CO_2 progress report Organizational Boundary

January 01, 2021 until June 30, 2021

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1. Introduction

In line with the purpose of BESIX Group ***"Excel in creating sustainable solutions for a better world"***, BESIX aims to contribute to the transition to a low-carbon society.

As part of BESIX Group, BESIX supports the Sustainable Development Goals (SDG's), with a particular focus on SDG 13 on climate change. As an active member of the United Nations Global Compaxt, our group indeed recognizes the urgency of the climate challenge and addresses it as one of the main challenges of the construction sector.

In line with the Sustainability Forward program of BESIX Group, BESIX has decided in September 2020 to extend the boundary of her actual CO_2 performance ladder certification (for her activities in the Netherlands) to the European Business Unit.

The preparation of the periodic reporting is part of the steering cycle within the energy management system that has been introduced in the context of the CO_2 performance ladder. This control cycle is described in the quality management plan. This periodic report has been drawn up by the QHSE manager and describes all matters as described in § 9.3.1 of the ISO 14064.

This progress report covers the CO_2 performance ladder Organizational Boundary and has to be seen as a consolidated progress report. Each company belonging to the CO_2 performance ladder Organizational Boundary also reports its progress on an individual basis.

The following aspects of the ISO 14064-1 are described in this report:

Introduction (p), Description of the organization (a), Responsibilities (b), Base year (j), Reporting period (c), Verification (q), Organizational boundaries (d), Current calculation method and conversion factors (l, n), Changes calculation method (m), Exclusions (h), Absorption of CO2 (g), Biomass (f), Recalculation of base year and historical data (j, k), Direct and indirect emissions (e, i) and Uncertainties (o).

2. Carbon policy and reduction objectives

2.1. Energy & Carbon Policy

BESIX and the other companies belonging to the Organizational Boundary recognizes the urgency of the climate challenge and addresses it as one of the main challenges of the construction sector.

Our ambitions in this area are threefold:

- to become neutral for her own direct and indirect (scope 1 & 2) carbon emissions by no later than 2050;
- to promote and to be a leader in providing sustainable solutions to its partners and clients and, in doing so, to help them achieve their own climate goals and targets;
- to promote and incentivize its supply chain, in particular the building material producers with the greatest potential in this area, to reduce their carbon emissions (our scope 3 emissions) in order to become neutral by no later than 2050.

We have defined the above three ambitions because our impact as a construction company is twofold. it is direct through our own construction operations and project execution. It is indirect through the value chain of our partners and suppliers, and through the sustainable solutions we promote and deliver to our client.

We will therefore for all relevant direct and indirect emissions (scope 1, 2 & 3):

- monitor and analyze our energy consumption;
- calculate our carbon footprint;
- set reduction objectives and strive to achieve them;
- implement an energy and carbon reduction programme to meet our objectives and which will be reviewed periodically;
- periodically monitor an analyze our energy consumption and carbon emissions;
- report and communicate structurally on our carbon footprint and progress on our reduction objectives

In order to meet our objectives and continually reduce our energy consumption and carbon emissions, we will:

- demonstrate leadership on a daily basis;
- wherever possible, guide and advice our clients in choosing the most sustainable solution for their projects;
- actively promote and implement energy and natural resource saving measures;
- minimize waste, promote recycling and the use of recycled product to help reduce the amount of waste sent to landfill;
- adopt a sustainable procurement policy
- actively engage in climate action dialogues with suppliers and contractors, employees and peers;
- research sustainable solutions for our industry and clients, in line with our reduction objectives;
- inspire other companies in our sector and share our best practice and knowledge;
- engage subcontractors to work in full compliance with this policy

2.2. Reduction targets

The overall ambition for the Organizational Boundary is to reduce the scope 1, 2 & 3 (commuting and business travel) emissions (per million euro turnover) **with 40% by 2030** related to the baseline year (2019).

Intermediate targets have been defined and are made visual in the progress chart in chapter 6.2.

In order to achieve the overall ambition and based on an analysis of the consolidated carbon footprint of the baseline year 2019, reduction targets have been defined for the most relevant emissions categories. These reduction targets have been set for end 2030 and relates to the baseline year 2019:

- minimal 60% reduction for the emissions related to lease cars
- minimal 57% reduction for the emissions related to utility vehicles
- minimal 15% reduction for the emissions related to on-road equipment and transport
- minimal 26% reduction for the emissions related to heavy site equipment

By the end of 2025 all electricity used for offices, production facilities and projects will come for 100% from renewable sources.

Each company of the Organizational Boundary has defined its own reduction targets in order to achieve the overall ambition.

3. Basic information

3.1. Description of the organizations belonging to the Organizational Boundary

3.1.1. BESIX

BESIX is part of BESIX Group, a leading Belgian Group, based in Brussels and operating in 25 countries and on 5 continents, in the construction, real estate development and concessions sectors. Active since 1909, BESIX operates both in the building as civil and infrastructure sector.

BESIX's engineering department enables BESIX to carry out complex and unique projects, particularly in terms of technical and environmental aspects. BESIX has developed cutting-edge expertise in the energy performance of infrastructures. In 2020, for example, by combining sustainable solutions for electricity, ventilation and lighting, BESIX is building the first 100% CO_2 neutral tunnel in the Benelux, in Rotterdam.

BESIX and its subsidiaries have often been pioneers in the field of energy performance of buildings. In Paris, Brussels and Rotterdam, BESIX has contributed to the design and construction of buildings that meet the highest environmental certifications (BREEAM, LEED, Passive Building, Cradle-to-Cradle, etc.) and contribute to improving standards in the sector.

The BESIX Group subsidiaries which are part of the CO_2 performance ladder Organizational Boundary focuses on road works, deep foundation techniques and on construction & maintenance of networks, technical infrastructure and electrical installations.

3.1.2. BESIX Infra NV

BESIX Infra is the knowledge-driven road building contractor for the Flemish and Brussels markets, and is one of the top three players in the Belgian infrastructure market for both public and private clients.

BESIX Infra is active in:

- road construction and related works, including earthworks, sewerage, paving and railway works;
- works of civil engineering;
- installation of non-electric road signs;
- carrying out jacking operations;
- realization of sports fields;
- remediation projects;
- processing and crushing of rubble and construction waste.

3.1.3. BESIX Infra Support

BESIX Infra Support is a service provider and provides administrative support for both BESIX Infra and Van den Berg.

3.1.4. Franki Foundations (Group)

Franki Foundations NV is, together with its subsidiaries Franki Grondtechnieken BV and Atlas Fondations SAS, part of the Organizational Boundary of BESIX BU Europe.

Franki Foundations and its subsidiaries act as a specialised deep foundation contractor, delivering complex projects that meet the highest standards of design, quality and safety.

With more than a century of experience and know-how, Franki Foundations is known worldwide as an expert in deep foundation techniques.

3.1.5. Van den Berg (group)

Van den Berg has extensive experience in cable and pipeline construction and offers its customers high-quality infrastructure solutions for underground and above-ground cables and pipelines, horizontal directional drilling, high voltage and traction, (fibre optic) networks and structured cabling systems, heat networks, signalling and monitoring systems, house connections, tunnel installations and traffic techniques.

The scope of our activities is situated in:

- the construction and maintenance of networks for utilities and telecom operators.
- the construction and maintenance of technical infrastructure along motorways, railways and waterways.
- the construction and maintenance of electrical installations

BESIX Connect was created in 2021 following the merger of Larabo and Uniconnect, both subsidiaries of Van den Berg since 2017 and 2018 respectively, and specialised in:

- the installation of underground cables and utility pipes including connections
- the construction of fibre optic networks including connections
- performing directional & horizontal drilling.

Appermont, a subsidiary of Van den Berg since 2020, is a builder of network infrastructures and is specialized in the installation of cables and pipelines along the railway network.

3.2. Responsible

The General Manager of the European Business Unit of BESIX together with the General Managers of the BESIX Group entities belonging to the CO_2 performance ladder's Organizational Boundary are the end responsible for the implementation and follow-up of the CO_2 management within the Organizational Boundary and their respective area of control.

They are assisted by the QHSE Manager of BESIX and the (Q)HSE managers of the respective BESIX Group entities.

3.3. Baseline year

The baseline year is 2019.

3.4. Reporting period

January 01, 2021 until June 30, 2021

3.5. Verification

As a verification of the CO_2 footprint is, as per standard requirements, included in the yearly follow-up audit by the independent Third Party Auditor, it has been decided not to perform an additional external verification of the CO_2 footprint by an independent institution.

4. Demarcation

4.1. Organizational boundaries

The Organizational Boundary determination is based on the 'operational control' methodology as per GHG protocol and the lateral method as per CO_2 performance ladder standard requirements.

A company has operational control over an operation if the company (or one of its subsidiaries) has the full authority to implement its operating policies and procedures. Under the operational control approach, 100% of scope 1 (direct) and 2 (indirect) emissions from operations over which the company has operational control are accounted for. Emissions from operations where-over the company has no operational control are not accounted for.

The companies included in the CO_2 performance ladder Organizational Boundary are:

- BESIX NV BU Europe (BE+FR+NL+LUX+IT)
- BESIX Nederland BV (NL)
- BESIX Infra NV (BE)
- BESIX Infra Support NV (BE)
- Van den Berg NV (BE)
- Appermont bv (BE)
- BESIX Connect NV (BE)
- Franki Foundations Belgium NV (BE)
- Franki Grondtechnieken BV (NL)
- Atlas Fondations SAS (FR)

Projects executed under the operational control of one of the companies mentioned above are included in the carbon footprint calculation of the CO_2 performance ladder Organizational Boundary.

4.2. Organization changes

- Beginning of 2021, Uniconnect and Larabo, both subsidiaries of Van den Berg, merged into BESIX Connect. In the 2019 and 2020 carbon footprint both names will still appear;
- The workshop of Atlas Fondations in Marles-en-Brie has been sold in March 2021.
- Van den Berg has acquired in September 2021 Agidens Infra Automation NV and Agidens Infra Automation BV. As both companies needs to be included in the CO_2 performance ladder Organizational Boundary, the carbon footprint of the reference year and reporting period needs to be recalculated. This acquisition will therefore appear in the progress report of the full year 2021.

4.3. CO_2 awarded projects

Within the CO_2 performance ladder Organizational Boundary the following projects are awarded with a specific CO_2 award advantage:

Project	Project description	Operational control	Status
De Groene Boog (NL)	Construction of a new motorway (A16) including a 100% CO_2 neutral tunnel	Operation policies and procedures by the JV partner (Dura Vermeer)	Ongoing
Bediencentrale Den Haag (NL)	Construction of a new infrastructure control building	Operation policies and procedures by the JV partner (Vialis)	Start foreseen in January 2022
Oosterweel link - Right bank - TM ROCO (BE)	Renovation of the ring road R1 (right bank) around Antwerp	Joint venture specific operation policies and procedures	In preparation
R4WO - EPC (BE)	Renovation of the ring road R4 around Ghent	BESIX (Joint venture project)	Preferred bidder - contract close expected in 2022
Via15 (NL)	Extending the existing highwat A15 for 12 kilometers	Joint venture (GelreGroen) specific operation policies and procedures	On hold

Emissions and reductions of these projects are separately reported.

Information on the CO_2 awarded projects in execution can be found at the website www.CO2projectplan.nl. This website is an initiative of BESIX with the objective to exchange knowledge about carbon reduction within the sector.

5. Calculation methodology

5.1. Current calculation method and conversion factors

The carbon footprint was calculated in accordance with the GHG protocol and with version 3.1 of the CO_2 performance ladder manual as published by SKAO in July 2020.

In general, the conversion factors as published onwww.CO2emissiefactoren.nl are used whereby SKAO's modification list is considered to be leading. Only for the electricity procured for offices, fixed facilities and projects outside the Netherlands it is decided to work with location-specific conversion factors. Source of information for Belgium and French conversion factor for electricity is the International Energy Agency (IEA) - version 2019, source of information for the Italian conversion factor for electricity is the Association of Issuing Bodies (AIB) - version 2019.

A specific conversion factor for 2-takt has been determined based on literature. The impact of this emissions stream is however very limited.

5.2. Changes in calculation method

There are no changes to mention for the used calculation methodology.

5.3. Exclusions

According to ISO14064-1, direct and indirect GHG sources which are defined as not material or whose quantification would not be technically feasible or cost effective, may be excluded from the carbon footprint calculation.

In the CO_2 performance ladder Organizational Boundary footprint the following carbon sources are excluded:

- Air condition refrigerants - mainly used for (site) offices - as leakage of air condition refrigerants is rare and minimal this is considered as not relevant and material,;
- Cutting & welding gasses such as acetylene and oxygen - often used on site in small quantities but research on the significance shows that the effort for data collection would not be proportional with the significance in the carbon footprint;
- Lubricants used to protect internal combustion engines. Research shows that the effort for data collection would not be proportional with the significance in the carbon footprint. Exception is on the use of Ad Blue which has been taken into account in the carbon footprint calculation;

5.4. Absorption of CO_2

CO_2 absorption or capture is not applied within the CO_2 performance ladder Organizational Boundary.

5.5. Biomass

No biomass other than the additives in standard fuel blend is used within the CO_2 performance ladder Organizational Boundary.

Combustion of biomass is not applicable. GHG sinks and removals are also not applicable.

5.6. Uncertainties

The following uncertainties can be considered in the interpretation of the carbon emission inventory of the CO_2 performance ladder Organizational Boundary:

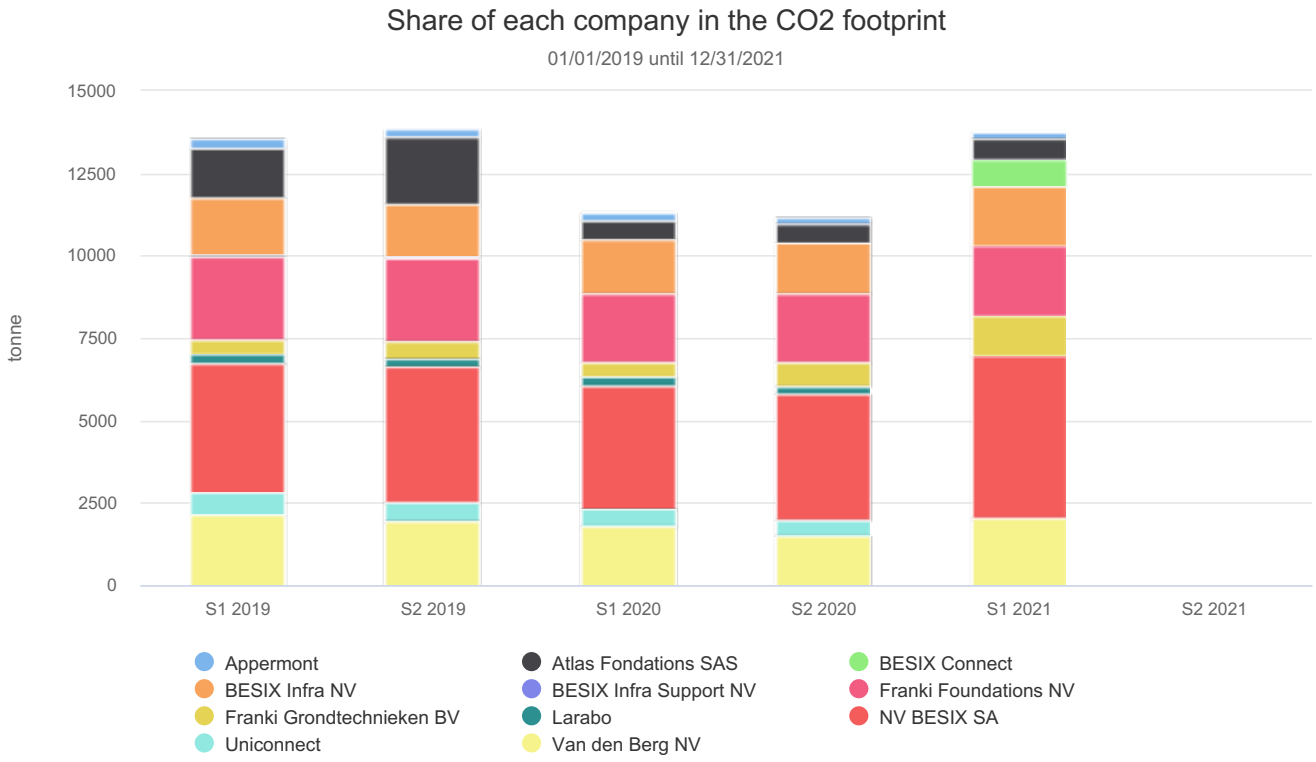
- the source of the data for the CO2 footprint mainly comes from invoices (electricity, natural gaz,...) or reporting by the supplier (electricity, fuel for on-road and off-road use, business travel,..) based on real consumption data.
- if the data on purchased quantities is not available, for example in case of advance payment invoices for electricity and/or natural gaz, conservative estimations are made based on the consumption of the previous years. Correction are made retro-active once the final invoice is available.
- BESIX Infra supplies fuel for both own equipment and equipment of subcontractors. As there is no clear split an estimation is made between the amount of fuel used for own equipment (scope 1) and fuel used by the subcontractor (scope 3). The factor used is very conservative meaning that in case of an incorrect estimation the deviation will have primary a negative impact on the scope 1 emissions.

- for calculating the emissions related to commuting, an average travel distance has been used for the carbon footprint calculation;

6. CO_2 footprint (reporting period 1ste semester 2021)

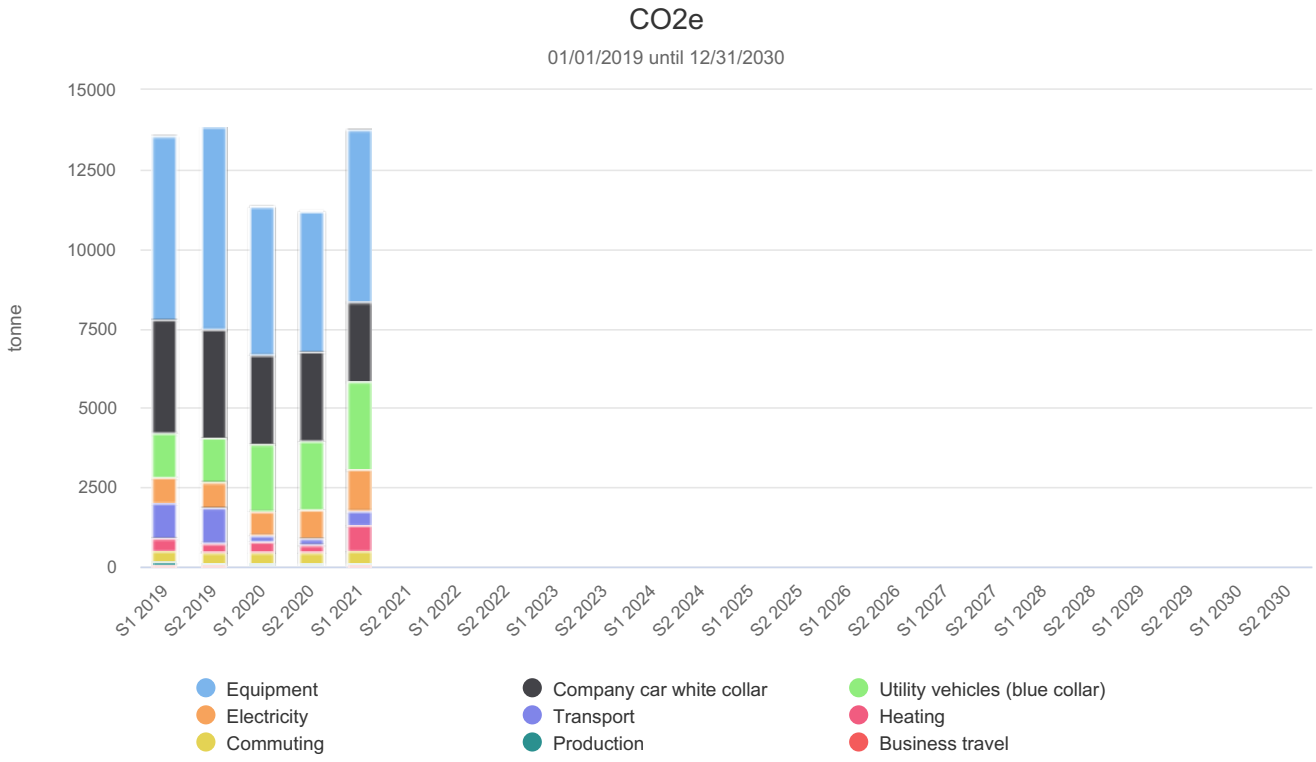
The carbon footprint of scope 1, 2 & 3 (business travel and commuting) emissions is a means to clarify how the CO_2 emissions are distributed throughout the organization and subsequently to analyze and reduce the largest energy flows and emissions contributors. The inventory of the emission sources is made visual in the software application 'Smarttrackers' and in document 'Inventory scope 1, 2 & 3 emission categories'.

In first instance, the share of each company is made transparent in the consolidated carbon footprint of the Organizational Boundary.



6.1. Evolution consolidated CO_2 footprint Organizational Boundary

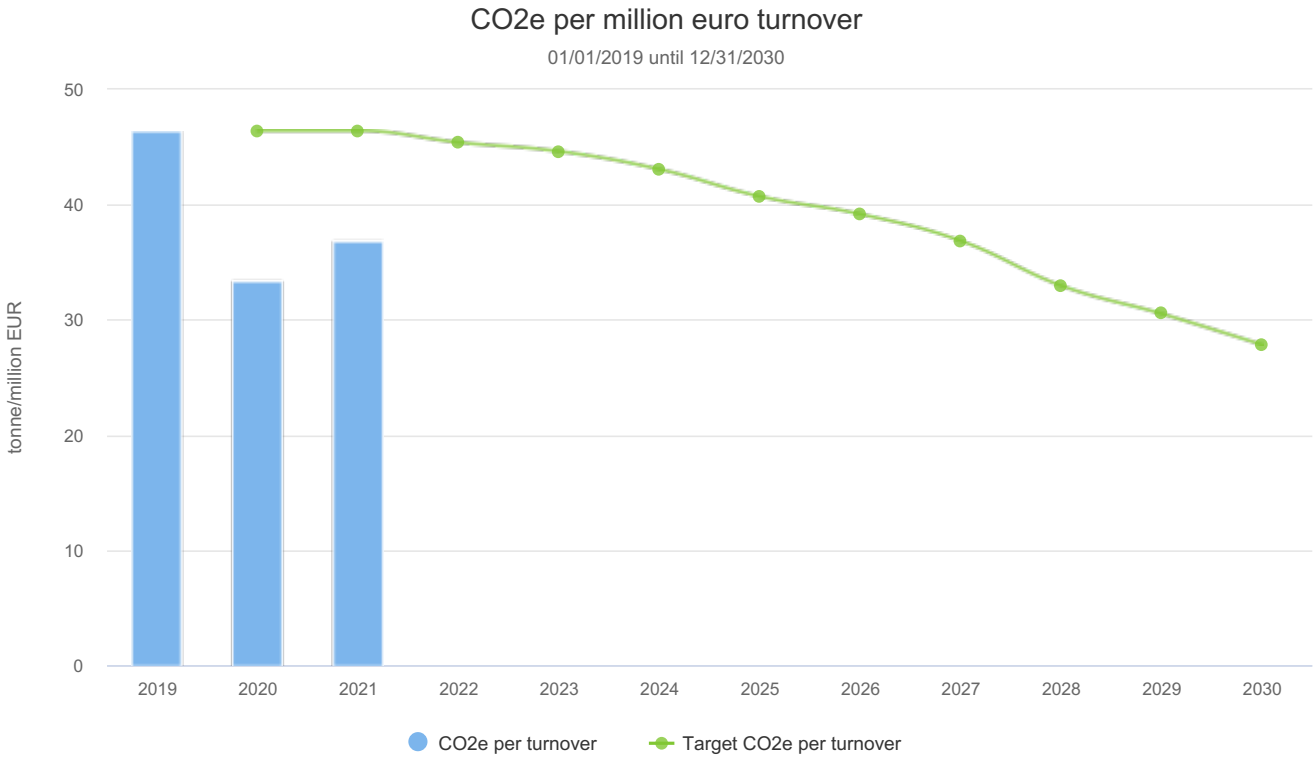
The carbon footprint consists of all scope 1 & 2 emissions and emissions related to commuting and business travel (both scope 3 emissions).



6.2. Evolution consolidated CO_2 footprint Organizational Boundary per turnover

Below graph shows the evoluation of the consolidated CO2 footprint (related to turnover) for the Organizational Boundary till the end of the reporting period meaning end june 2021.

In the first semester 2021,the graph shows a slight increase in the first semester of 2021 vs 2020.



7. Progress reduction initiatives

7.1. Company lease car (white collar)

Target:

The overall ambition is to reduce by end 2032 the emission from the company lease cars to zero. As BESIX and the underlying entities have no control on the type of electricity (green/grey) used by the employee for charging the company lease car, a reduction target of 80% by end 2032 has been defined out of caution.

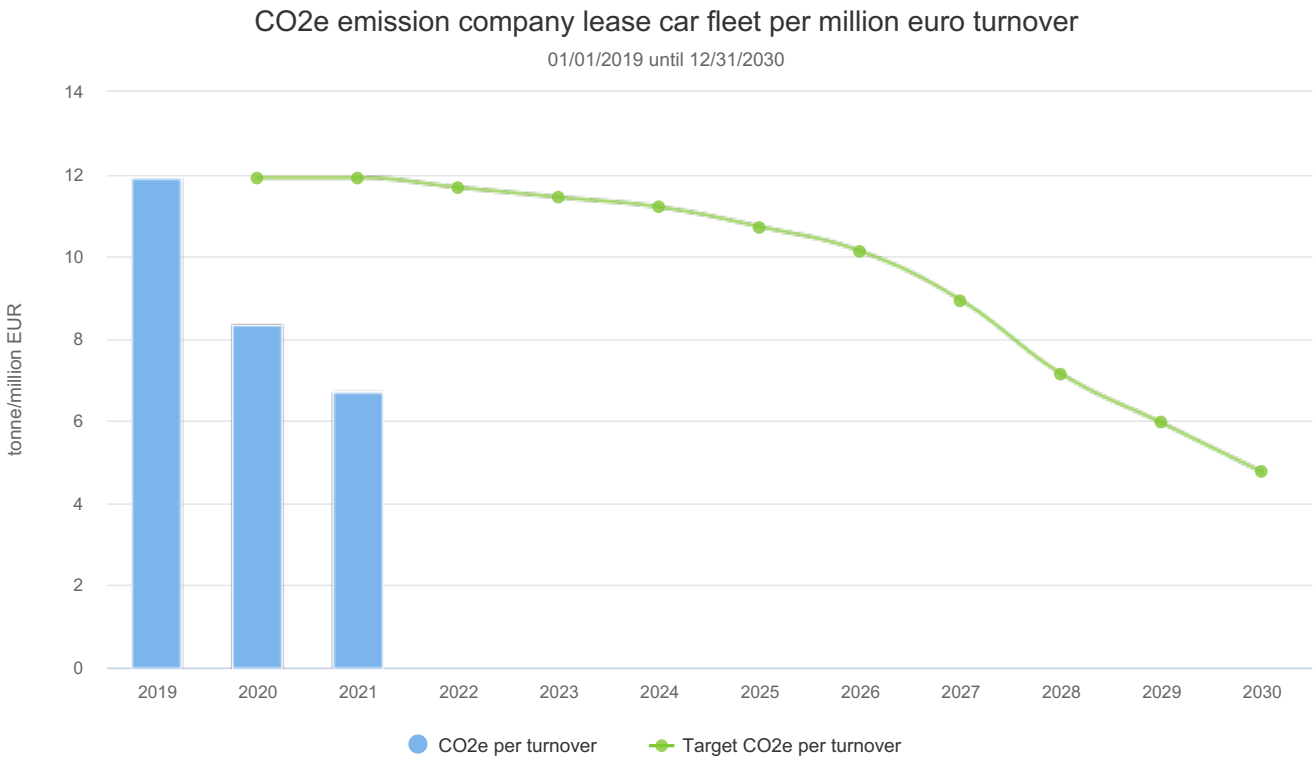
The following intermediate targets have been determined for the company lease car fleet:

- end 2025 - at least 10% reduction (vs turnover) in emissions compared to 2019
- end 2028 - at least 40% reduction (vs turnover) in emissions compared to 2019
- end 2030 - at least 60% reduction (vs turnover) in emissions compared to 2019
- end 2032 - at least 80% reduction (vs turnover) in emissions compared to 2019

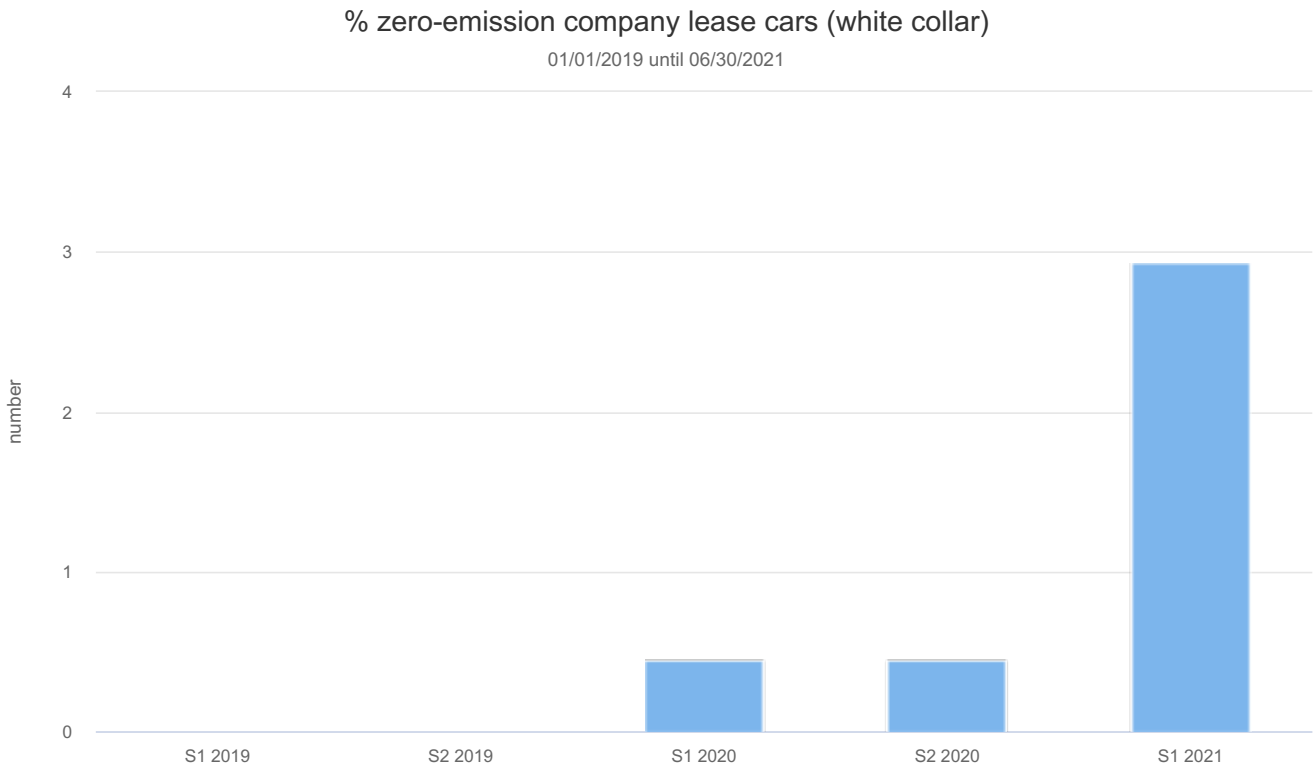
This objective, is in addition to the CO2-emissions related to turnover, also monitored by means of a KPI '% zero-emission company lease cars'.

Progress:

- the company lease car policy of BESIX NV is currently under review and will be expanded to Group level as of January 2022. Alignment with the companies within BESIX Group is ongoing. The new company lease car policy will aim a transition towards electric vehicles.
- The reason for the important decrease in 2020 and the first half of 2021 is due, one the one hand, to a change in allocation of the fuel cards within Van den Berg and, on the other hand, the further detailing and breakdown of the fuel cards within Appermont.



Below you'll find a graph showing the percentage of zero-emission company lease cars.



7.2. Utility vehicles (blue collar)

Target:

The overall ambition is to reduce by end 2032 the emission from the fleet of utility vehicles lease to zero. As BESIX and the underlying entities have no control on the type of electricity (green/grey) used by the employee for charging the utility vehile, a reduction target of 80% by end 2032 has been defined out of caution.

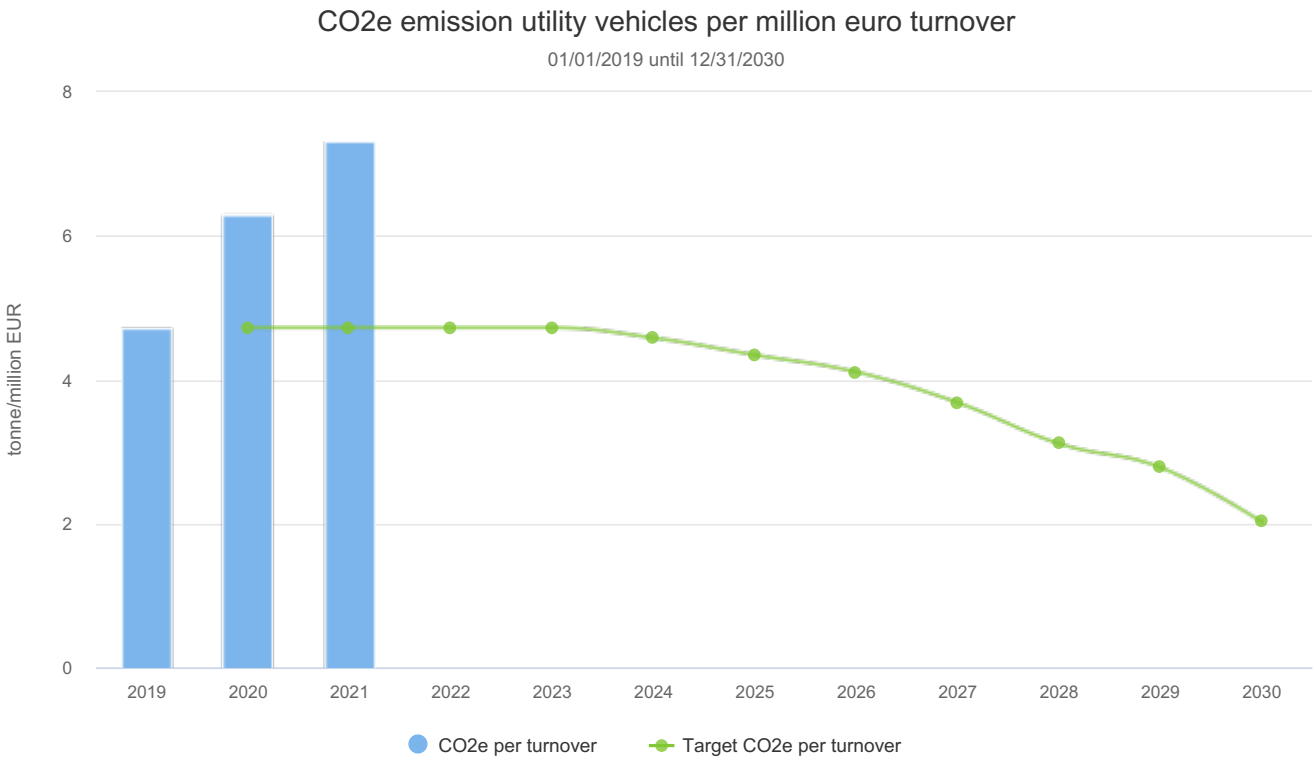
The following intermediate targets have been determined for the fleet of utility vehicles:

- end 2025 - at least 7% reduction (vs turnover) in emissions compared to 2019
- end 2028 - at least 34% reduction (vs turnover) in emissions compared to 2019
- end 2030 - at least 57% reduction (vs turnover) in emissions compared to 2019
- end 2032 - at least 80% reduction (vs turnover) in emissions compared to 2019

This objective, is in addition to the CO2-emissions related to turnover, also monitored by means of a KPI '% zero-emission utility vehicles'

Progress:

- In the first semester of 2021 a number of electric utility vehicles were tested by S.M.D. A proposal will be worked out based on a Total Cost of Ownership calculation.
- The reason for the important increase in 2020 and the first half of 2021 is due, one the one hand, to a change in allocation of the fuel cards within Van den Berg and, on the other hand, the further detailing and breakdown of the fuel cards within Appermont.



As no electric utility vehicles are yet introduced within BESIX Group, the graph for making progress visually clear is not yet embedded in the reporting.

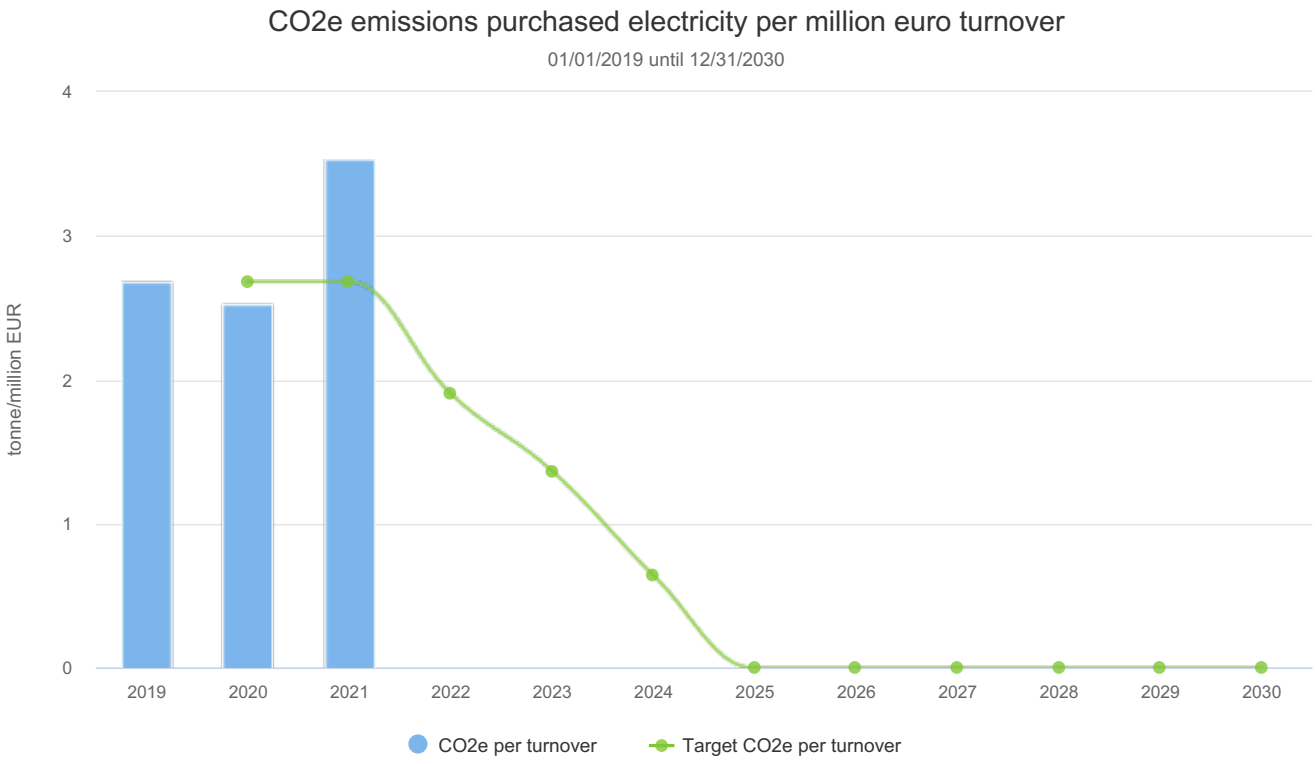
7.3. Electricity

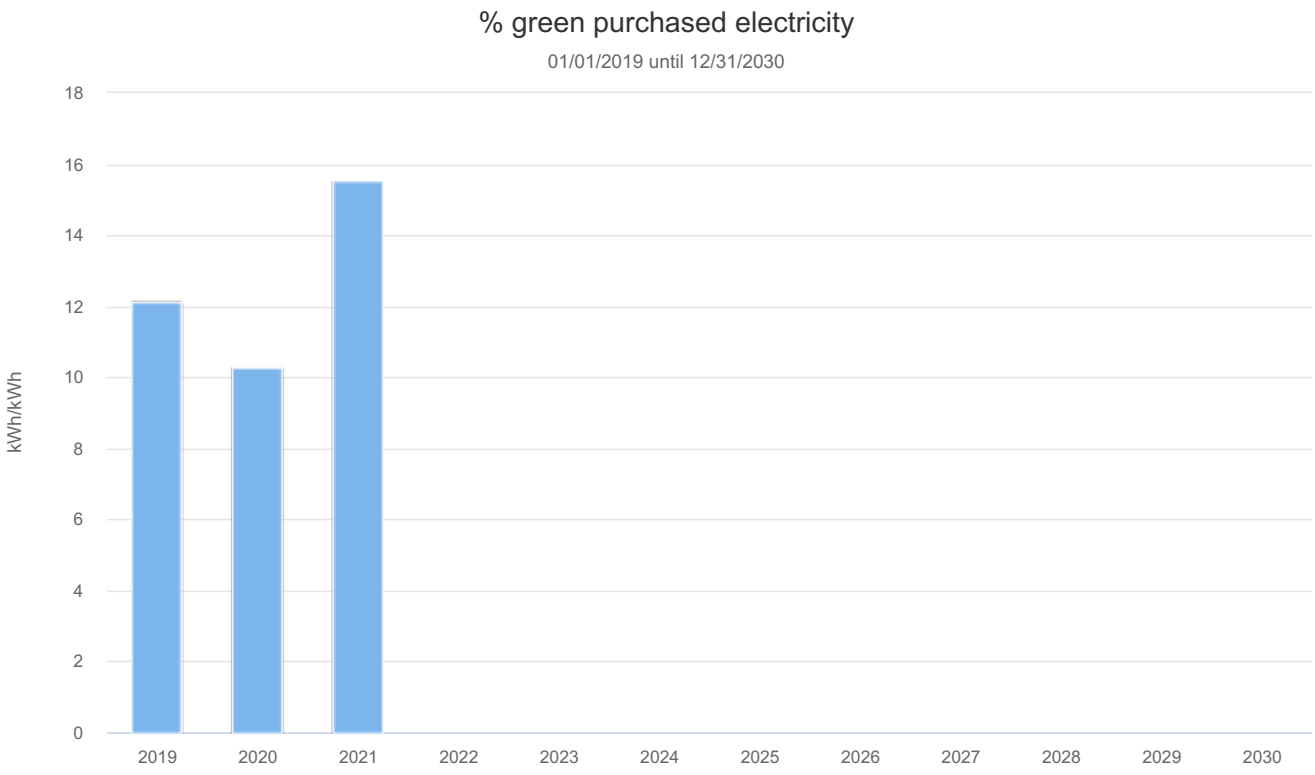
Target:

The overall ambition is to reduce the emissions related to the use of electricity for the offices, fixed production facilities (asphalt plant, concrete batching plant,...) and projects to zero by end 2025.

Progress:

- In the first semester 2021, the use of green electricity is mainly situated in the Netherlands and France.
- The reason for the increase in the first semester of 2021 is due to the increased use of grey electricity and this in relation with the increased turnover.
- As from January 2022, all electricity for the Belgian offices and fixed facilities of the companies belonging to the Organizational Boundary will originate 100% from local renewable sources as per CO_2 performance ladder requirements. The Belgian frame agreement with the energy provider has been renewed taking into account this requirement.
- In 2022 the frame agreement for the power on the Belgian sites will be renewed in accordance with the same principle.





7.4. Fuel heavy site equipment

Target:

The ambition is to reduce the emissions related to the use of fuel for heavy site equipmen, compared to turnover, with 26% by end 2030 compared to the baseline year.

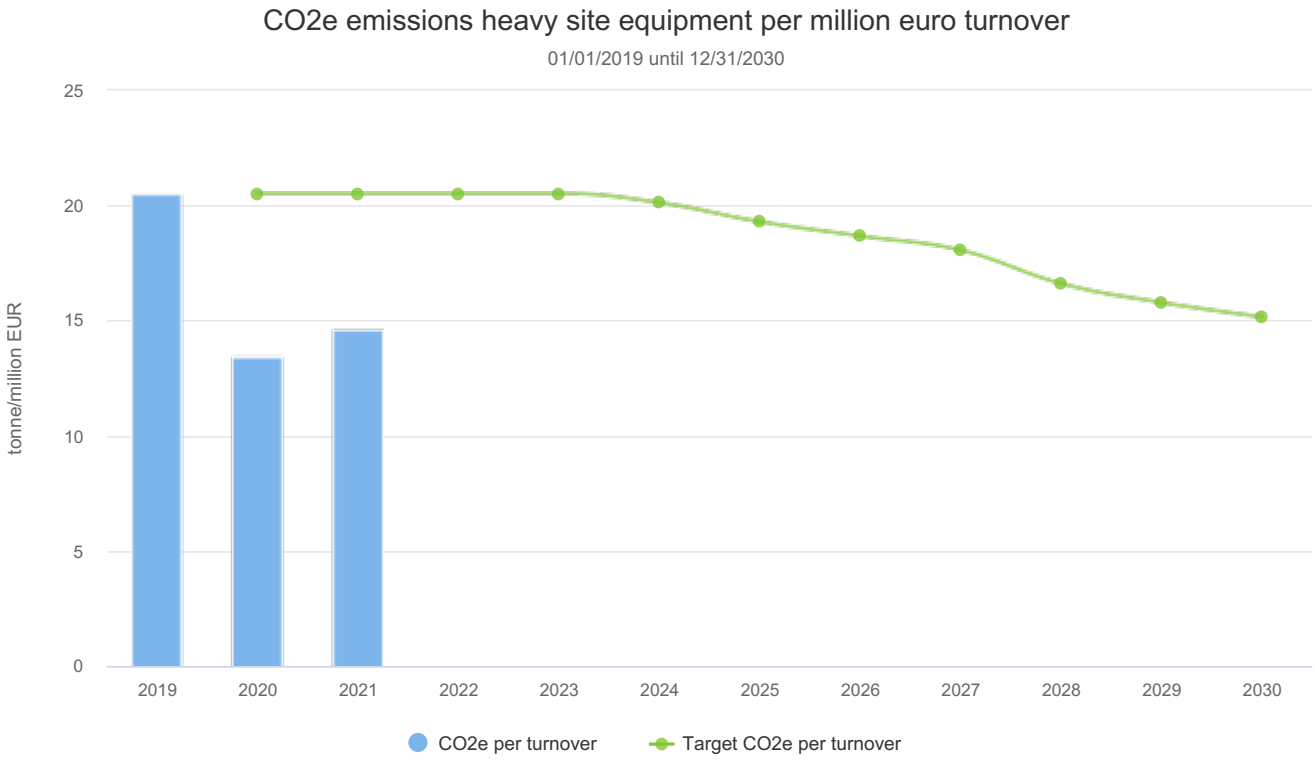
This is monitored by the following performance indicators:

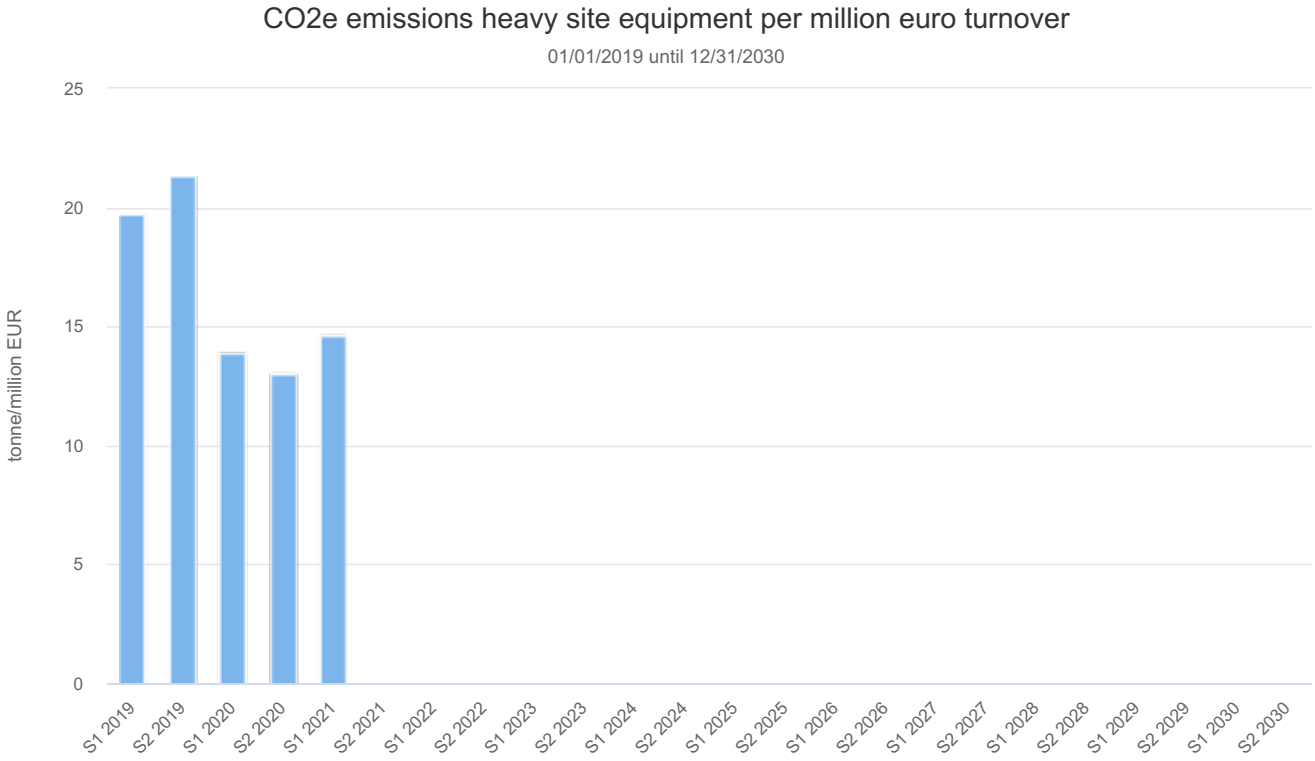
- carbon footprint related to the use of fuel for heavy site equipment compared to turnover.

- type of fuel used for own heavy site equipment (to visualize the use of alternative fuels and/or electrical power)

Progress:

- A workgroup between BESIX and Franki Foundations has been created with the objective to make the use of heavy site equipment more sustainable.
- At the Groene Boog project in the Netherlands, the use of alternative fuels such as Hydrotreated Vegetable Oil (HVO) is being tested extensively.
- At the same project, testing will be performed with electrically powered heavy site equipment.





8. Scope 3 emissions

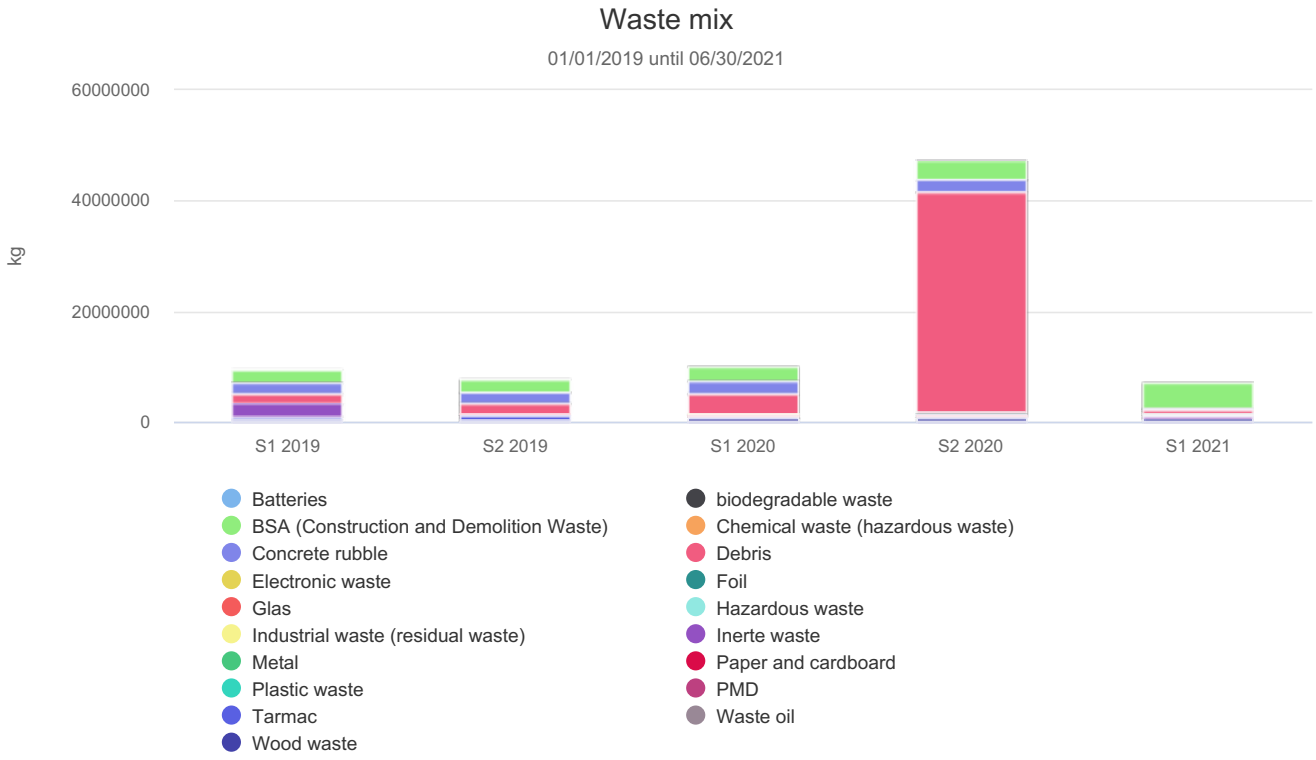
The scope 3 emissions of the Organizational Boundary are mainly linked with:

- purchased goods and services specifically related to excavations, deep foundations, in-situ concrete, rebar, (structural) steel, façade, interior finishing,... including the transport of these goods
- sold products
- upstream produced waste

8.1. Purchased goods and services

The scope 3 footprint calculation is ongoing and shall be reported in the reporting of the full year 2021.

8.2. Upstream - Waste



8.3. Sold products - Sustainable Engineering solutions

8.3.1. Research groups - New materials

BESIX participates in several research projects. These include the creation of sustainable and recycled concretes with the University of Ghent and the Block Research Group of ETH Zurich, innovative concretes (such as the European Smartincs project for self-healing concretes for which BESIX is 'Industrial Mentor') or the recycling of asphalt via BESIX Infra.

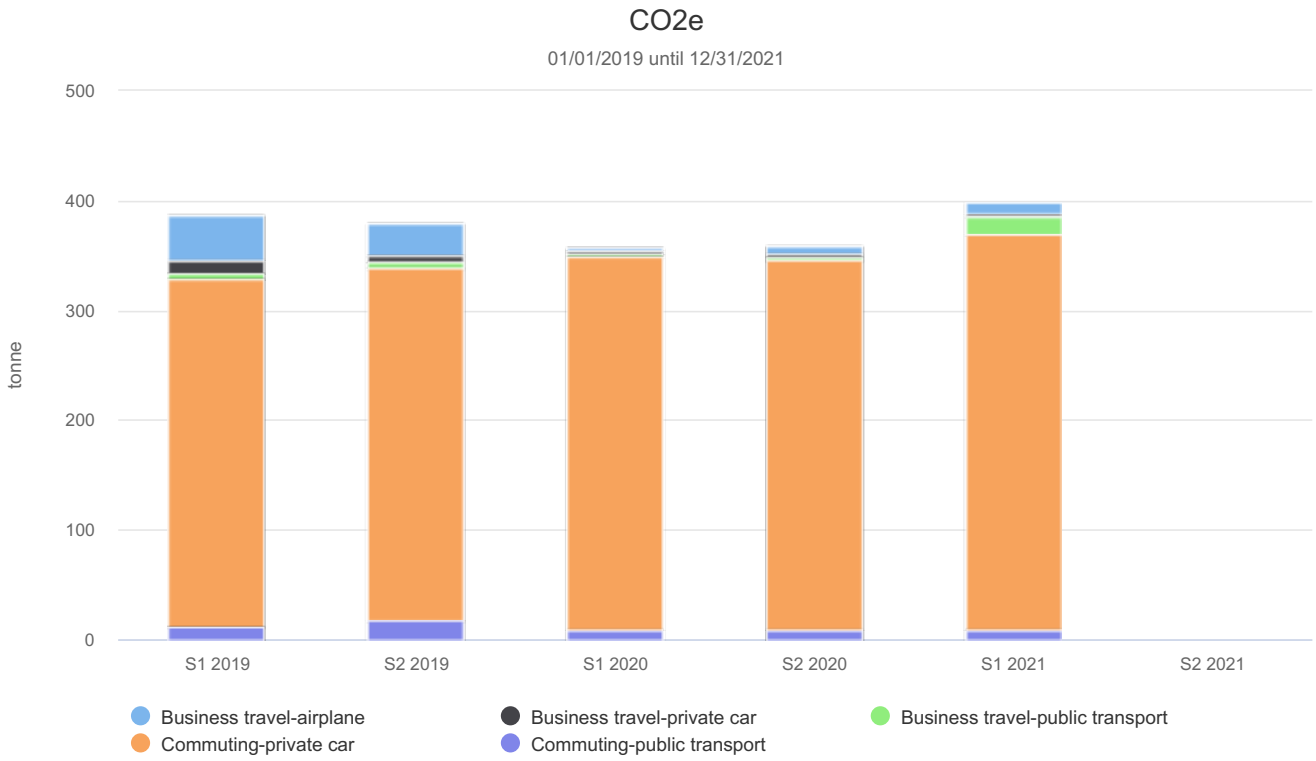
More information can be found in chapter 9 'Value chain analysis' and chapter 10 '(Sector) initiatives'.

8.3.2. Smart Buildings

Since 2018, BESIX has been collaborating with Proximus in the field of Smart Buildings. These buildings integrate new technologies improving their performance, in particular comfort, sustainability, maintenance and hospitality.
In addition to assisting their tenants and owners to be more efficient and comfortable, smart buildings optimize energy consumption and simplify maintenance through remote inspection and by automatically detecting anomalies. All this is enabled by cutting-edge technologies such as digital twins, the Internet of Things, data science and artificial intelligence

The headquarters of the Dutch subsidiary of BESIX, in Dordrecht, isan example of a next-generation smart building that can be considered as a European reference in this field

8.4. Business travel and commuting

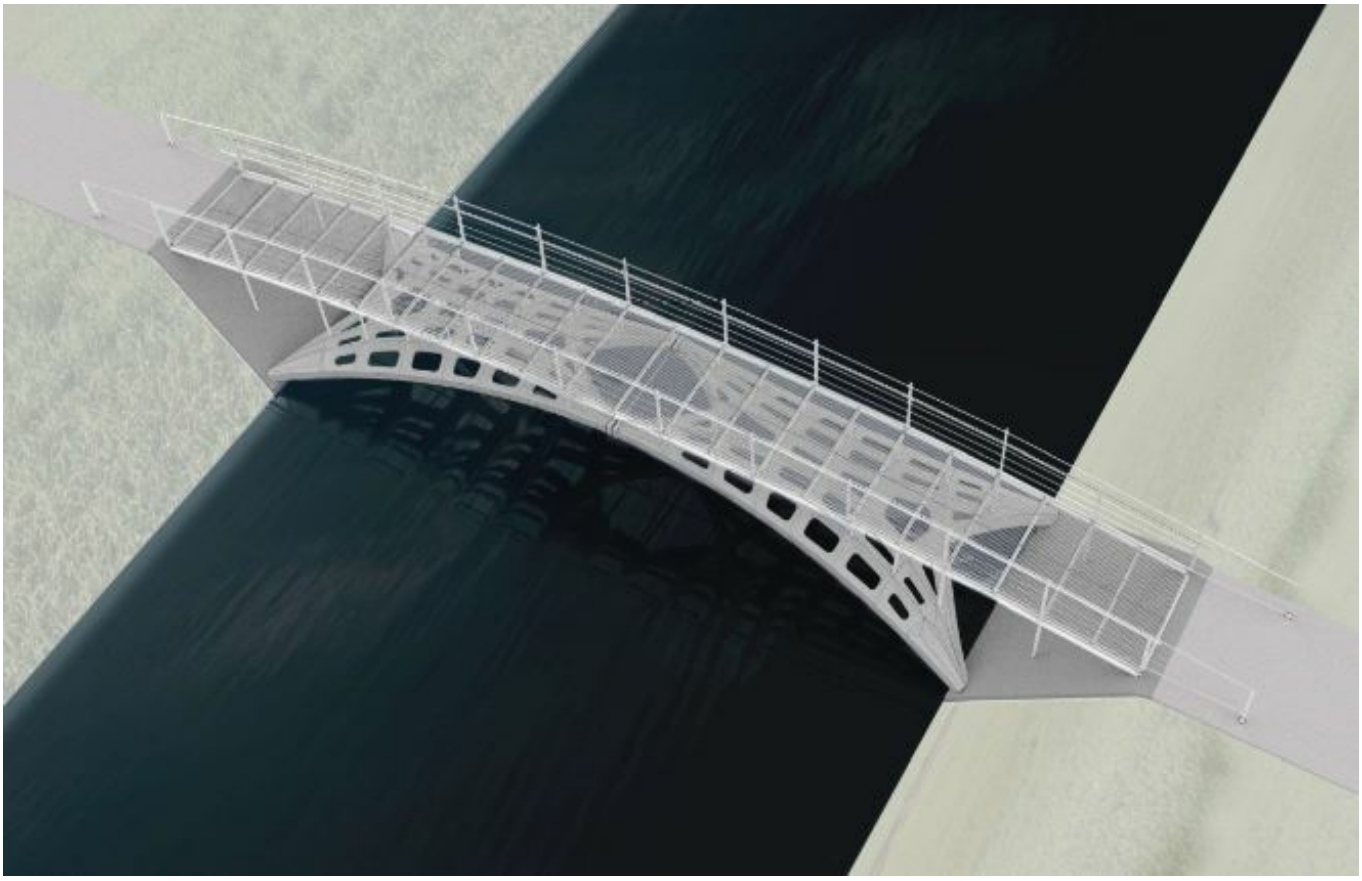


9. Value-chain analysis

9.1. Circular pedestrian bridge Lage Bergse Bos

BESIX, as member of the Joint Venture 'De Groene Boog', aims to construct a circular funicular construction bridge with knitted formwork in Rotterdam, the Netherlands.

The design of the bridge focuses on the principles of "strength through geometry", which means that no reinforcement is needed. For the construction, it is intended to use a flexible formwork system, a textile made of recycled and natural fibres, which is easy and quick to assemble.



The concrete mixture which will be applied will be "green concrete", meaning made from recycled concrete. Thanks to its structure, building the bridge will require less material, thus reducing the addition of cement.

The value chain analysis will be executed in 4 different phases:

Phase	Item	Planning	Status
1	- Basis of design - Architectural design - Communication plan internal & external stakeholders	Q2/Q3-2021	- Basis of design has been executed (May 2021) - Paper on the project (in development) - Presentation of the project foreseen on the IABSE Congress Ghent (September 2021)
2a	- Stability study - Determination of execution methodology and materials - Drawings	Q1/Q3-2022	
2b	- Realization of prototype - Testing of prototype - Decision for phase 3	To be defined in phase 2a	

3	- Fine-tuning execution methodology - Realization pedestrian bridge - Carbon reduction calculation	To be defined after approval at the end of phase 2b

9.2. Sustainable heavy site equipment

The use of heavy site equipment is an important contributor to the carbon footprint of a construction project. Most of this heavy site equipment belongs to our subcontractors and/or suppliers.

Together with some important subcontractors, a number of initiatives have been launched with the objective to make our heavy site equipment more sustainable:

- in 2020 a workgroup has been created with Franki Foundations and S.M.D. to search for innovative solutions. This workgroup has made a market analysis with the objective to define opportunities in relation with the use of alternative fuels (HVO, biogas,..), electrification of equipment and the use of battery systems. In the second half of 2021, this workgroup will be expanded with some of the regional entities (BESIX Infra, Van den Berg,...) belonging to BESIX Group.
- testing the use of Hydro Treated Vegetable Oil (HVO) as fuel for the concrete mixers on the Groene Boog project in collaboration with the in-situ concrete supplier. In the meantime more than 3 million liter of HVO has been used resulting in avoiding 10.000 ton CO_2.
- launch of a pilot project involving 12 electrically powered heavy site equipment on the project 'De Groene Boog' with the objective to learn how these types of equipment can be standardized within the construction sector.

10. Initiatives

Apart from initiating change in our own organizations, we are also participating in or leading a number of (sector) initiatives. We can't mention them all but below you'll find the most exciting ones.

10.1. CO_2 performance ladder in Belgium

Through the VBA-ADEB (Association of Belgian Contractors), a working group has been set up in Belgium with, among others, the federal and regional authorities, to promote the CO2 performance ladder in the Belgian construction industry. BESIX is a founding member and part of the steering committee of this working group.

More information on https://www.echelledeperformanceco2.be/en/news-item/co2-prestatieladder-gaat-de-grens-over-ook-bel.. and https://www.co2-prestatieladder.be/nl

10.2. CO_2 projectplan

The CO2 Project Plan is a sector initiative led by BESIX Nederland gathering all large Dutch construction companies. The CO2 project plan is used on CO2 awarded projects to analyze the foreseen carbon emissions, including scope 3, of the project and to take measures to reduce these carbon emissions by, for example, application of saving energy measures, use of sustainable energy, design optimization, use of more sustainable materials and optimization of execution and transport methodologies.

Experiences by the members of the initiative are shared publicly and form a basis for dialogue on sustainability. By sharing experiences and inspiring each other, the members of the initiative strive for a joint carbon reduction within the construction sector and its supply chain. It is our objective to also include our Belgian CO2 awarded projects in this initiative

10.3. 3D2B Green Concrete

3D2BGreen (2019-2022) is a research project on 3D printing of concrete, set up by Ghent University, BESIX, the start-up ResourceFull and the engineering company Witteveen+Bos. The research focuses on the development of sustainable concrete mixes suitable for printing units specifically for marine works.

The project is being developed under the aegis of SIM Flanders (Strategisch Initiatief Materialen) and is subsidised by the Flemish Region (VLAIO). It will improve knowledge about sustainable and cost-effective mixtures for 3D printing.

More information is available on 3D2BGreen | SIM-Flanders

10.4. Betonakkoord Nederland and Circular Betonakkoord Vlaanderen

BESIX Infra, via Groen Beton Vert (FPRG vzw en GBV vzw) and BESIX are participating in the initiative “Circular Betonakkoord Vlaanderen” and BESIX also in the Dutch initiative “Betonakkoord”. Both initiatives have as objective to make the complete concrete value chain more sustainable.

More information can be found on www.betonakkoord.nl and Circulair beton: naar een betonakkoord voor Vlaanderen (vlaanderen-circulair.be).

10.5. Rejuvebit

BESIX Infra en Belasco, in collaboration with the University of Antwerp, the Belgian Road Research Centre (BBRC) and the Administration Roads & Traffics (AWV), participated in the TETRA-project REjuveBIT.

The overall aim of the project was to assess the application of rejuvenating agents in the asphalt sector so that their innovative use leads to an increase in the recycling percentage of reclaimed asphalt. This assessment includes a technical, economic and environmental part. The innovative character is demonstrated for the sector by means of test tracks with new applications (surface courses) and increased recycling percentages (base courses).
To conclude the project, a study day was organized on January 28th, 2021. You can find the presentation of the study day here (PowerPoint-presentatie (uantwerpen.be)).

10.6. District heating network Vlaanderen

As a member of the branch organization ‘Warmtenetwerk Vlaanderen’ Van den Berg supports the development and implementation of district heating – and cooling networks in Flanders.

Van den Berg developed recently a new technique, the ‘thermal prestressing’ method for the installation of the transport pipes. This is a technique that involves preheating the pipes when they are laid and allows installation to be carried out flexibly, while guaranteeing quality, a reduced risk of leaks over the long term and which required less heavy pump installations to transport the heating/cooling water.

As also BESIX Infra is involved in the installation process of these networks this is a another perfect example of co-creation between 2 companies of BESIX Group.

10.7. Carbon calculator deep foundations

As a member of the European Federation of Foundation Contractors (EFFC) Franki Foundations assisted in the development of a carbon calculator. This tool calculates the carbon footprint of deep foundation and ground improvement works. The tool can be downloaded on EFFC/DFI Carbon Calculator Task Group - EFFC

This is only a selection of the many internal and external initiatives we participate in. If you want to know more, just keep an eye on our media channels for more information about the sustainable initiatives we’re taking in our Group.

10.8. Hydrogen Industry Cluster (Waterstofnet)

BESIX is a member of the Hydrogen Industrie Cluster which is an industrial collaborative partnership, uniting companies, knowledge institutions, governments and authorities that want to collaborate on projects involving hydrogen as a storage medium for renewable energy and its use for zero-emission mobility, heat or industrial applications.

10.9. Belgian Alliance for Climate Action

BESIX Group is a signatory of the Belgian Alliance for Climate Action, launched by the non-governmental organisations The Shift and WWF Belgium in October 2020. The signatory members of the Belgian Alliance for Climate Action are thereby aligning their activities with the objectives of the Paris Agreement, i.e. to limit the rise in global temperature to a maximum of 1.5°C.
More information on https://www.belgianallianceforclimateaction.org/members

11. Employee contribution

All Employees of BESIX Group, including subsidiaries, are invited to contribute by communicating comments and/or improvement proposal via their respective (Q)HSE Manager and/or QHSE@BESIX.com.

Until now, no comments or improvement proposals have been received.