FACTSHEET 2022: ESG update CO2PL

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Method

The CO2 Performance Ladder is a certification program for organizations that are actively working to reduce their CO2 emissions. FCC has achieved Level 5, which means that they have a comprehensive understanding of their energy consumption and CO2 emissions, have ambitious goals for reduction, are taking a leading role in the construction industry in promoting sustainability, and are taking responsibility for reducing their energy consumption and CO2 emissions throughout their value chain. To stay at level 5 the company must meet a fixed set of requirements, from four angles:

Angle A - Insight:
Determining the energy flows within the company, including all fixed locations within FCC NL and the VeenIX project, and the resulting CO2 Emission Inventory.

Angle B - CO_2 - Reduction:
Implement savings measures. General objectives and subdivided into S1, S2 and S3 objectives with concrete measures.

Angle C - Transparency:
The internal and external communication of the findings.

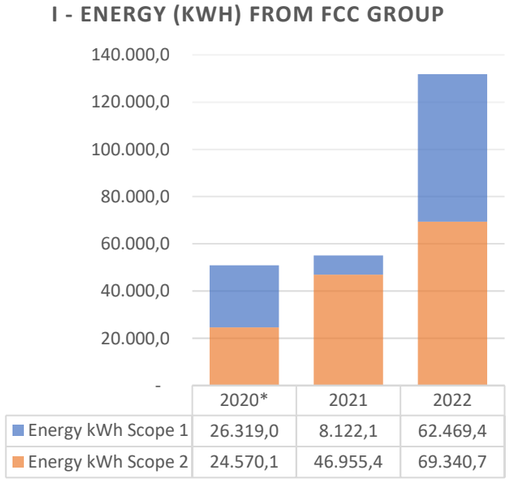
Angle D - Participation:
Participation in initiatives in which the company cooperates with other companies in the field of CO2 reduction (e.g., industry associations, collaborative projects).

The aim is to demonstrably incorporate these requirements into business operations. In doing so, we use the Deming cycle, plan, do, check, and act.

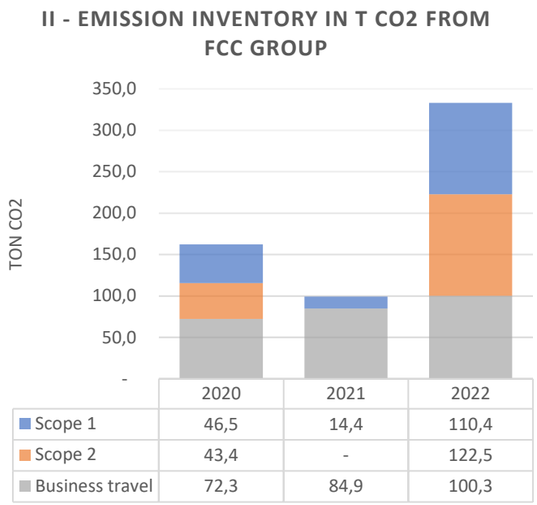
A-Insight

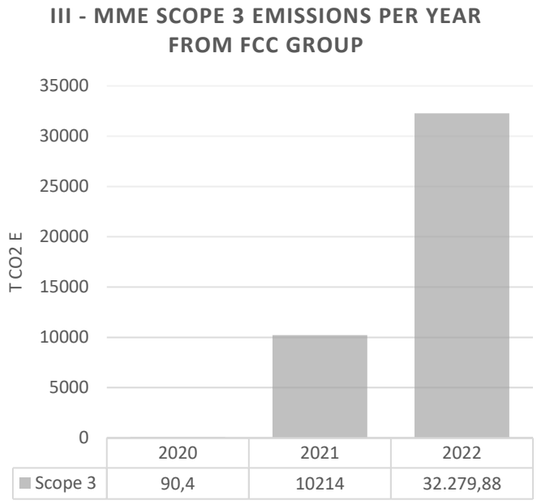
A periodic insight into CO_2 emissions, a concrete policy and package of measures to achieve reductions form the foundation of the ladder. In practice, the CO_2 Performance Ladder results in structural cost savings within the own organization and on the projects. The insight into energy consumption, this is based on all financial data (sustainability report) of FCC NL: Graphics states: I - Energy (scope 1 and 2), II - CO2 emissions (Scope 1, 2 and BT) and III - Scope 3

Insight into the Energy inventory over the past three years can be found in the graph below (Scope 1 and 2)



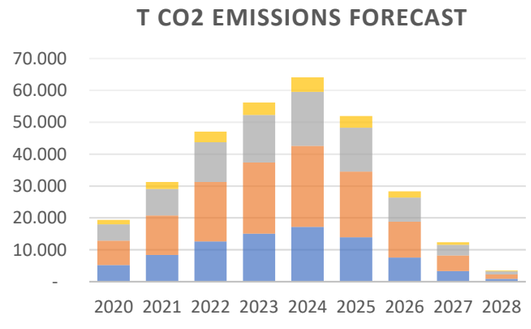
Below you will find inventory of GHG-emissions per scope

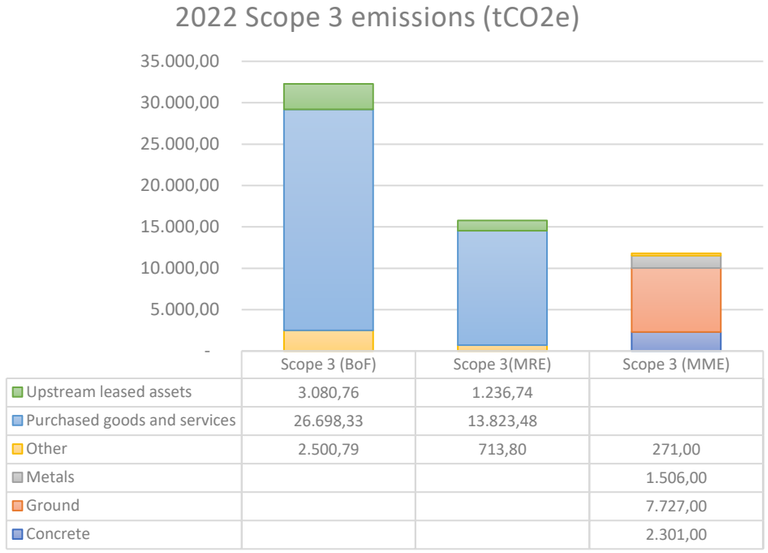




Scope 3 (Full Scope 3 see Sustainability Report 2022)

Below - Forecast and total GHG Emissions 2020 – 2028 (VEENIX):

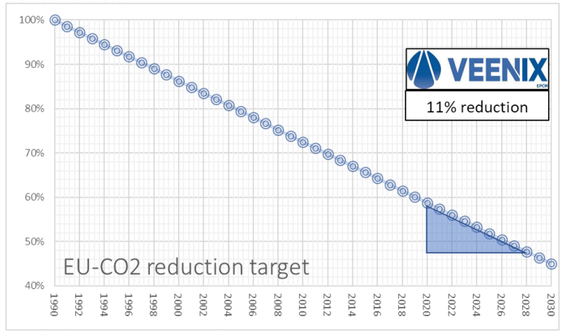




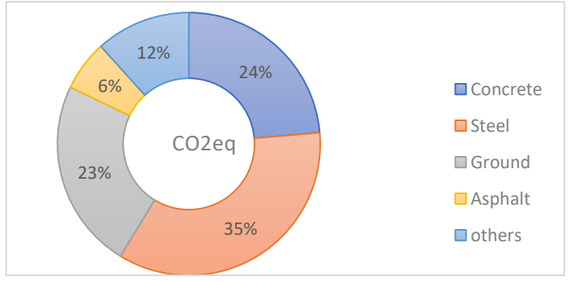
BoF is done by FCC Group and with dataset from CO2emissiefactoren.nl. MRE and MME are done with NMD/EcoInvent (LCA) version 3.8 and usages of stages A4 and A5.

B- CO2-reduction VFCC NL

The CO2 Performance Ladder aims to implement reduction measures on the project VEENIX. The relation between the EU CO_2 reduction targets and the reduction targets of FCC NL can be found below:



At FCC, most of the CO_2 emissions will take place at the construction site. Therefore to take big steps to reduce CO_2 emissions it makes more sense to do so where there is the most emission. Therefore, the reduction measures are focused on the construction sites instead of the office. The proposal for CO_2 reduction (in %)concerning the materials can be found in the graph below:



One of the measures is that green electricity is purchased on all new projects.
The big advantage of this is that due to the large increase in the demand for demonstrably green electricity, the supply of this will also increase rapidly.

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The reduction for scope 3, mainly upstream purchased goods, can be further subdivided into four main groups. The realized reduction will follow later in time:

Reduction target		
Scope 1	300 ton CO2eq	0
Scope 2	300 ton CO2eq	0
Scope 3	29.400 ton CO2eq	14.000

Table Reductions targets vs real estimation based on VO design

	Measure	Reduction target	Realised
Scope 3 – Asphalt	50% PR	3.500 ton CO2eq	
Scope 3 – Concrete	Reuse	9.250 ton CO2eq	
Scope 3 - Ground	Distance	21.000 ton CO2eq	
Scope 3 - metals	Recycling	1.250 ton CO2eq	4.500 ton CO2eq

Table Reductions targets vs real estimation based on VO design

Transparency

Up-to-date information is important for knowledge exchange and stimulation of innovation. Sharing efficient solutions inspires others. This also ensures that each other's good ideas can be used on project components and entities. For level 5, communication went from ad hoc to structural communication efforts internally and externally.

Participation

In 2022 FCC (NL) is looking at working together with others on our reduction measures such as re-using concrete beams (NGO Initiative) or an e-driver initiative.

Data above is derived from:
2020 – GHG emissions report FCC Construcción page 39
2021 – GHG emissions report FCC Construcción page 37
2022 – GHG emissions report FCC Construcción page 38

For the year 2020 we did not make our own calculation. For 2021 there were no calculations made for scope 3.

Emissions based on
ISO 14064-1 and ISO 50001
Boundary FCC NL

Scope 1 Directe emissies										**777,7**	**Ton CO_2e**
S1.1	Actor	Fuel used (Gas) office				2022	eenh	2022	eenh	79,2	Ton CO_2e
		Schurenbergweg 6		2,085	kg CO_2/Nm3 brandstof *)	37.969,00	Nm3	370.919	kWh	79,17	Ton CO_2e
S1.2		Business car travel								30,4	Ton CO_2e
		Leaseauto's		Cf	Eenheid	2022	eenh	2022	eenh		
		Gasoline 98		2,821	kg CO_2/liter brandstof	214,79	litre			0,6	Ton CO_2e
		Gasoline 95		2,821	kg CO_2/liter brandstof	8.326,93	litre			23,5	Ton CO_2e
		Diesel		3,262	kg CO_2/liter brandstof	1.929,98	litre			6,3	Ton CO_2e
S1.3		Fuel used generators				2022	eenh	2022	eenh	668,1	
		Diesel		3,262	kg CO_2/liter brandstof	204.820,00	Liter			668,1	Ton CO_2e
Scope 2 emissies of indirecte emissies										**118,2**	
S2.1		Energieverbruik offices								96,1	Ton CO_2e
		Green energy from EU source		Cf	Eenheid	2022	eenh	2022	eenh		Ton CO_2e
		Schurenbergweg 6	EU Wind	0,523	g CO_2/kiloWattuur	183.753,00	kWh			96,1	Ton CO_2e
S2.2		Energy use production locations								22,1	Ton CO_2e
		Green energy from EU source		Cf	Eenheid	2022	eenh	2022	eenh	22,1	Ton CO_2e
		Middeldorpstraat 7	EU Wind	0,523	kg CO_2/kiloWattuur	15.169,81	kWh			7,9	Ton CO_2e
		Ouderkerkerlaan 36	EU Wind	0,523	kg CO_2/kiloWattuur	2.433,20	kWh			1,3	Ton CO_2e
		Ouderkerkerlaan 50	EU Wind	0,523	kg CO_2/kiloWattuur	20.544,58	kWh			10,7	Ton CO_2e
		Rijksweg A9	EU Wind	0,523	kg CO_2/kiloWattuur	4.158,00	kWh			2,2	Ton CO_2e
Scope 3 emissies of overige indirecte emissies										**11.864,0**	**Ton CO_2e**
S3.1		Indirect emissies		Cf	Eenheid	2022	eenh	2022	eenh	59,0	Ton CO_2e
		Flights		0,172	kg CO_2/km	343261,1	km			59,0	Ton CO_2e
S3.1		Materials		Cf	Eenheid	2022	eenh	2022	eenh	11.805,0	Ton CO_2e
		Asphalt			kgCO2/Ton	6.672,00	Ton			204,0	Ton CO_2e
		Concrete			kgCO2/Ton	1.678,00	Ton			2.301,0	Ton CO_2e
		Ground			kgCO2/Ton	2.166.039,00	Ton			7.727,0	Ton CO_2e
		Steel			kgCO2/Ton	12.963,00	Ton			1.506,0	Ton CO_2e
		Other			kgCO2/Ton	6.368,00	Ton			67,0	Ton CO_2e