statement CO_2 Performance Ladder Ricardo Netherland

Utrecht, May 3, 2021

Ricardo Netherland 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 CO_2-conscious business operations. This results in a continuous improvement of our emission reduction policy and a growing awareness of employees.

CO_2 ambition

In response to the footprint determination for our base year 2012, a CO2 reduction target has been formulated for the period 2021. This is as follows:

Ricardo Nederland's objective is to reduce CO_2 emissions by 70% (measured per FTE) in the period 2021 compared to the base year 2012.

The targets for the distribution per scope up to and including 2020 are 15% for scope 1 and 85% for scope 2 respectively.

The company's CO_2 footprint indicates that CO_2 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 CO_2 emissions. This will take place in as many areas and reference points as possible in the chain.

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 CO_2 reduction;
- Structural internal and external communication about the results and intentions achieved;
- Creating awareness of the topic of CO_2 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 CO_2 Performance Ladder. Publications are visible on www.werkenbijricardo.nl 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 Netherland,

Richard Laan

Manager Finance, ITC & Sales Support

1.1.5 Analysis List of Measures CO_2 Performance Ladder 2020 SKAO

Below is an overview of the measures as stated in the CO_2 Performance Ladder 2020 SKAO Measure List. These measures have been implemented in recent years. The history as well as of the past year 2020 are stated and the category and ranking are also stated per measure.

Advice

Various measures were implemented in 2014 to 2017. Ranking: 2 times A, 2 times C.
No additional measures have been taken from 2018.

ICT

Data centers and Power Usage Effectiveness (PUE) do not apply.

Offices

Various measures have been implemented since 2014. Ranking: 3 times A, 2 times B and 2 times C. From January 2020, the office has the energy label A and sustainable heat is used for space heating for more than 80% of the user surface.

Logistics and transport

One measure was implemented in 2017. Ranking: 1 times C. The other things do not apply to us.

Material use / Scope 3

In 2019, additional reducing measures were taken in terms of development. Namely: follow me printers and digital pay slips. The 5th floor has also been rented out to make more efficient use of the office space. Ranking 1 x A.

Subcontractors and suppliers

No measures feasible for Ricardo.

Organisational policy General

One measure was implemented in 2017. Ranking: 1 times A.

2018: LED lighting installed in 2016. Ranking: 1 times A.

2019: CO_2 awareness among employees increased. For several years now, attention has been paid to environmental aspects in the induction program. Also several times a year HSEQ News Flash with a focus on CO_2. Ranking: 1 x B.

People mobility

Various measures have been implemented since 2015. Ranking: 3 times A, 1 times B, 4 times C.

2018: A charging option for electric vehicles has been created in the parking garage. 2019 Newly purchased lease cars have a CO_2 emission avg. 80 g/km. Making bicycle available: 2 bicycles available for short trips in the Utrecht area for years. As a result of Corona measures, employees are structurally working from home in accordance with category C.

Not selected activities

The following activities have not been selected: Material use, Hydraulic engineering Ships, Equipment, Construction site, Waste, Industrial halls and sites, Tendering, Business processes. Use of materials that absorb CO_2. Avoided emissions from third parties, Green maintenance ...

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	Intranet, internal mail	Internal	Semi-annually	Increase internal awareness of theCO_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	Annually	Publish documentation associated with requirement 3.D.1 and update the list of measures annually

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