Arup bv

CO2 Performance Ladder

Management Review 2021

ISSUE | 25 May 2021

Dit rapport is opgesteld met inachtneming van de specifieke instructies en eisen van de opdrachtgever. Gebruik van (delen van) dit rapport door derden, zoals bijvoorbeeld (maar niet beperkt tot) openbaarmaking, vermenigvuldiging en verspreiding is verboden. Arup aanvaardt geen enkele aansprakelijkheid jegens derden voor de inhoud van het rapport, noch kan een derde aan de inhoud van het rapport enig recht ontlenen.

Opdracht nummer 074764-56

Arup bv
Postal address:
PO Box 57145
1040 BA Amsterdam
Visitor address:
Naritaweg 118
1043 CA Amsterdam
The Netherlands
www.arup.com

ARUP

Document Verificatie

ARUP

Opdracht titel		CO2 Performance Ladder			**Opdracht nummer** 074764-56
Document titel		Management Review 2021			**Dossier referentie**
Document ref					
Versie	**Datum**	**Dossiernaam**	Memo Directiebeoordeling CO2 Prestatieladder_2021_DRAFT1.docx		
Draft 1	16 May 2021	**Dossiernaam**	Memo Directiebeoordeling CO2 Prestatieladder_2021.docx		
		Omschrijving			
			Voorbereid door	Gecontroleerd door	Goedgekeurd door
		Naam	Paul van Horn	Martin Koster	Tudor Salusbury
		Handtekening			
ISSUE	25 May 2021	**Dossiernaam**	Directiebeoordeling CO2 Prestatieladder_2021.docx		
		Omschrijving	Checked		
			Voorbereid door	Gecontroleerd door	Goedgekeurd door
		Naam	Paul van Horn		
		Handtekening			
		Dossiernaam			
		Omschrijving			
			Voorbereid door	Gecontroleerd door	Goedgekeurd door
		Naam			
		Handtekening			
				Uitgifte Document Verificatie met Document	✓

Inhoud

			Pagina
1	**Introduction**		**1**
2	**Status on actions, mitigation measures and audits**		**2**
	2.1	Actions	2
	2.2	Mitigation measures	2
	2.3	External audit	2
	2.4	Internal audit	2
3	**Changes relevant to CO2-ladder**		**3**
4	**Review CO2-portfolio**		**4**
	4.1	Communication	4
	4.2	Energy & Emission performance	4
	4.3	Comparison with competitors	5
	4.4	Measures list	6
	4.5	Initiatives	6
5	**Progress on implementation energy management plan**		**7**
6	**Progress on reduction goals**		**8**
	6.1	Reduction goals	8
	6.2	Previous results	9
	6.3	Likelihood of success	10
7	**New proposals**		**11**
8	**Recommendations**		**11**
9	**Decisions**		**12**
	9.1	Management plan	12
	9.2	Reduction targets, measures and initiatives	12
	9.3	Improvements	12
10	**Conclusions**		**13**
	10.1	Efficiency within organization	13
	10.2	Probability of reaching reduction targets	13

1 Introduction

As part of the CO2-Performance Ladder (CO2-PL) the board of the organization annually reviews the implementation of the CO_2-performance ladder. This document is an overview of our status and progress to inform the management team. It records decisions made to proceed efficiently. The following chapters are an overview of the status of progress, a review of our CO2-portfolio, progress on goals and measures, proposed action and decisions made in the management meeting.

All figures used in this report originate from the source file Environmentaldata 20210428 v6.0. This file contains all historical data and calculations. The file was audited internally on 14 April 2021 and locked after close out. The date and version number reflect the file after closing out the audit remarks. The remarks of the internal audit are included as an appendix.

2 Status on actions, mitigation measures and audits

2.1 Actions

See Energy Management Plan 2020 for actions.

Action	Status
1. Contact Amsterdam landlord for a price quote on 100% green energy	done
2. Energy audit self assessment	done
3. External energy audit Amsterdam office	ongoing
4. Validation of historic energy use data	done

2.2 Mitigation measures

All required actions are set in motion, completion foreseen within the coming 3 months.

2.3 External audit

External audit by Bureau Veritas was postponed from November to March. The two day audit was concluded on 8 April 2021. The final review is planned for 28 May 2021.

Next external audit to be held not yet fixed.

2.4 Internal audit

The internal audit of documents was done on 14 April 2021. All audit findings were closed out. The audit reports are included for reference.

3 Changes relevant to CO2-ladder

The main changes relevant to CO2-performance ladder system comparing to 2019 and the previous years are:

1. Reporting shifted to calendar year to improve the quality of data;
2. The Energy management plan includes a forecast until 2030;
3. Reporting includes reference to the Arup Global Net Zero Emissions plan and effect of the measures on the GHG Inventory and Energy Management Plan;
4. Action to rectify change of electricity supplier has been set in motion for Amsterdam office, with Groningen office to follow suit.

For more information, see Energy Management Plan 2020, updated in May 2021.

4 Review CO2-portfolio

4.1 Communication

An important part of the CO2-ladder is the way we communicate. The communication plan was updated in May 2021.

Current ways of communication: Arup website, Sustainability report, SKAO website, Group meetings.

- Updates on TV screens were halted because the office was closed throughout 2020.
- Website information has last been updated in January 2018, this will be updated in June 2021.
- SKAO website has been updated in May 2021 with a new CO2 portfolio 2020 plan.
- Sustainability report 2020 is under preparation and is expected to be published in May 2021.
- Participation in the RWS SBIR Circular Viaducts has been published on LinkedIn and on the website of Arup and Heijmans.

4.2 Energy & Emission performance

The year 2020 was an exceptional year in terms of carbon reduction. We achieved all our goals due to extensive working from home and complete lack of air travel from March 2020 onwards.

For 2021 a slow return to the regular business cycle is expected starting from September 2021. To get a full picture refer to the Energy management plan 2021-2030. A summary of carbon emissions per FTE per year below.

Figure 1 Total carbon emissions per FTE 2013-2030

[source Analysis 2020 tab Environmentaldata 20210428 v6.0]

At this moment the reference year for carbon emissions is 2018 and any progress will be measured against those figures. Leaving out 2020 and 2021 as anomalies, the next full regular year of measuring will be 2022. The carbon reduction ambitions of the Arup ER Net zero emissions plan and the local CO2 Performance ladder have been incorporated into these targets.

Scope	**Source of emission**	**CO_2 -emission [kg CO_2-/FTE]*** **	**Reduction Ambition**	
		2018	2022	2022 target
Scope 1	Business travel: lease cars	292	60%	117
Scope 2	Business travel: private cars	153	Equal	158
	Air travel	1291	20%	1055
	Electricity	110	Equal	81*
	Heating	405	Equal	446**
	Business travel: public transport	14	70%	4
Scope 3	Commuting	1099	76%	271**
Total				
Scope 1,2 en 3		3.364	26 %	2.484

* Assumes green power for Amsterdam office, if not the total for Amsterdam and Groningen will be 781 tons per year per FTE.

** Figures look distorted. Need to improve measurements.

*** Targets per FTE differ slightly from overall targets due to changing number of FTE.

Figure 2 CO2 Emission Reduction Ambition

For more detailed information on our CO2 emission performance see the CO2-portfolio_GHG Inventory_FY 2020

The report outlines the CO2 emission performance boundaries, the method, assumptions and data sources used for the calculation of our CO2 footprint, as well as the uncertainties included in the calculation. Moreover, it gives a detailed overview of our CO2 performance in 2020.

4.3 Comparison with competitors

The previous report showed a lower carbon emission than our competitors in 2017. Due to the exceptional circumstances this comparison can’t be made for 2020. We will again publish a comparison for the year 2022.

4.4 Measures list

The SKAO has a list of mitigation measures that can be implemented, with different ambition levels. For our offices and mobility, we are at B level Vooruitstrevend and for our project work we are working at A level Standaard, see CO2-PL Measures List 2021. Relevant targets in this list were incorporated into the Energymanagementplan. The SKAO report is added as an appendix for reference.

4.5 Initiatives

Active participation to chain initiatives related to CO2 reduction is required. Our participation is reported in the CO2-portfolio_Participationplan_2020.

Currently we are involved in the following sector initiatives;

- Duurzaam GWW
- Madaster
- Circle Economy
- Leeromgeving ‘Circulair viaducts & Bridges’
- SBIR Circulaire viaducten
- Green business club Sloterdijken
- Bouwcampus Materialen met toekomst: Hout in de GWW
- RWS Roadmap naar klimaatneutrale en circulaire kunstwerken in 2030.

5 Progress on implementation energy management plan

The focus point of the current energy management plan is on our air travel emissions and our commuting emissions. An important action is the implementation of the new mobility plan, which has the goal to set actions and make the necessary changes in the way we travel that are in line with our ambition in the energy management plan.

The current progress is;

- The effects of the Mobility plan introduced in January 2019 have been remarkable, in part also because of the 2020 COVID19 crisis. Commuting is at an all-time low, as is airtravel. Overall emissions in 2020 were 63% lower than in 2018.
- The policy regarding short distance business air travel emission is included in the new mobility plan with a steering mechanism for controlling this. Destinations in Belgium, Germany, United Kingdom and France are preferably traveled by train (first class allowed).
- More accurate measurement of commuter emission is developed as part of the new mobility plan (Reisbalans). The figures for 2020 provide good data, but the year 2020 is not a typical year.

GHG inventory			2018=100
	2018	2020	2020
Scope 1			
Lease cars	82.080	27.982	-66%
Scope 2	554.201	291.520	-47%
Electricity [1]	30.874	92.366	199%
Heating	113.728	115.272	1%
Business travel private car	42.966	27.243	-37%
Business travel public transport	3.984	1.270	-214%
Business travel airplane	362.649	55.369	-85%
Scope 3	308.863	29.918	-90%
Commuting private car [2]	308.863	25.352	-92%
Commuting public transport	-	4.567	
Paper consumption	-	-	
Total	945.144	349.421	-63%

[1] Note: electricity up in 2020 due to shift in energy supplier, from green to grey. Objective is to go back to green energy, saving around 110 tons yearly. The figures for 2020 were lower than 110 tons due to the first 6 months of green electricity.
[2] Note: commuting in 2018 was not split up into private car and public transport. 2020 was an anomaly due to COVID. Further investigation of these figures needed.

Figure 3 Carbon emissions kg Source: Environmentaldata 20210428 v6.0

6 Progress on reduction goals

6.1 Reduction goals

Effective from September 2020 Arup has set global carbon reduction goals as part of the Net Zero Carbon Strategy. As part of aligning these goals with the CO2 performance ladder goals we will tackle these as joint efforts. There is some alignment required as to the exact definition of the various scope elements. These will be clarified in the course of 2021.

Figure 4 Net Zero Carbon Strategy goals Arup

GHG inventory				2018=100	
	2018	2020	2021*	2020	2021*
Scope 1					
Lease cars	82.080	27.982	20.226	-66%	-75%
Scope 2	554.201	291.520	271.459	-47%	-51%
Electricity	30.874	92.366	51.947	199%	68%
Heating	113.728	115.272	109.269	1%	-4%
Business travel private car	42.966	27.243	19.042	-37%	-56%
Business travel public transport	3.984	1.270	539	-214%	-271%
Business travel airplane	362.649	55.369	90.662	-85%	-75%
Scope 3	308.863	29.918	65.307	-90%	-79%
Commuting private car	308.863	25.352	62.966	-92%	-80%
Commuting public transport	-	4.567	2.341		
Paper consumption	-	-	-		
Total	945.144	349.421	356.993	-63%	-62%

Figure 5 GHG Inventory

6.2 Previous results

Figure 6 Total carbon emissions per FTE 2013-2030

[source Analysis 2020 tab Environmentaldata 20210428 v6.0]

The results for 2013-2020 show a decline in carbon emissions with the lowest emissions in 2020. The year 2021 is projected to show a similar trend although lifting of COVID restriction expected in autumn 2021 will lead to travel increases. The years beyond 2020 are forecast based on existing lease contracts and realistic reduction targets.

6.3 Likelihood of success

Achieved carbon reduction in 2020 have shown the viability of reducing carbon emissions whilst maintaining a healthy company. Although the present way of working can't be sustained without adverse effects for a long time, remote working and flexible working hours are now being investigated as an option.

7 New proposals

The following actions are proposed to comply with the requirements of the CO2-prestatieladder and to achieve the Arup wide carbon reduction goals.

1. Go back to green electricity through our landlord AroundTown. Main energy can supply Dutch windpower for an extra of 2,50 €/MWh. Our current electricity use is estimated at 275 MWh yearly. This will cost us around € 750 yearly. Our landlord made the condition that all tenants should be switching to green electricity at the same time. The proposal is to pay for the switch for the full building for 1 year and in the meantime convince all tenants to switch. This would mean paying € 1500 yearly extra once and € 750 yearly after that.
2. Resume creation of yearly Sustainable Development report, showcasing our best national and international projects for internal and external use.
3. Improve CO2 impact of our projects by using the DuboCalc tool on at least two projects
4. Develop sustainability dashboard for project in PowerBI, currently being developed for inclusion in a bid for RWS (Balgzandbrug).

8 Recommendations

Reporting on CO2 performance ladder targets and Arup Net Zero Carbon targets to be aligned and to be published half yearly in March for the preceding calendar year and in September for the preceding first half of the calendar year.

9 Decisions

This memo will be discussed in the management meeting on 25 May 2021.

The decisions below have been made and will be implemented.

9.1 Management plan

Feedback from MT.

9.2 Reduction targets, measures and initiatives

1. Reduction target for 2021 and 2022: reduce airtravel by 30%
2. Reduction target for 2021 and 2022: reduce commuting with 20% by partially continuing home working one day a week.
3. Reduce carbon from electricity in Amsterdam to zero before end of June by changing supplier. First year additional service cost € 2000, after that € 1000 (based on all tenants accepting green electricity).
4. Reduce carbon from electricity in Groningen to zero before end of September by changing supplier.
5. Involve Business Units in developing participation plans, list out possibilities and provide options to BU leaders.

9.3 Improvements

The following improvements will be implemented;

1 Develop PowerBI dashboard sustainability into a useable tool for monitoring sustainability; SD manager

10 Conclusions

Due to the exceptional COVID19 conditions we are ahead of reaching our goals, but that has only partially been through our own actions. We need to use the time given to prepare for further reductions.

10.1 Efficiency within organization

Data collection and monitoring to be improved. First step was to improve the data collection sheets.

Reisbalans needs to improve reporting and clear lines of communication with Reisbalans have to be established.

10.2 Probability of reaching reduction targets

The probability of reaching the reduction targets is high in the present circumstances. In the longer run it will depend on the monitoring and reporting of data to all concerned. Air travel is the main focus, since commuting is actively promoted by public transport.