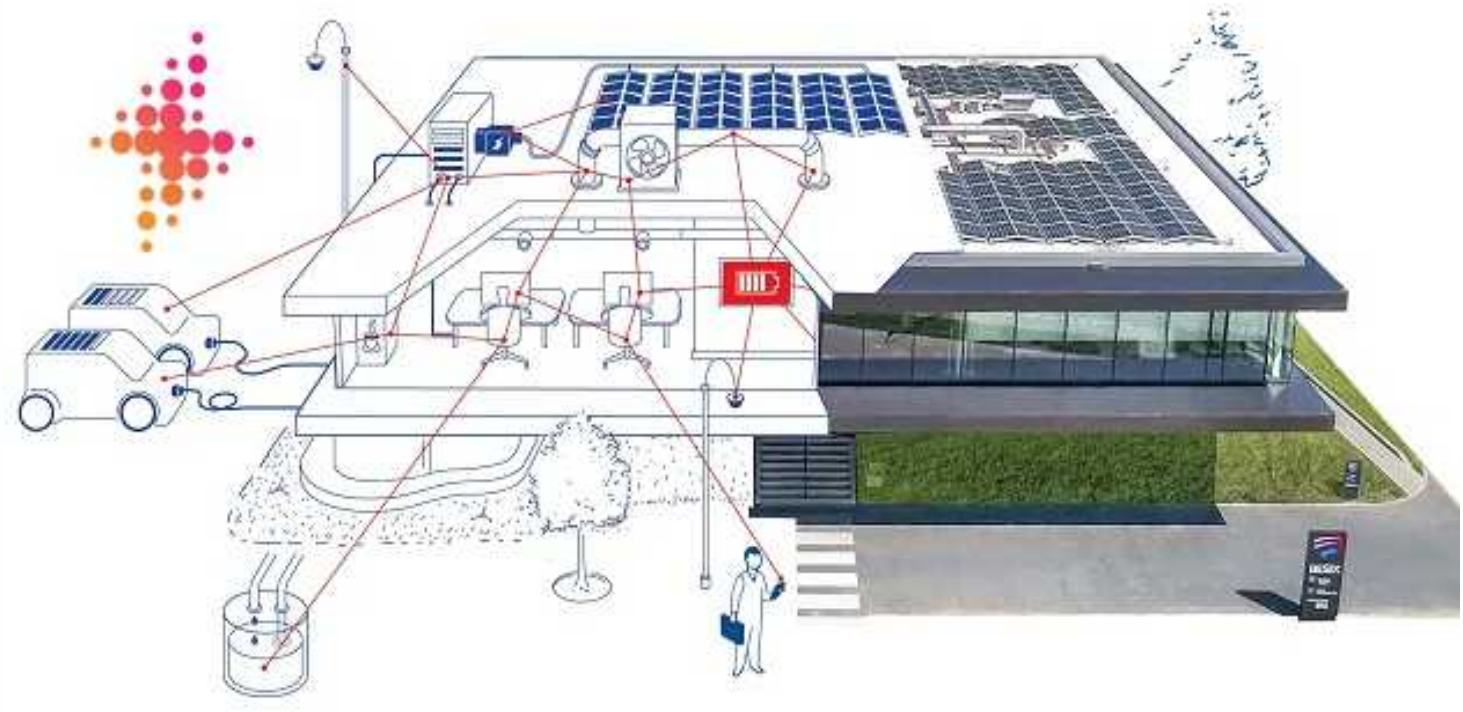
Energy and carbon reduction programme 2020-2024



BESIX Group

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1. Introduction

BESIX is a multi-disciplinary construction company specialized in construction, infrastructure and marine works, often in contracts with a high level of complexity. In Benelux and France, the Group's regional affiliates BESIX Infra, Jacques Delens, Vanhout, Wust and Lux TP ensure a strong presence and a local approach. With Franki Foundations, Socogetra, BESIX Environment and Van den Berg, the Group offers specialist niche solutions for the building market like deep foundations, geo-engineering, road construction, water treatment and cable and pipeline construction.

As an active member of the United Nations Global Compact since 2016, BESIX Group supports the 10 United Nations principles relating to the respect of Human Rights, international labour standards, the environment and the fight against corruption. BESIX Group is also an active member of The Shift. The Shift helps BESIX Group to make use of the global framework of the UN Sustainable Development Goals to map its societal ambitions.

In 2016, BESIX Group signed the Belgian SDG Charter for Development with the objective to promote the Sustainable Development Goals (SDGs), to implement them in the framework of development cooperation and to raise awareness of the international development agenda in the Belgian private sector.

The Belgian SDG Charter for Development is based on the 5 Ps of the SDGs: People, Planet, Profit, Peace and Partnerships. The Shift, the Belgian sustainable development network, guides the whole process. BESIX is one of the signatories of the Charter.

BESIX, as part of BESIX Group, supports the Sustainable Development Goals (SDGs), with a particular focus on SDG 13 related to climate change. Our group indeed recognizes the urgency of the climate challenge and addresses it as one of the main challenges of the construction sector.

Since 2011, the activities of BESIX in the Netherlands are certified level 5 in accordance with the latest version of the CO_2 performance ladder. BESIX aims to extend the current boundary of this certification to her BU Europe by no later than mid-2022.

The purpose of this document is to describe the scope 1, 3 & 3 reduction objectives and action plan as per requirement 2.B.1, 2.B.2, 3.B.1, 3.B.2, 4.B.1 and 5.B.1 of the CO_2 performance ladder.

2. Carbon policy

In line with our purpose, “Excel in creating sustainable solutions for a better world”, BESIX aims to contribute to the transition to a low-carbon society.

BESIX, as part of BESIX Group, supports the Sustainable Development Goals (SDGs), with a particular focus on SDG 13 on climate change. As an active member of the United Nations Global Compact, our group indeed 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 GHG emissions (scope 1&2) by no later than 2050.
- to promote and be a leader in providing sustainable solutions to its partners and clients and, in doing so, to helping 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 Greenhouse Gas 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 clients.

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

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

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

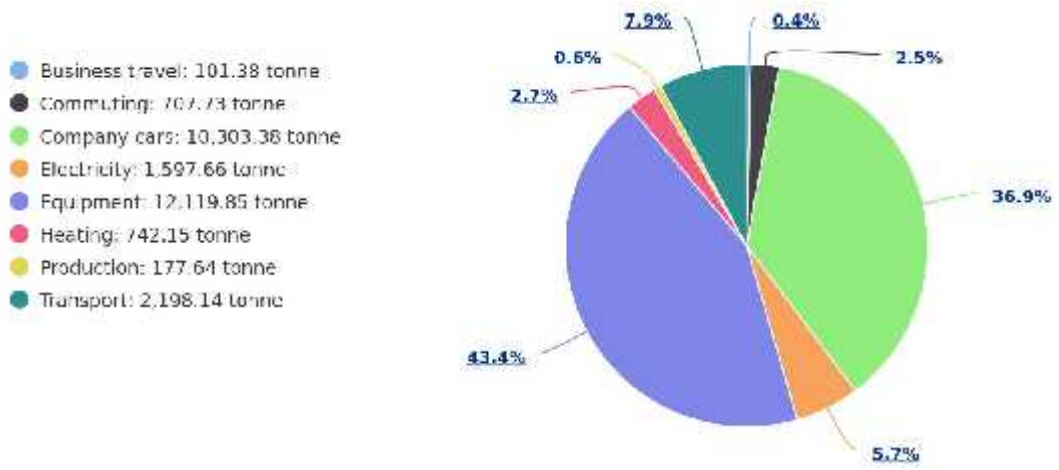
- demonstrate leadership on a daily basis;
- wherever possible, guide and advice our clients in choosing the most sustainable solution for their project;
- actively promote and implement energy and natural resource saving measures;
- minimize waste, promote recycling and the use of recycled product to 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

3. Carbon footprint baseline year 2019

The scope 1 & 2 energy and carbon reduction program is developed based on an analysis of the scope 1 & 2 carbon footprint of the baseline year 2019 and focuses on the most relevant emission streams:

- company car fleet and fleet of utility vehicles
- fuel heavy equipment on fixed facilities and construction projects
- fuel used for on-road equipment and transport and
- electricity used by offices, fixed facilities and construction projects

The scope 1 & 2 carbon footprint (Organizational Boundary) of the baseline year 2019:



The scope 3 reduction program is developed based on a qualitative scope 3 analysis and quantitative scope 3 (purchased goods and services + waste) footprint calculation of the baseline year 2020 and focuses on the most relevant upstream and/or downstream scope 3 emission categories:

- Upstream:
  - purchased goods and services with a specific focus on in-situ concrete, rebar, (sheet) piles, (structural) steel, façade,…
  - capital goods (own plant & equipment)
  - transport and distribution of purchased goods and services
  - waste generated in operations
- Downstream:
  - use of sold products
  - end-of-life treatment of sold products

4. Objectives

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). Above the overall ambition for the Organizational Boundary, specific ambitions have been defined for the underlying business unit and regional entities.

In order to achieve the overall ambition specific reduction targets have been defined for the most relevant emissions categories. These reduction targets (related to turnover) have been set for end 2030:

1. Scope 1 – company car fleet and utility vehicles

- minimal 60% reduction for the emissions from company cars
- minimal 57% reduction for the emissions from utility vehicles

Additional targets have been set related to the composition of the company car fleet:

- at least 10% of the company car fleet is zero-emission by end 2025
- at least 40% of the company car fleet is zero-emission by end 2028
- 100% of the company car fleet is zero-emission by end 2032

2. Scope 1 – on-road and off-road equipment

- minimal 15% reduction for the emissions related to on-road equipment and transport
- minimal 26% reduction for the emissions related to heavy site equipment
- testing the use of alternative but more sustainable fuels (e.g. hydrotreated vegetable oil), biogas powered generators and electrically powered equipment on at least 2 projects by end 2025.

3. Scope 2 – electricity

By the end of 2025 all electricity used for our offices, fixed facilities (production plants) and projects origins from 100% renewable resources.

4. Scope 3

We are focusing to make our supply chain more sustainable by promoting the use of more sustainable products and raw materials and by choosing for alternative and optimized transport solutions. Our priorities are the manufacturers of building materials such as in-situ and precast concrete, structural steel, (sheet) piles, asphalt, rebar and façade elements.

BESIX aims to provide added value to its clients. We do this by offering smart and green rated buildings such as LEED, HQE, BREEAM,…. Within the Group we have experience in district heating and cooling networks, innovative renovation of houses (e.g. BuildUp).

In order to limit the use of natural resources we strongly focus on the principles of a circular economy through optimization of design, new construction products and methodologies and waste management.

5. Energy and carbon reduction management plan 2020-2024

The energy and carbon reduction program is developed according the ‘Trias Energetica’ principles :

1. Minimize the required energy demand as much as possible (optimized design of end products, choice of materials, investing in energy-efficient equipment, smart execution methodologies, energy audits…)
2. Maximum use of sustainable energy (use of renewable energy production means, use of low carbon and/or alternative energy sources, …)
3. If required, maximum efficiency in the use of fossil fuels (smart execution methodologies, training & awareness communication, energy audits…)

Progress is monitored in the 6-monthly progress reporting on the level of both Organizational Boundary as the underlying business unit and regional entities.

SCOPE 1						
Emission source	**Share in footprint Org. Boundary[1]**	**Expected reduction (end 2030)**	**Actions 2020-2024**	**Period**	**Responsible**	**Applicable to**
Off-road equipment	43,4%	26%	<u>Development of a roadmap (2023-2025) to make the heavy site equipment more sustainable:</u> - creation of a workgroup with the objective to define a roadmap - market research for alternative fuels and electrification of equipment - testing of electrified heavy site equipment and alternative fuels - evaluation and development of roadmap	 2021 2021-2023 2021-2024 2023	Sustainability Manager De Groene Boog	BESIX, BESIX Infra, Van den Berg, Franki Foundations
			<u>Development of a roadmap (2022-2025) to a zero-emission project site installation:</u> - creation of a workgroup with the objective to define a roadmap - inventory actual situation + market study for possible solutions and search for partners - implementation of quick wins - development of TCO calculations - evaluation and development of roadmap	 2021 2021 2022 2022 2022	Sustainability Manager De Groene Boog	BESIX, BESIX Infra, Van den Berg, Franki Foundations
			<u>Improve energy efficiency through technical development</u> Integration of stage/Tier IV, Euro 5 requirement in the procurement of new equipment (if a more sustainable solution is not possible)	As from 2022	S.M.D. + Plant & Equipment managers	BESIX, BESIX Infra, Van den Berg, Franki Foundations
			Improve awareness employees - training 'Nieuwe draaien'	2022-2023	People Dept. + Plant & Equipment managers + QHSE Dept.	BESIX, BESIX Infra, Van den Berg, Franki Foundations
Company car fleet	27%	60%	<u>Shift to a 100% zero-emission company car fleet:</u> - Testing of electric company cars (Belgian market) + market study lease companies - Review of Belgian BESIX Group Company Car (inclusion of electric vehicles) - Alignment with Belgian regional entities BESIX Group - Implementation of BESIX Group Company car Policy – phase 1 (annual mileage < 25.000km) - Implementation of BESIX Group Company car Policy – phase 2 (annual mileage > 25.000km) - Promotion of soft mobility (annual event during European Mobility week)	 2020-2021(S1) 2021 (S1) 2021 (S2) As from 2022 As from mid-2023 Annual	 People Dept. BESIX People Dept. BESIX People Dept. BESIX Belgian companies BESIX Group Belgian companies BESIX Group People Dept + QHSE Dept. BESIX	Belgian companies of BESIX Group
Utility vehicles	10%	57%	<u>Shift to a fleet of 100% zero-emission utility vehicles:</u> - Testing of 3 electricity powered utility vehicles - TCO-calculation - Proposal to management - Roll-out of investment program	 2021 2022 2022 As from 2023	 S.M.D. S.M.D. S.M.D. S.M.D.	Belgian companies of BESIX Group
Road transport and on-road equipment	8%	15%	<u>Improve energy efficiency through technical development</u> - Integration of stage V requirement in the procurement of new equipment (if a more sustainable solution is not possible) - Inventory of actual situation within BESIX Infra and Van den berg + market study + defining strategy to shift to more sustainable road transportation	 As from 2022 2023	 Plant & Equipment Dept. BESIX Infra, Van den Berg	Org. Boundary
Heating	2.7%	10%	- Third Party energy audit of Head Office	2022	Procurement Dept. BESIX	BESIX
			- Third Party energy audit of S&F	2023	Responsible S&F	BESIX
			- Third Party energy audit of Saintes	2022-2023	Management Franki Foundations	Franki Foundations
			- Renovation of head office BESIX Infra / Van den Berg in Schelle into a more sustainable office building	2022-2024	Management BESIX Infra / Van den Berg	BESIX Infra, Van den Berg
			- Moving of BESIX Connect to a more sustainable office	As from 2022	Management BESIX Connect	BESIX Connect
			- Study for optimizing the use of office space following the acquisition of Agidens Infra Automation by Van den Berg	2021-2022	Management Agidens Infra Automation	Agidens Infra Automation NV + BV

[1] Organizational Boundary = BESIX BU Europe, BESIX Nederland BV, BESIX Infra, BESIX Infra Support, Van den Berg, Agidens Infra Automation NV and BV, BESIX Connect, Appermont, Franki Foundations, Franki Grondtechnieken BV, Atlas Fondations

SCOPE 2						
Emission source	**Share in footprint Org. Boundary**	**Expected reduction (end 2030)**	**Actions 2020-2024**	**Period**	**Responsible**	**Applicable to**
Use of electricity at offices, fixed production facilities and projects	5.7%	100%	Review of frame agreement ‘electricity” offices and fixed production facilities + to integrate the requirement that delivered electricity must be locally produced and 100% from renewable energy sources as per CO_2 performance ladder requirement	Before end 2021	Procurement Dept. BESIX Group	Org. Boundary
			Review of frame agreement ‘electricity” for projects + to integrate the requirement that delivered electricity must be locally produced and 100% from renewable energy sources as per CO_2 performance ladder requirement	2022 (S1)	Procurement Dept. BESIX Group	Org. Boundary
			Third Party energy audit of Head Office	2022	Procurement Dept. BESIX	BESIX
			Third Party energy audit S&F	2023	Responsible S&F	BESIX
			Third Party energy audit Saintes	2022-2023	Management Franki Foundations	Franki Foundations
			Renovation of head office BESIX Infra / Van den Berg in Schelle into a more sustainable office building	2022-2024	Management BESIX Infra / Van den Berg	BESIX Infra, Van den Berg, Agidens Infra Automation NV
			Study for optimizing the use of office space following the acquisition of Agidens Infra Automation by Van den Berg	2021-2022	Management Agidens Infra Automation	Agidens Infra Automation NV/BV
			Improve energy performance of site installation	Ongoing	BESIX Infra	BESIX Infra
			Installation of a wind turbine in Bilzen (planned data of availability = end 2023)	2021-2023	BESIX Infra	BESIX Infra
			Feasibility study of a wind turbine in Burcht	2021-2022	BESIX Infra	BESIX Infra

SCOPE 3						
Emission source	**Share in footprint Org. Boundary**		**Actions 2020-2024**	**Period**	**Responsible**	**Applicable to**
Purchased goods and services			Transformation asphalt batching plant Puurs from gasoil to natural gaz + change to a more sustainable oven heating system	2023-2024	Belasco (supplier BESIX Infra)	BESIX Infra
			Transformation asphalt batching plant Bilzen from gasoil to natural gaz + change to a more sustainable oven heating system	2025-2026	Belasco (supplier BESIX Infra)	BESIX Infra
			- Value chain analysis (structural) steel - Value chain analysis steel piles and sheet piles - Value chain analysis façade - Development of scope 3 project guidelines related to ready mix concrete, rebar, (structural) steel, (sheet) piles, façade, transport & distribution - Chain analysis asphalt	2021 (S1) 2021 (S2) 2022 (S1) 2022 (S2) 2023	BESIX Group Procurement Dept. in collaboration with QHSE Dept. and Engineering Dept. BESIX Infra / Belasco	BESIX, BESIX Infra, Van den Berg, Franki Foundations Belasco / BESIX Infra
			Development and implementation of green concrete. 'green concrete' is a strategy to reduce carbon (low carbon concrete) or reusing materials (RCA concrete) ▪ work group ▪ 3 pilot projects (2 x low carbon cement + 1x RCA) ▪ 50% of projects with low-carbon cement + 50% projects with RCA concrete	 2022 2022 2023	 BESIX Engineering Dept. BESIX Engineering Dept. BESIX Engineering Dept.	BESIX, BESIX Infra
Downstream transport & distribution			- Value chain analysis "upstream transport & distribution of purchased goods & products' - Development of scope 3 project guidelines related to ready mix concrete, rebar, (structural) steel, (sheet) piles, façade, transport & distribution	2022 (S1) 2022 (S2)	BESIX Group Procurement Dept. in collaboration with QHSE Dept. and Engineering Dept.	BESIX, BESIX Infra, Van den Berg, Franki Foundations
Capital goods (own plant & equipment)			<u>Development of a roadmap (2023-2025) to make the heavy site equipment more sustainable:</u> - creation of a workgroup with the objective to define a roadmap - market research for alternative fuels and electrification of equipment - testing of electrified heavy site equipment and alternative fuels - evaluation and development of roadmap	 2021 2021-2023 2021-2024 2023	Sustainability Manager De Groene Boog	BESIX, BESIX Infra, Van den Berg, Franki Foundations
Waste generated in operations			- Study 'monitoring waste containers' - Development of 'green rules' with a focus on waste prevention and waste valorization	2021-2022 2022(S2)-2023	BESIX Engineering Dept BESIX QHSE Depart. / BESIX Engineering Dept.	BESIX Group BESIX Group
Use of sold products			Development of a procedure to measure, report and factor in the environmental impact of a design element: LCA analysis implemented on # BIM model (or # of tenders BOQ) testcase – training – management plan – implementation	2022	BESIX Engineering Dept.	BESIX
End of life treatment of sold products			Development of a procedure on the use and implementation of a (universal) material passport, linked to BIM: - 2 testcases (finishes only) + 2 pilot projects + training - sector initiative universal passport + development of procedure - full digitalization & data processing	 2022 2023 2024	 BESIX Engineering Dept. BESIX Engineering Dept. BESIX Engineering Dept.	BESIX

6. Measures on project level

Energy and CO_2 reduction opportunities and measures on project level are defined at the start of the project and can be very specific depending on the type of project and type of contract with the client. Design & Build projects have a higher reduction potential than pure build projects.

These opportunities and reduction measures are defined in the project Environmental Management Plan and are situated in the field of:

- energy management related to the site installation;
- the use of equipment;
- upstream transport and distribution of purchased goods;
- the choice of construction materials (purchased goods-embodied carbon emissions);
- optimization of design (embodied and operational carbon emissions);
- optimization of execution methods;
- waste management (prevention and valorization);
- …

A number of these measures are covered in BESIX Group's frame agreements.

For projects with a CO_2-related award advantage, a project specific CO_2-projectplan is developed describing the specific energy and carbon reduction measures applied on that project.