



BYLDIS

**CSR REPORT 2020-2021**

PEOPLE | PLANET | PROFIT





**WE ARE BYLDIS**

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## FOREWORD

### Investment in the future

You are reading the 2020-2021 CSR report. This report gives an impression of the overall progress we have made, but above all it provides insight into how we can continue to improve. To improve in terms of people, planet and profit.

### People

We are hugely proud of our employees. Without all of these colleagues, our organisation would cease to exist. Byldis employees are loyal and have a heart for the company. This is reflected in an organisation that is characterised by professionalism and a 'no-nonsense' culture. It is important to us that people can enjoy working at Byldis, in a safe environment. The necessary steps have been taken to achieve this in recent years.

### Planet

Byldis realises sustainable and innovative construction solutions. Together with our customers and partners, we always strive to improve. As such, we focus on minimising our ecological footprint. Through limiting our energy consumption and waste production, for example, and looking into the possibilities of using replacement raw materials. Circularity in construction materials and building components therefore forms an integral part of our vision for the future.

### Profit

2020-2021 was a difficult period, partly as a consequence of market situations such as the corona pandemic and Brexit. The results were disappointing, and we have therefore had to make changes within the organisation to meet the volume of work. There was a reduction in the number of staff in the first half of 2021. However, as I write this, one year later, I can share that we are back on the right track. We have attracted all kinds of great new projects, which are keeping us busy. As such, we have started production of the elements for 700 to 800 apartments for the project Deanston Wharf on the Thames in London. Construction will start soon. We are also discussing subproject three.

We will also be starting work for the London builder Mace, with a fantastic new project called One Thames City. We are also working in the British capital on a preliminary assignment for housing corporation Berkely Group, which could lead to a big job. And there are a few other assignments in the pipeline in England. Things are also picking up again in the Netherlands. We recently completed De Zalmhaven project, the highest residential tower in the Netherlands at 215 metres high, and are in talks with BAM about a follow-up project for a similar tower. We also have assignments for Dura Vermeer in Amsterdam and Rotterdam, which have secured work for three quarters of a year. Things are starting to look up. And finally. Corporate social responsibility cannot be achieved alone. We all make this possible, and Byldis is happy to make an important contribution.

Jacco van Dijk  
CEO Byldis  
1 november 2021





## WE ARE BYLDIS

Byldis is changing the construction world as market leader in integral assembly solutions within the European mid and high-rise segment. We do this with over 50 years' experience in engineering, precast concrete and facade technology.

Together with over 300 skilled colleagues, we work hard to achieve innovative and sustainable building concepts. From request and design to prefabrication and assembly in one of our factories, followed by installation on the construction site. And all this is just half of the traditional construction time! We are keen to get involved in the early stages of the process, in order to maximise the profit of our work and our solutions.

### Dutch company with strong DNA

We are a Dutch company that operates internationally. Our head office, the engineering, the precast concrete factory, steel plant and aluminium facade factory are all located in Veldhoven and Tilburg. We are predominantly active in the Netherlands, the United Kingdom, Belgium, Germany and Scandinavia. We engineer, produce and assemble all kinds of precast concrete buildings. From hotels to prisons, from apartment complexes to offices and from hospitals to funeral homes.

Our sales focus lies on securing work with a healthy balance of projects:

- Large and small
- Complex and simple
- Decorative and practical
- Integral and non-integral
- 50% the Netherlands (and Belgium) and 50% UK

### Our vision

The world is changing, the market is changing. Our surroundings are rapidly urbanising, while large cities also see a shortage of homes and workspaces. One million homes must be built in the Netherlands in the coming 10 years, which equates to around 30,000 extra homes every year. There are currently around 71,000 homes built annually, so this must increase to 100,000 (see Actieagenda Wonen). This increasing demand is extending the limits for new-build homes. The only way is up!

### The new way of building

So many developments have also led to a greater need for predictability in large-scale construction projects. A new real estate generation is looking increasingly towards a cooperative model and partners. New technologies make completely new construction methods possible. It is our prediction that this transition will accelerate in the coming years. We refer to the result of this transition as "the new way of building".



The Brown Paper - Byldis strategy.



## THE BIG FIVE OF BYLDIS

### Our precast total concept

Our precast total concept consists of an integrated system for casco and facade. These are complete, precast elements of concrete and aluminium, created using a streamlined process.

### Our total concept starts in the early stages

Namely in the first phase of a development project. A thorough technical and financial analysis ensures that you do not waste time and money in the design phase of your project. And as such, we guarantee a perfect realisation within the project planning.

### The prefabrication?

This takes place in one of our three factories. This is where we work to achieve maximum quality under controlled conditions. Complete components such as window frames and internal and external facades are also assembled in our factories, and then installed in a complete precast product, really fast and delivered to the construction site on time.

**1 Total control**  
Using precast makes construction more predictable, which reduces failure costs. We are a one-stop-shop.

1. Engineering
2. Mould production + reinforcement
3. Production elements
4. Assembly aluminium facades in the elements
5. Transport
6. Installation on the construction site

Handy! So, we are not dependant on external parties that could disturb and delay the development trajectory and production process. Working with just one partner also means one point of contact. And you are assured of quality. Because we guarantee: our elements are wind- and watertight, made to measure, delivered on time and installed on time.

**2 Up to 50% faster than traditional building methods**  
We build really quickly. First digitally, then in our factories and eventually on site. This makes us significantly faster than traditional construction methods. This time saving pays off time and again. Not only in terms of cost, but also in fast delivery times and thereby a higher and faster Return On Investment. And all this together with quality profits.

**3 Safer construction with a small team**  
Our precast elements are constructed in the factory by a well-trained team. This means that we only need a few people on the construction site to assemble the precast facade elements. We do not need to assemble and disassemble scaffolding, which results in a calmer and safer construction site.

**4 1.001 design possibilities**  
This means maximum design freedom for architects, engineers and clients. Get us involved early in the design process so that you can make the most of experimenting with materials, shapes, colours and structures.

**5 Sustainable**  
We focus on minimising our ecological footprint. By limiting our energy use and waste production, for example, and researching possibilities for replacement raw materials. Circularity in construction materials and building components forma an integral part of our vision for the future.



**Total control**



**Up to 50% faster than traditional building methods**



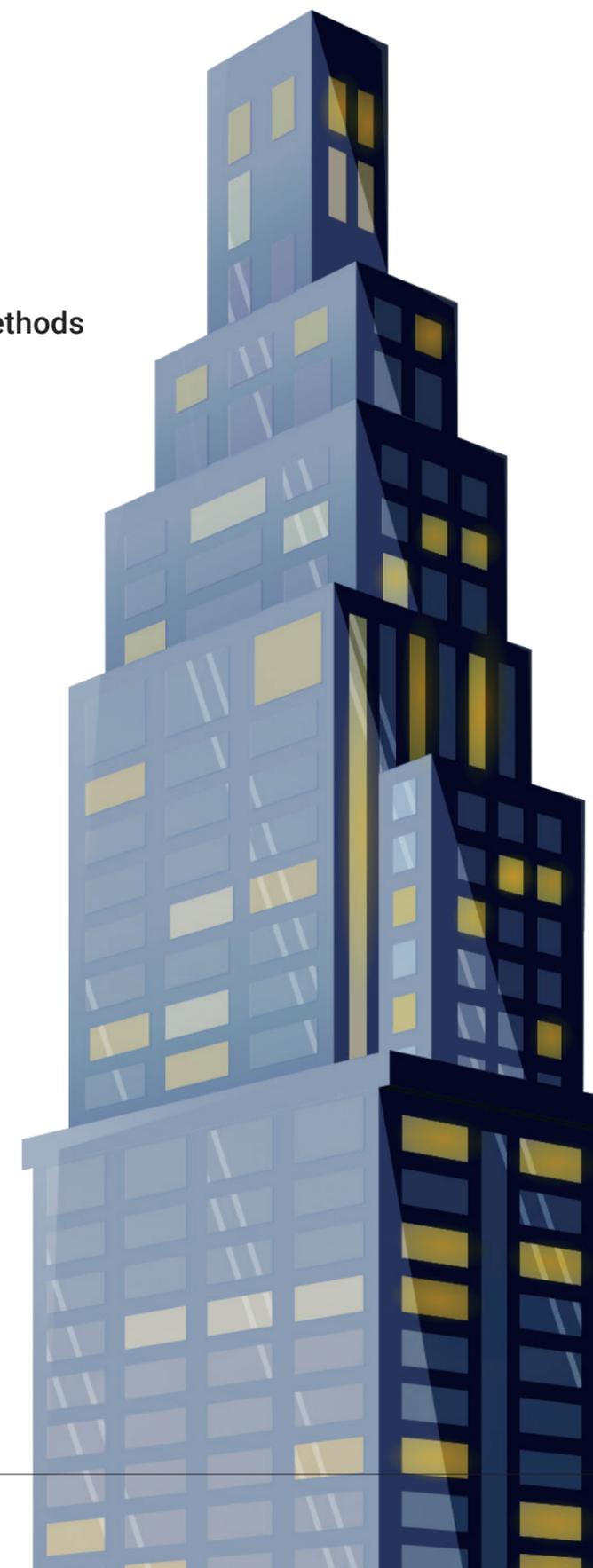
**Safer construction with a small team**



**1.001 design possibilities**



**Sustainable**





## TOTAL CONCEPT BYLDIS

### 1. DEVELOPMENT



Your real estate project is in its design phase, and you are looking for predictability, speed, safety and sustainability in the construction process. As such, you are considering a precast construction method.

We define the technical feasibility of our construction method within the framework of your project and summarise this in the form of a report.

We present this report to you in person.



Once this budget estimation is agreed, we record it in an engineering contract.

Based on this, we compile a budget estimation.

Together, we set out the scope and demarcation of the project, and how we can be of service to you.

### 2. DESIGN

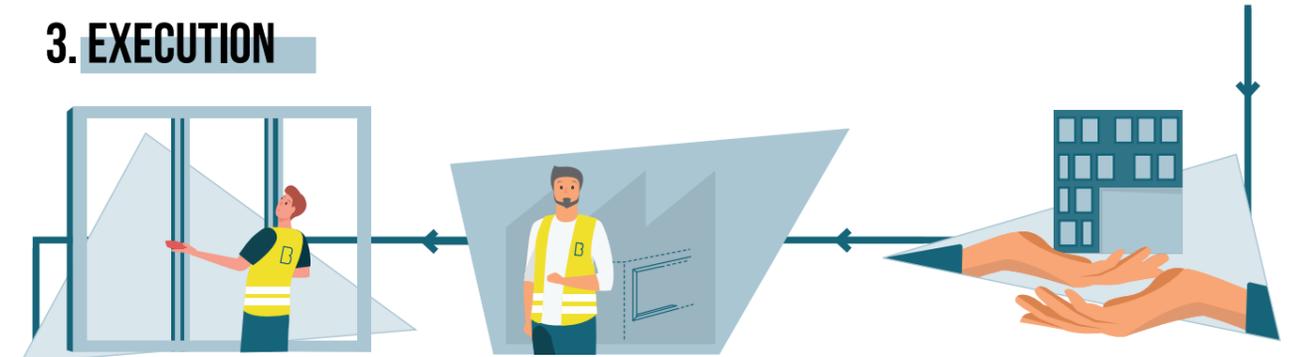


A team of engineers and modellers are at your disposal (Byldis Engineering). After the design engineering, we get to work with the executive engineering. We do this using advanced 3D modelling to create the digital versions of the precast elements, frames, windows, doors and complete facades.

We go through everything thoroughly with you.

Based on this precast design, we get to work.

### 3. EXECUTION



The assembly of the aluminium frames in the elements is taken care of by our facade builder; aluminium facade factory Byldis Facades. As such, we deliver a wind and watertight casco product, including aluminium frames, hinges and locks.

Our factories are controlled using 3D drawings produced by the design team. The mould is made in the mould shop and the reinforcement produced in our automated concrete plant. In the meantime, the precast concrete elements are produced. This is all done by our precast concrete department Byldis Prefab.

A Byldis project manager is assigned to the project. He or she takes care of the organisation and communication between the construction team and our factories.



And of course, we also ensure that the precast elements are delivered to the construction site. In consultation with the construction team, we provide a just-in-time logistics plan.

We only need a small team on site to take care of the assembly. This ensures a calm and safe construction site. Our execution team, led by our project manager, makes sure the construction project runs smoothly.

We assemble and complete your project according to the agreed conditions.

### 4. AFTERCARE

We provide you with a wind and watertight guarantee.



"It's great, together we have realised a beautiful project, made to measure, delivered as specified and installed on time."



## REPORT STRUCTURE

The Byldis CSR report is based on the themes People, Planet, Profit. Within these main themes, we have worked the topics out per category into SDGs (Sustainable Development Goals). The SDGs are seventeen goals that will make the world a better place in 2030.

The SDGs have been agreed by the countries affiliated in the United Nations, including the Netherlands. The goals were established based on the global input of organisations and individuals. The Sustainable Development Goals started in 2015 and continue until 2030. They form a global compass for challenges such as poverty, education and the climate crisis. The Central Office for Statistics in the Netherlands (CBS) measures every year how the Netherlands stands in terms of these goals.

Organisations and individuals can contribute to achieving one of more of these Sustainable Development Goals in various ways. To provide insight into the total progress and further points for improvement of the SDGs within Byldis, we are happy to explain how we integrate these goals, actions and results in our strategy, processes, projects and partnerships.

Read more on:  
<https://www.sdgnerland.nl/>  
or <https://sustainabledevelopment.un.org/>



PEOPLE



PLANET



PROFIT





# RESULTS 2020-2021

## ACTIONS

## GOALS

## RESULT



### 1.1 Developing people



- 1.1.1 Employee satisfaction
- 1.1.2 World Class Manufacturing and World Class Office
- 1.1.3 Competence reviews
- 1.1.4 Career Development Program
- 1.1.5 E-learning
- 1.1.6 Teachers and traineeships
- 1.1.7 Transparent job and reward system
- 1.1.8 Byldis Symposium

- Good employment practices, enjoyable and safe working environment.
- Stimulate and motivate employees to be involved and develop further.
- Stimulate craftsmanship and sustainable employability (75% of production personnel).
- Retention and development of high potentials in line with strategic goals of Byldis (programme in which 100% of this target group is involved).
- Set up an e-learning platform for Prefab in 2021. And for Facades in 2022. Start training process, followed by development of competences.
- The appointment and education/coaching of eight teachers in production and in the office. The appointment of two programmes for both production and in the office.
- Setting up a salary scaling system before 1-1-2020 with competences per job position and (criteria for) rewards (for personnel and management).
- Get in touch with the surroundings in order to share our knowledge and pride (people, product, company). Organisation in 2020.

- Continual process and structural attention. PMO carried out and evaluated, positive feedback with points for improvement.
- Realised. WCM has become a fixed value for Byldis Prefab and WCO for Byldis Facades.
- Realised. Competence evaluations are held on a cyclical basis.
- Realised. Career Development Program completed and follow-up set in motion.
- Realised. E-learning has been re-written. First lessons online and available for employees in various languages. Facades: E-learning within the branch. This is tailored for Facades, and Byldis Prefab will also use it.
- Realised. New teachers trained in 2020.
- Realised. Salary system is in use. Many changes have been made in the past year. The new functionality was phased-in in the annual ranking in October.
- Postponed due to Corona.



### 1.2 Minimising footprint in use



- 1.2.1 Research into circularity and new ways of building
- 1.2.2 Concrete Experience, Concrete House
- 1.2.3 Innovation

- Anchor our precast insights as early as possible in the construction process.
- Before 2020: Active participation concrete house, research sustainable concrete.
- Reduction of waste through extension of lifespan by optimisation of re-duce, re-use, re-cycle for our production locations.

- Research completed in collaboration with TU Delft and partnership established met Madaster, we need more time due to a staffing change.
- Realised.
- Partially realised. Waste analysis carried out + goals set. Research carried out into re-use, re-duce, re-cycle.



### 1.3 Migrant workers



- 1.3.1 Assess location. We work with NBU and SBA certified employment agencies
- 1.4.1 Charities
- 1.5.1 Working conditions
- 1.5.2 RI&E, VCA, PBM's, source control
- 1.5.3 Workplace analysis and checks
- 1.5.4 Hazardous substances

- Clear and honest contracts. Good housing (hygiene and privacy) for workers from outside the Netherlands, close to our production location. Consultation with selected employment agencies.
- Participation in two initiatives (local: close to business and project) through sponsoring or staff participation.
- Good entrepreneurship, enjoyable and safe working environment.
- A fitting and topical risk inventory. Systematic implementation of alterations (also in view of safety + application of source approach).
- Achieve 100% of the compulsory work inspections and controls, at all levels of the organisation.
- Reduce the impact of the use of chemicals on people and the environment.

- Partially realised. Clear contracts and honest hourly rates via permanent selection of employment agencies. All employees go through the same onboarding programme. However, housing has not been checked.
- Realised. In 2020: Spieren voor Spieren and Het Snelle Wiel.
- Permanent maintenance and improvement by way of WCM and WCO.
- Realised. RI&Es for precast and Facades are up to date and tested. Further optimisation of systematic changes.
- Partially realised. Inspections in place. Frequency to be increased and applied in all sections of the company.
- Realised. Chemical agents are bio-based replacements in collaboration with partners. Mould lacquer and releasing agents are expected to be completely replaced in 2021.



### 1.4 Sponsoring

### 1.5 Safety



### 2.1 Reducing the (CO2) footprint



- 2.1.1 Several projects (examples)
- 2.1.2 Certification
- 2.1.3 Environmental organisation committee
- 2.1.4 Reduce emissions business (air)miles
- 2.1.5 Green electricity and gas
- 2.1.6 Installations on the premises
- 2.1.7 Socially Responsible Purchasing
- 2.1.8 Socially responsible purchasing of transport services
- 2.1.9 Socially responsible purchasing of products

- Actual projects with a lower CO2 footprint.
- Continuity in the certification we already have.
- Increased effectiveness of environmental policy and demonstration thereof.
- Reduce business (air)miles (less flying, more video conferencing). Reduce emissions business (road) miles (sustainability/electrify vehicle fleet).
- Purchase Vertogas certificates and use 100% green energy. Continue to reduce consumption per FTE
- Implement the compulsory energy measures Focus on green conversion of heavily used machines/installations. 100% LED lighting in production and offices wherever possible
- Purchase from Socially Responsible suppliers, concrete criteria.
- Integrate sustainability in SRP policy. Transfer to more sustainable packing instead of single-use packaging for aluminium profiles.
- Application of sustainably produced raw materials (smaller footprint, recycle guarantee, FSC + KOMO quality mark). Replacement of hazardous substances. Switch to smaller series (JIT), focus on (environmental) saving production / joint assembly of elements (Prefab & Facades). Reuse waste flows.

- Spakler Tower (EPC=0), Terraced Tower (alu 75% recycle guarantee), Hourglass (higher climate comfort).
- Realised. Continuous attention to ensure this is not a paper tiger but that it actually provides structure. In 2020 Achilles accreditation achieved and PEFC/FSC + SCL certification planned for 2021.
- Recertification BES 6001 + ISO 14001, for which various action has been taken, results shared within the organisation and follow-up safeguarded in Environmental Management Group.
- Realised, see footprint Byldis BV 2020
- Realised. 100% green electricity and 150,000m3 green Vertogas (± 60%). CO2 emissions per FTE reduced by 8% in 2020.
- Realised. EED report, CO2 footprint verification. Replacement of central heating. Report to e-counter recognised energy measures. Realised. Production and Office to LED, Facades 100% and for Prefab Tilburg replacement to LED lighting in concrete factory.
- Each tactical purchasing contract now has at least 1 SRP criteria. Strive to purchase locally, work together to reduce waste (with recycling) and transport.
- Partially realised. SRP introduced at Prefab, Facades follows JIT
- Partially realised. Goals have been set for both Prefab and Facades for 2021.
- Realised. Production advantages of (environmental) saving joint assembly of elements.



### 2.2. Minimising emissions and waste



- 2.2.1 Precast construction, optimise downtime
- 2.2.2 Steel plant
- 2.2.3 Recycling insulation and wood waste
- 2.2.4 Lean, WCM and ERP in primary processes Optimisation of the production process
- 2.2.5 Re-use of wooden moulds and mould components
- 2.2.6 Waste reduction
- 2.2.7 Reuse and alternative raw materials

- Efficient use of materials and the prevention of waste during the production and assembly process.
- Smaller footprint on reinforcement nets.
- Reduce environmental impact waste flows.
- Improved production/flow of goods and switch to smaller batches/production quantities. Switch to ERP controlled production organisation.
- Selection of reusable mould components and the creation of storage for these components so that they can be reused.
- Separate and reduce waste: reduce amount of residual waste. Establish reduction policy/goals for the coming years 2020-2022.
- Recovery of reusable fractions (gravel, cement, sand) from production sludge. Research into cement replacements.

- Partially realised. Transition underway in our sales department, whereby engineering is involved earlier in the process.
- Own customised net manufacture (less waste, rework and transport)
- Separate collection of sawing waste Rockwool and transported to Rockwool for 100% recycling. MMH containers transported to local livestock farmer for 100% recycling.
- Partially realised. ERP introduction + smaller batches at Facades started. Prefab will follow in 2021.
- Realised. Both Prefab locations have covered storage areas.
- Realised by reconfiguring waste flows, improving transparency and improving separation where possible. See overarchiving waste report
- Sludge installation in use since January 2020. Rinsed fractions are removed and recycled there. New project with accelerators started in 2021.



### 3.1 Economic



- 3.1.1 Efficiency
- 3.1.2 Employment opportunities

- Retention of turnover and return, reduction of risks.
- Preservation of job opportunities. Correct ratio between permanent and flex. Good relationship with experienced flex workers.

- Partially realised, see commercial register KvK (Chamber of Commerce), annual reports. Risks reduced since previous CSR.
- Not realised, see report.





# 1. PEOPLE

Working at Byldis means that you are part of a dynamic company. A place where colleagues work together to achieve great results, in an environment where you can be yourself. Together we also play a role in Corporate Social Responsibility. We need all of our colleagues to be onboard in order to implement CSR, keep it going and to make it better every day. Our core values are therefore:

- Collaboration
- Entrepreneurship
- Professionalism (reliability)
- Leadership (if you hold a managerial position)

## 1.1 DEVELOPMENT OF PEOPLE



In the ever-changing and dynamic environment in which Byldis operates, the development of our employees is crucially important. It is important to us that every colleague who wants to work on their development, has the opportunity to do so. Whether this is during your education in the form of an internship, directly afterwards by way of a traineeship, of even after you have been working in the field for many years.

### 1.1.1 Employee satisfaction

Employee satisfaction is a component of the PME (Preventive Medical Examination). Every two years, Byldis offers its employees the opportunity to voluntarily take part in a PME. The employee receives an individual report listing possible areas of concern and suggestions for improvements. The employer is not able to see the contents of the report. Other results of employee satisfaction are fed back to the organisation as a whole.

### 1.1.2 World Class Manufacturing and World Class Office

How do we guarantee a safe working environment? By incorporating structure, among other things, into working practices, with the weekly White Board Meetings for instance, as a component of World Class Manufacturing and World Class Office. These are effective internal communication platforms. Up to date information is shared with and gathered from employees during these meetings. This generates improvement suggestions that are visibly taken up by everyone involved. Furthermore, we are working on the digitisation of our processes. Various information screens have been installed.



WhiteBoard Meeting

### 1.1.3 Competence reviews

Competence reviews and HRGC (HR interview cycle) reviews have been carried out since 2017. All direct employees have a formal competence review every year with their direct supervisor, in which the required competences for the job in question are discussed and how the employee is developing further within this role. Indirect employees have a Result/ Planning assessment at the beginning of the year in which the annual business plan is used to derive result-based agreements between the manager and employee. This is followed at the end of the year by an Evaluation/ Performance review, in which we look at the extent to which the agreed results have been met. So, everyone has a clear insight into his/her contribution in achieving the company objectives. These reviews are also intended as opportunities to talk about ambitions and development, and to make new agreements. This is how we try to connect organisational objectives to personal talents and to motivate as much as we can.

### 1.1.4 Career Development Program

We initiated the Career Development Program in July 2019. It began with a pilot group of 14 Byldis participants over a period of one year. Assessments were carried out and the results were discussed. PDPs were compiled based on the organisational objectives and personal development goals and peer meetings were alternated with specific workshops.

### 1.1.5 E-learning

Our products cannot be made without the professional knowledge and expertise within the various operating companies. Our staff, as professional employees, are defining for our business which is why we put them first. As such, we offer them various opportunities, such as the e-learning modules in the 'Byldis Academy' in which they can follow courses on topics including safety, transport, engineering, concrete or reinforcement. If you complete the module successfully, you receive a certificate.





### 1.1.6 Teachers and traineeships

Theory and practical education is offered in the form of various training courses that are organised for our production and assembly employees in our own factory locations. In collaboration with recognised educational institutes, the new knowledge and skills gained are then tested in practice, for which a personal certificate can be given.

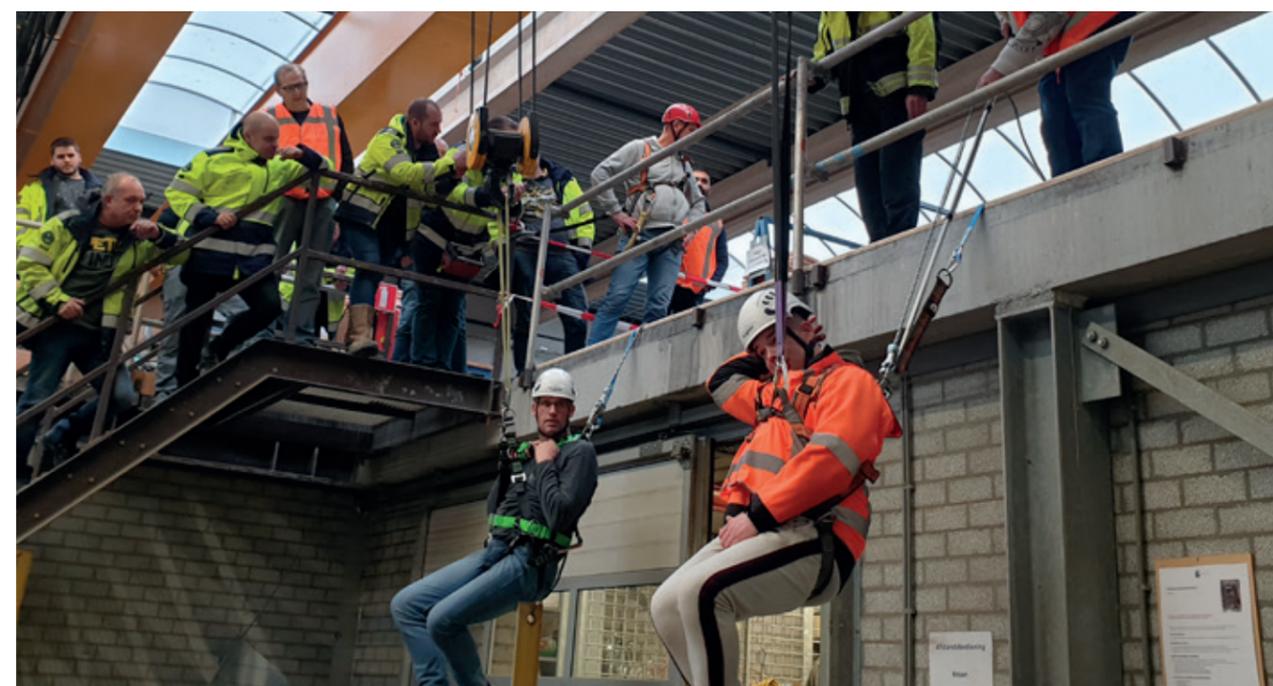
Such courses have been tailor-made by Byldis for topics including working with a forklift, aerial platform, shovel, telehandler, portal and overhead crane, working and rescue at height with the correct use of personal protection equipment. Additional new teachers were trained up in 2020. This has resulted in sufficient available teachers in the direct surroundings.

### 1.1.7 Transparent job and reward system

Byldis has had a transparent, structured salary system for years now. A lot of changes have been made to jobs, job titles and job descriptions within this system over the past year. The new jobs were scaled into the ranking in October 2019. The goal we had in mind with this was also to review the job descriptions and bring them up to date. This will follow.



Working safely with a forklift & aerial platform course at the Byldis factories in Tilburg & Veldhoven



Working and rescue at height by assembly employees.

### Byldis Symposium

The 3rd Byldis Symposium took place on Friday 28 June 2019. The Symposium for developers, structural engineers and architects. With 150 registrations, various interesting, expert guest speakers and lots of positive feedback on the day itself, we can look back on a successful event.

The theme of this Symposium was: Circularity & chain integration. Guest speaker Charlotte Heesbeen, Researcher at the TU Delft, Faculty of Architecture and the Built Environment, opened the symposium. "Building materials in a circular economy". From her theoretical viewpoint, Charlotte clearly explained the framework of the concept of circularity and used the following definition: "A circular economy is a system where products and services are traded in closed loops. It is characterized as an economy which is regenerative by design, with the aim to retain as much value as possible of products, parts and materials"

The Green Brain; Kraaijenhagen, Van Oppen & Bocken. 2016; Ellen MacArthur Foundation, 2016.

For a full report of the event, see: <https://www.byldis.com/nl/actueel/byldis-symposium-2019/>

Byldis is regularly invited as guest speaker, for example on 28 January 2019 by Rijksdienst voor Ondernemend Nederland (RVO) in The Hague. Increased construction productivity while maintaining quality, this was the topic of the inspiration session. We were able to share our experiences and enter into constructive discussions with experts from government and the market.

The Byldis Symposium 2020 and 2021 have been postponed due to corona.

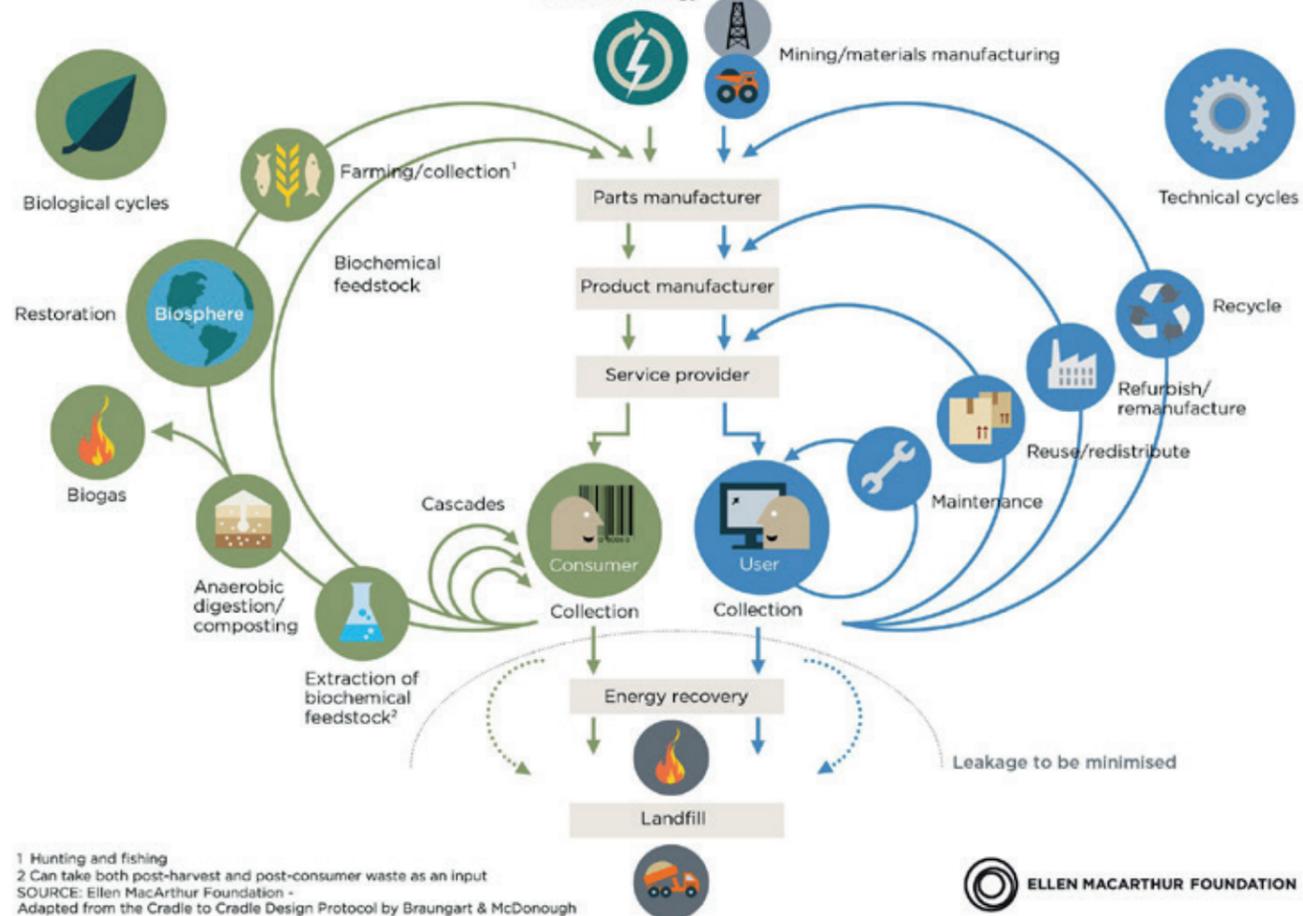


Guest speaker Circularity & chain integration, Byldis Symposium

### CIRCULAR ECONOMY

An industrial system that is restorative by design

Increasingly powered by renewable energy



1 Hunting and fishing  
2 Can take both post-harvest and post-consumer waste as an input  
SOURCE: Ellen MacArthur Foundation - Adapted from the Cradle to Cradle Design Protocol by Braungart & McDonough



Open-air showroom, Byldis Symposium



Open-air showroom, Byldis Symposium

## 1.2 MINIMISING FOOTPRINT DURING USE



### 1.2.1 Research into circularity and building differently

There already seems to be a lot of knowledge about reusing or recycling most construction products and materials. Actual examples remain scarce, however, which is primarily linked to the economic and organisational feasibility. This research we are carrying out focuses on identifying the options for prefabricated construction components, facade components in particular, suitable for circular construction and assessing them from a holistic perspective. The outcome can be used to define a realistic strategy for the road to circularity.

Byldis is always searching for ways of reducing the footprint of concrete. We do this both within Byldis on a laboratory scale and together with suppliers, and outside our organisation in terms of Betonhuis (the branch society). Once a test has been successful in the laboratory, we take cautious steps towards our production environment. In 2020-2021 we carried out this process with cement replacements and cement accelerators.

### 1.2.2. Concrete experience, Betonhuis

With Experimenteel Beton, Betonhuis Constructief Prefab annually explores product innovations in the concrete branch based on the fascinations and ambitions of architects. Unanswered questions are asked and explored in synergy between architects and producers of precast concrete. For example, 'nature inclusivity' was investigated. Byldis has therefore developed prototypes together with DP6 architecture studio, in which concrete as a construction material can be a breeding ground and home for animals, trees and plants. We presented this at the Gevel Trade Fair2020 in Rotterdam.



Gevel Trade Fair 2020 Rotterdam.

### 1.2.3 Innovation

We strive to achieve a perfect reality that consists of high quality, prefabricated components. Innovative concepts with which we complete projects within half the normal construction time, tailor-made and delivered on time. In order to achieve this, we have redesigned our organisation, consultation structure and ICT landscape over the past year.

Innovations take place on two axes:

- Product and process innovations in our laboratories, between departments with our collaborative partners.
- Sharing knowledge and experience with our commissioners as early as possible in the process creates co-creation on our projects.

#### Other product innovations

In its own laboratories, Byldis Prefab conducts continuous research into the maximum use of cement replacements/ accelerators for responsible applications in our concrete and mortar production without loss of quality. In addition, daily tests are carried out in our production locations in order to be able to replace lacquers, degreasers, thinners, cleaners and releasing agents with bio-based alternatives wherever possible.

### 1.3 MIGRANT WORKERS



#### 1.3.1 Toetsen huisvesting. We werken met NBBU en SBA gecertificeerde uitzendbureaus

In onze zoektocht naar gemotiveerde en gekwalificeerde medewerkers maken we dankbaar gebruik van het aanbod aan arbeidsmigranten. Om erop aan te kunnen dat ook zij worden gewaardeerd en beloond volgens onze standaarden, werken we samen met enkele gerenommeerde arbeidsbemiddelaars.

### 1.4 SPONSORING



#### 1.4.1 Charities

This initiative was started in 2019 from a need among our colleagues to get active together. By giving this substance in a meaningful way, so by linking the sporting activity to a charity organisation, it became a win-win event.

##### Run for KiKa

In 2019, over 45 colleagues and lots of Byldis supporters participated in this charity run: Run for KiKa in Eindhoven. In the six months preceding the event, the colleagues trained together several times so that everyone was ready for the challenge. This event was cancelled in 2020 due to corona.

##### Het Snelle Wiel

But we are not the only active ones. We also encourage others to be sporty, because sport connects people. As such, we became sponsors of the regional cycling association Het Snelle Wiel in 2019, for a period of at least three years (up to and including 2021). A modern association with far-reaching social involvement that allows many people, from young to old, to enjoy cycling as a sport.

##### Spiere voor Spiere, Trap voor Trap

In 2019 we became main sponsor of the Spiere voor Spiere event Trap voor Trap 2020, with the goal of combatting all muscular disease in children. As well as the sporty contributions of the colleagues and their family members, everyone really did their best to collect donations for Spiere voor Spiere. This event was cancelled in 2020 due to corona, but a new date has already been set, namely Sunday 21 November 2021.

##### Charity project Dalewood

Byldis was present at the open house of the Dalewood project in Tadworth. This charity project was an initiative of Ballymore and comprised a significant renovation to ensure that the brothers Theo and Oskar, suffering from Duchenne, have a nice place to live.



Team Byldis, Run for KiKa 2019



### 1.5 SAFETY



It goes without saying that a safe workplace is high on our agenda. Byldis is constantly working on permanent improvements to its health and safety performance. New employees are informed and instructed about risks, measures and related company policies. There is an HSE introduction and a company Safety First video is available. Each employee is then taken through the meeting structure of his/her department and is offered a suitable and timely (HSE) training. We are now working hard on a digital platform for initial training and retraining (Byldis Academie). For example, we are working on standardisation and cooperation of policy and implementation between the various different Byldis companies.

#### 1.5.1 Working conditions

We are always working to optimise the working conditions in our factories, together with our employees. As such, safety at all levels is a topic of discussion and we are continuously working on improving the working conditions.

#### 1.5.2 RI&E, VCA, PBM's, source control

We work from an overall perspective on managing risks. Significant changes in the production organisation always go hand in hand with a systematic approach, in which good working conditions and the prevention of risks are focus points. If risks cannot be tackled at the source, we try to limit them as much as possible through containment (by encasing, for example, or installing a fence around the area in question), limiting the period of exposure and training people in acting responsible with the process/machine in question. We provide PPE wherever it is necessary, and we promote its expert use.

*We have also introduced self-developed solutions for practical assembly. See attached photos.*



*The hanging rolling scaffold makes it easier and safer to unload vehicles without using a ladder.*

#### 1.5.3 Workplace analysis and checks

These are in place to keep production conditions manageable by monitoring whether agreements are adhered to and whether the provisions and working methods made available for working safely are used. By carrying out work inspections at all levels (executive, safety, managerial, implementation), we are able to create and maintain a robust and safe working environment. Lean/ 5-s also focuses on safety; in training courses, in process redesign, in follow-up using the 5-s boards and 5-s control rounds and the accompanying improvement activities.

#### 1.5.4 Hazardous substances

Within the framework of harmful substances, a policy of reduction is in effect. This means that we replace hazardous substances with healthier and environmentally friendlier products, and we provide proper storage and instructions for use. If something is spilled, there are drip trays available and clear instructions for cleaning up. Unusual occurrences are reported to the direct supervisor. Remnants of hazardous substances are accounted for and disposed of in the right way and wherever possible recycled (PUR-tubes).



*The first application of the belt-free system, developed in-house, for the safe installation of hollow core slabs.*



## 2. PLANET

Byldis creates sustainable and innovative construction solutions that contribute to shorter lead times, high-quality and reliable production and a high level of comfort. Together with our clients and partners, we strive to achieve continued improvement. This results in participation in outstanding and innovative construction projects.

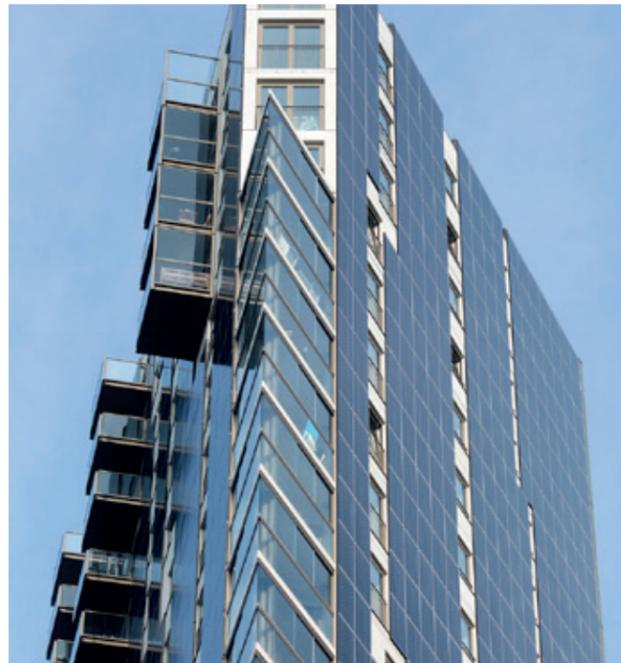
### 2.1 REDUCTION OF THE (CO2) FOOTPRINT



#### 2.1.1. Several projects

##### De Spakler, Amsterdam

Byldis built the Netherlands' very first energy-neutral residential tower in a prominent location on the Amstel. Together with partners Lingotto and AFP International we realised an energy performance coefficient of zero. This is proof that energy-neutral living at a high level is possible!



De Spakler, Amsterdam

##### The Terraced Tower, Rotterdam

We realised this project in collaboration with our top supplier. In order to achieve the highest scores, aluminium was purchased with a 75% recycle guarantee. The same aluminium is also produced in a factory that generates its electricity from hydropower, which makes the production carbon footprint at least 75% lower.



The Terraced Tower, Rotterdam

##### Royal Wharf, London

A redesign of the facade eliminated the need for the entire front facade and saved on raw materials. Profiles with a high insulation value were used (sound-absorbing profile "infills"). The facade elements for this project (concrete with frontage) were made in our yard, assembled and integrally transported to London. This facilitated building Just-In-Time in a smaller area.



Royal Wharf, London



**Project Amstelkwartier, Amsterdam**

Here too, the facade was redesigned in relation to the original specifications, so that at least the same energy values could be achieved yet using less raw materials.

**Hourglass, Amsterdam**

Hourglass makes as much use as possible of natural light and fresh air in the building. This makes Hourglass a healthy building with a high level of comfort (climate class A). The right choice of materials prevents the emission of dangerous substances. The heating and cooling systems in Hourglass are entirely sustainable. Heat comes entirely from the Amsterdam heating network.

For cooling, Hourglass uses cold water in the deep layers of a lake. The roofs are fitted with solar panels. An ecologist is researching the possibilities of providing a place for plants and animals. Nesting boxes and beehives are included in the design. Hourglass has been awarded the BREEAM Excellent certificate.

**Post X, Antwerp**

Post X is a project in which sustainability and circularity play an important role. These offices will actually use half the resources of a standard office building. Byldis Facades built and supplied the facades for this project.

**De Post, Antwerp**

An improved indoor climate through the creation of a winter garden (balcony with sliding doors) and the addition of sliding doors with a silencing principle, whereby fresh air is allowed in while rain and noise are kept out.

**Holland Park Diemen**

Byldis Facades produced and installed the aluminium facade elements for Holland Park in Diemen (blocks 22 and 23). Holland Park incorporates sustainable components so that everything complies with the newest standards in terms of energy consumption and environmental impact. The design is a total concept with various choices and possibilities.

**Heidelberg**

This precast building is unique in terms of colour. It is bright white! Another special feature is that the concrete mixture contains TX Active®, that absorbs nitrogen oxides from the air. And this is beneficial for both people and the environment!



Hourglass, Amsterdam



Post X, Antwerpen



Heidelberg



### 2.1.2 Certification

The quality of our organisation and products are controlled on a structural basis and optimised wherever possible. Not only by us but also by the relevant authorised bodies. They monitor this by issuing certificates where relevant. Byldis therefore has all the necessary certificates, such as various FPC product certificates, EN-1090, AluEco & Q-Mark. The ISO 9001, ISO 14001, BES 6001, VCA\*\* & VMRG system certificates are available via our website: <https://www.byldis.com/nl/certificeringen/>.

For the English market, Byldis Prefab achieved the certificate "Member of Building Confidence" from Achilles in 2020 and is therefore also SSIP registered.

### 2.1.3 Environmental Organisation Committee

In order to keep up to date and turn current events into targeted activities, Byldis has established an Environmental Organisation Committee. The committee meets regularly to discuss and implement improvements in our daily practices. This is not limited to research into solar panels and LED lighting, but covers all our processes from purchasing to implementation and the technical layout of our factories, which is centrally purchased, maintained and managed by our own technical service department. We meet set requirements and set focused targets for our operating companies, based on recent EED research. To demonstrate the annual independent testing of its environmental policy and the results achieved, Byldis conducts the environmental certificates ISO 14001 & BES 6001.



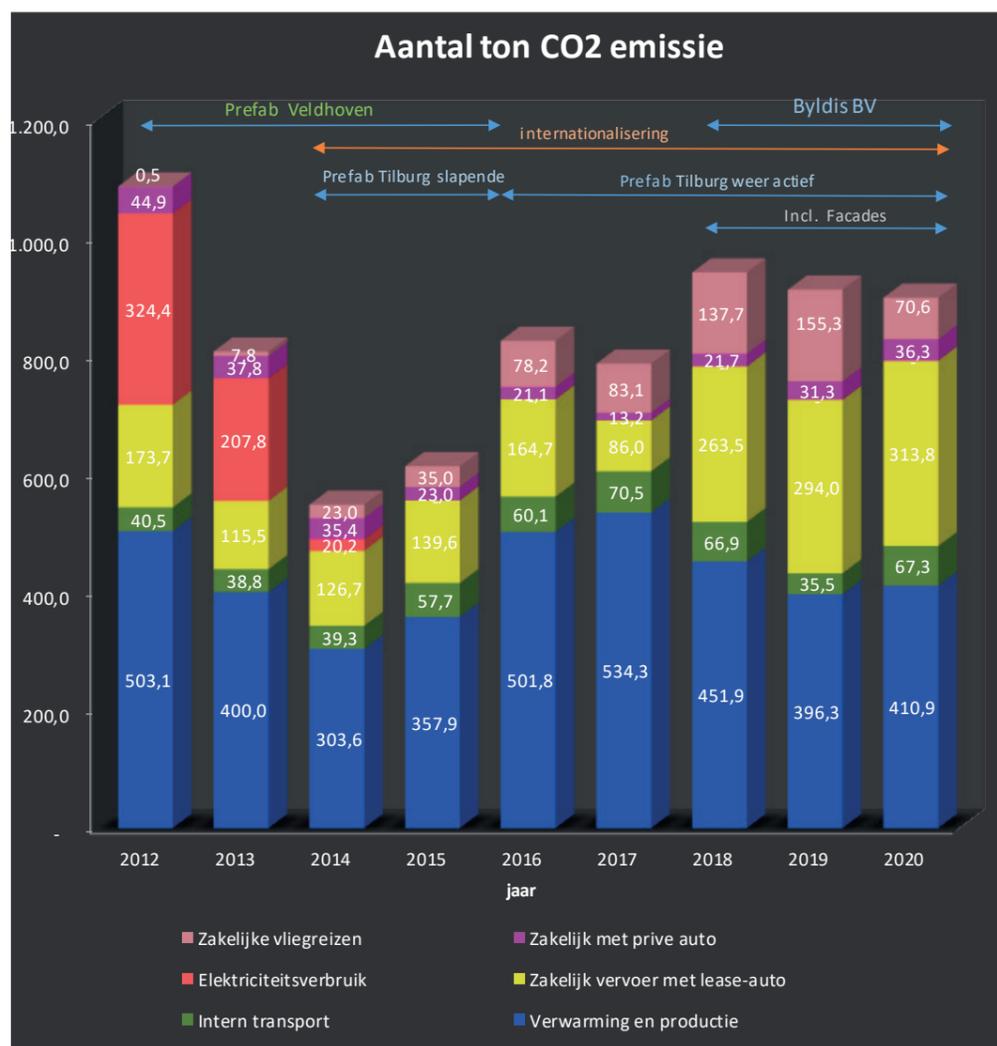


Diagram Carbon Footprint Byldis B.V. 2012 - 2020

#### 2.1.4 Reduce emissions business (air) miles

By working with local sub-contractors, renting apartments for our project managers and conducting project meetings via Skype and Teams after the initial start-up phase, we can eliminate unnecessary transport for projects abroad. Furthermore, our leasing policy is such that the use of electric and hybrid vehicles is stimulated as much as possible, with the aim of reducing fuel consumption in 2020 by 10%. Plans to expand the electric vehicle fleet have been realised in 2020-2021 and will be continued for the coming period. There are already eight parking spaces with charging stations for this at Byldis Prefab in Veldhoven and two at Byldis Facades.

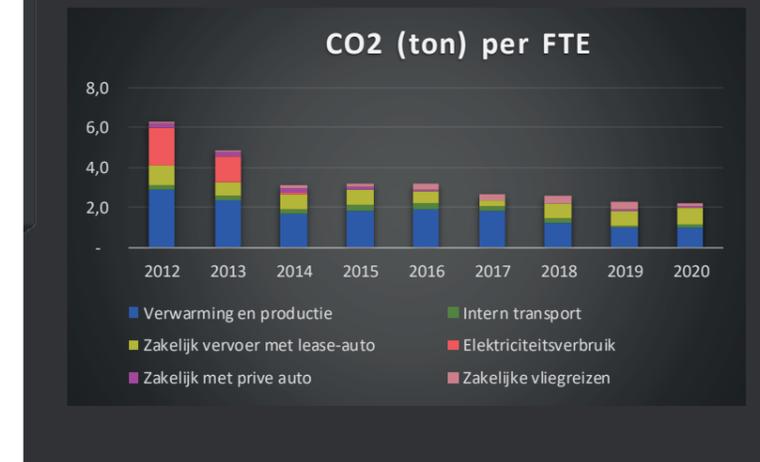
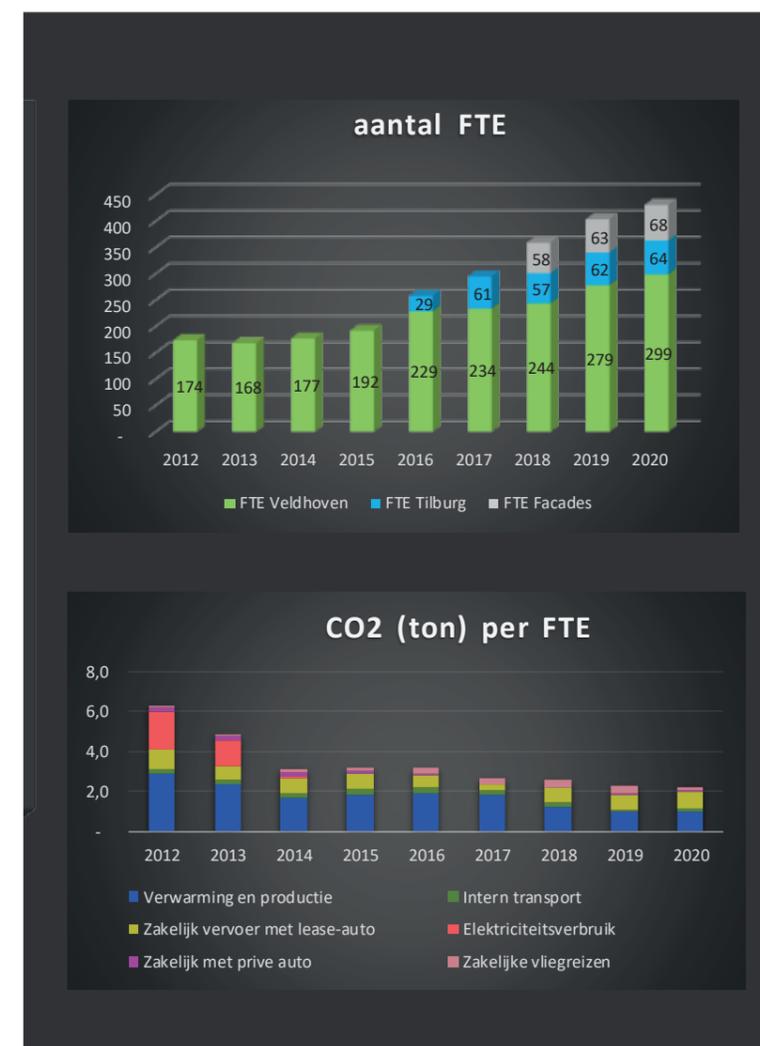
#### 2.1.5 Green electricity and gas

Byldis uses Vertogas certificates, that guarantee the purchase of biogas based on co-fermentation. Byldis also continuously applies a Wind Energy Guarantee contract for all operating companies, which in turn guarantees 100% wind energy. Since 2012, Byldis has established its Carbon Footprint and has this verified by an independent body so that the energy data gathered can be properly substantiated and shared with external parties. This makes visible that, despite the expansion with two new locations and an increase in personnel, CO2 emissions have been structurally reduced.

#### 2.1.6 Installations in the business premises

Almost all the internal and external lighting at Byldis Facades (production and offices) was replaced by LED in 2018 and 2019. The climate installation has also been readjusted and new toilet groups have been made for offices and production. All other compulsory recognised energy measures have also been implemented. Another example are the gas-powered heaters hanging in the production hall (Byldis Prefab Tilburg). These have now been replaced by a so-called Winter-warm TR installation; a drainless solution with the highest possible efficiency.

In 2019-2020, the ceiling lighting in the production departments of Prefab in both locations Veldhoven and Tilburg were replaced by LED. Lighting in the offices and other business locations will also be naturally replaced by LED lighting in the coming period.





### 2.1.7 Socially Responsible Purchasing

Byldis has had a BES-6001 certificate for several years now. This is comparable to the certificate for Corporate Social Responsibility. This certification focuses on sustainability at all levels. Within the framework of Socially Responsible Purchasing it specifies:

- Responsible Sourcing Policy
- Transport Impacts

Byldis uses the following SRP criteria when procuring its services, materials and raw materials:

1. Include at least one SRP selection and award criterium in each tactical purchase.
2. Local purchasing; purchasing strategy:
  - Knock-out criteria: Quality and Supply reliability.
  - Preference for 'local' purchasing in cases of equally suitability.
3. "Waste minimization" (reduce, re-use, recycle).

As well as the careful purchasing of the right quantities (reduce), residual materials (such as insulation materials) are returned to the producer in order to be reprocessed (re-use). If both are not possible, the waste flows are such that smaller, reusable fractions are collected for recycling purposes (recycle). We do everything possible to minimise the amount of residual waste.

The aforementioned relates to the recycling efforts of companies that is legally required and laid out in the building regulations and environmental legislation (separation of waste flows for useful repurposing). Furthermore, the re-use of raw materials prevents the mining of new raw materials. Foundations such as Betonhuis, Alu Eco and Stichting Vlakglas Recycling NL are leading in this, alongside the VMRG and the VAS. This makes the facade almost completely recyclable and the raw materials can be reused in the chain with fractional energy consumption (in comparison to production from raw materials). Waste flows can therefore be arranged accordingly.



### 2.1.8 Socially responsible purchasing of transport services Purchasing and transport with impact

Improved planning of return freights can deliver savings in transport costs. Orders are also more frequently being delivered on-route instead of large batches with dedicated transport. Furthermore, the use of reusable packaging materials saves costs on packaging. Smaller orders mean that we want to be supplied Just-In-Time with the right quality of materials. Supplier reliability and quality are "knock-out" criteria for an uninterrupted process. On our projects, we now work with timeslots and transport hubs outside the city, to prevent disturbance in the city and make JIT deliveries possible. For De Zalmhaven project we are researching whether the "last mile" of the transport hub to the construction site can even be emission-free or at least carried out using electric vehicles. And finally, clear SRP criteria have been included in our purchasing conditions for transport. This includes drivers trained according to the "New driving methods", use of vehicles with at least Euro 5 (preferably Euro 6) engines, the active monitoring of tyre pressures, GPS systems focused on the most efficient routes, analysis of driving behaviour and use, and reporting obligations on agreed objectives.

The transport and recycling company Baetsen is located next door to our Byldis Prefab head office in Veldhoven. An optimal collaboration means that transport movements through the surroundings are kept to a minimum.

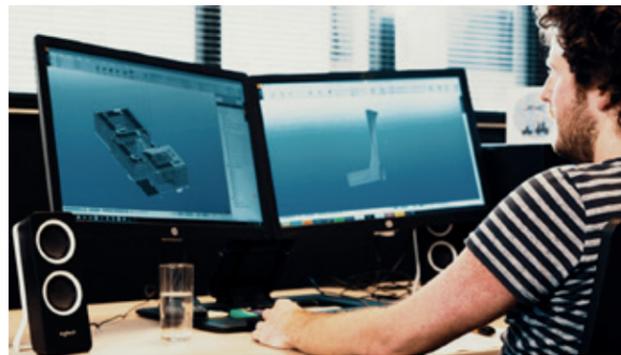
### 2.1.9 Socially responsible purchasing of products

Through the responsible purchasing of products, we can make a considerable contribution to a sustainable climate. This includes FSC and PEFC wood for casings and constructions. FSC wood is also being increasingly used for the finishing of high-quality facade sections. Alongside these product certificates, we also have the BES-6001 Good certificate, the aforementioned innovations for cement replacement products, 'bio-based' releasing chemicals and aluminium with a recycling guarantee or low production Carbon Footprint. Tests were also started in 2020 with mixer oil with the "Euromargriet" label.

2.2. MINIMISING EMISSIONS AND WASTE



The minimisation of consumption and emission/waste requires the optimisation of engineering, production, purchasing and transport. In order to realise the maximum effect, this has been entrusted to all our employees.



Engineering

2.2.1 Precast construction, optimisation of emissions

Producing (sorting and finishing the concrete facade elements) in a controlled environment can mean savings in raw materials, reduced transport costs on delivery and can mean production with reduced less emissions/waste, also with less emissions and waste during construction. If less is consumed (reduce), it goes without saying that less has to be recycled (including re-use).

2.2.2 Steel plant

The production of reinforcement netting also takes place entirely in-house. As well as the logistic advantages, this also has other benefits for us:

- We do not purchase standard netting, but rather steel on a roll. This has the advantage that we can keep losses in efficiency to an absolute minimum.
- We craft our nets as much as possible in a completely automated production layout. The reinforcement cages are also designed in relation to this; steel only where it is actually needed.
- As engineering is located alongside our reinforcement preparation, we optimise the reinforcement cages before and during the process, which results in less cutting waste and fewer disruptions throughout the rest of the production process.
- In the steel plant we have established our organisation in such a way that experienced employees share their knowledge with new employees. This makes everyone aware of his or her own contribution to the process. Of course, we cannot entirely eliminate the generation of emissions and waste. We collect this separately and recycle it.



Steel plant

2.2.3 Recycling insulation waste

Waste-to-product company Renewi removes the rock wool insulation from our production location in Tilburg so that it can be 100% recycling into Rockwool. We have also started investigating the possibilities of pouring insulation in liquid form, which could mean no (sawing) waste at all.

2.2.4 Lean, WCM and ERP in primary processes

A WCM-WCO process has taken place at Byldis Facades, whereby various LEAN principles have been introduced in production and offices. In 2019, the transition to a production system (with a clear flow and smaller batches) was implemented. This enabled a reduction in raw materials and interim stocks levels, so that the production space could be used optimally and mistakes (should there be any) occurred less frequently, leading in turn to less waste. Other examples are:

- Switch to reusable packaging (profile container) for delivery of alu profiles
- Less transport through improved planning of return freight
- Order pre-coated profiles from the factory, instead of separate outsourcing post-processing (with extra transport and emissions).
- Purchase of an automatic CNC production machine, which guarantees precision and quality (less emission).
- Smaller batches: products are not in the way and are therefore less easily damaged.
- Renewed office automation (Hardware, ERP and 3D) in order to achieve a better grip on a data-operated, paperless office and production environment.
- And during construction: Attention for "delivering scratch-free components".

2.2.5 Optimisation of the production process

Through LEAN and BIM techniques, waste is avoided wherever possible in the production process, such as avoiding interim stock levels and coordination of production facilities.

BREEAM comes into play in the construction process. There are more and more 'zero on the meter' / BENG residential renovation projects, whereby installations and the outer shells of homes are made more sustainable. Other initiatives are:

- FaSa: (optimisation/lifespan extended maintenance)
- Madaster (materials passport per building, to promote useful reuse).

Other trends for the future are: Green Deal, Urban Mining and New Horizons. All initiatives that give substance to the EU Waste Directive (Directive 2008/98/EC) that has been translated into the waste products directive in the Netherlands.

Ultimately, less raw materials are lost as a result, the process can be managed and higher (calculated energy) performances can be achieved in comparison to conventional construction methods, where many more factors play a role. In later phases, the recovery of raw materials from the construction site (demolition) can achieve a purer residual flow, as well as the entire reuse of complete facade elements elsewhere. On site, the complete facade system elements are stacked up during construction. Later, during demolition, they can then also easily be "unstacked".

The Byldis concept fits in with the aforementioned developments by working together with suppliers, assembling its products offsite (joining together frame and concrete facade element), which means that optimal quality can be guaranteed.

2.2.6 Re-use of wooden moulds and mould components

Wooden moulds are constructed upon a standard mould base. This base consists of a steel supporting frame with wooden framework and a multiplex base plate upon which the various shapes are constructed. When the wooden base plate needs to be replaced, a new multiplex layer is screwed on. The underlying supporting structure is kept. Most of these standard mould bases have a lifespan of more than 10 years and have been used in the production halls for many years.



### 2.2.6-b. Waste reduction

Byldis Prefab has also developed a new standard mould base, which fits universally into a Carrousel system and can be used to produce brick sandwich elements. Byldis Prefab has set up a warehouse with the aim of storing and reusing the mould components as much as possible. Mould components that are not good enough after a project has been completed are documented and are stored dry in both factories in the designated alcove (Veldhoven location) or shelter (Tilburg location).

Other moulds are usually purchased from colleague mould makers. These specific moulds are then mounted onto a steel frame in the factory so that they can be vibrated during production if necessary. At the end of production, these project-based construction moulds are once again disassembled and offered for recycling.

### 2.2.7 Reuse and alternative raw materials

Less waste through recycling residual concrete; we have been doing this since the end of 2019 with our own recycling system; a so-called 'desludging plant'. This system separates the aggregates from the cementitious water so that they can be used again. The water is then filtered, so that clean water is left.

However, tests have shown that the full processing of our concrete waste is not yet possible. Extra investment is needed in the near future for this, in the rinsing area behind the concrete plant, so that the residual concrete can be pumped to the recycling installation, and sand and gravel can also be reclaimed.

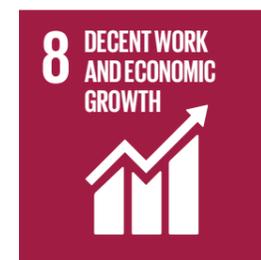


Desludging plant

## 3. PROFIT

A good balance between People, Planet and Profit is necessary to make and keep Byldis future-proof. We try to find a good balance between sustainable entrepreneurship and healthy financial results. We do this by setting goals for various topics that are important to us. We work continuously on improvement within these topics.

### 3.1 ECONOMIC



#### 3.1.1 Efficiency

Profit is the primary return that we generate as an organisation. Our annual report is available for viewing via the Chamber of Commerce (Kamer van Koophandel).

2020-2021 was a difficult period, partly as a consequence of market situations such as the corona pandemic and Brexit. The results were disappointing, and we have therefore had to make changes within the organisation to meet the volume of work. There was a reduction in the number of staff in the first half of 2021. However, as I write this, one year later, I can share that we are back on the right track. We have attracted all kinds of great new projects, which are keeping us busy. As such, we have started production of the elements for 700 to 800 apartments for the project Deanston Wharf on the Thames in London. Construction will start soon. We are also discussing subproject three.

We will also be starting work for the London builder Mace, with a fantastic new project called One Thames City. We are also working in the British capital on a preliminary assignment for housing corporation Berkely Group, which could lead to a big job. And there are a few other assignments in the pipeline in England. Things are also picking up again in the Netherlands. We recently completed De Zalmhaven project, the highest

residential tower in the Netherlands at 215 metres high, and are in talks with BAM about a follow-up project for a similar tower. We also have assignments for Dura Vermeer in Amsterdam and Rotterdam, which have secured work for three quarters of a year. Things are starting to look up.

#### 3.1.2 Employment opportunities

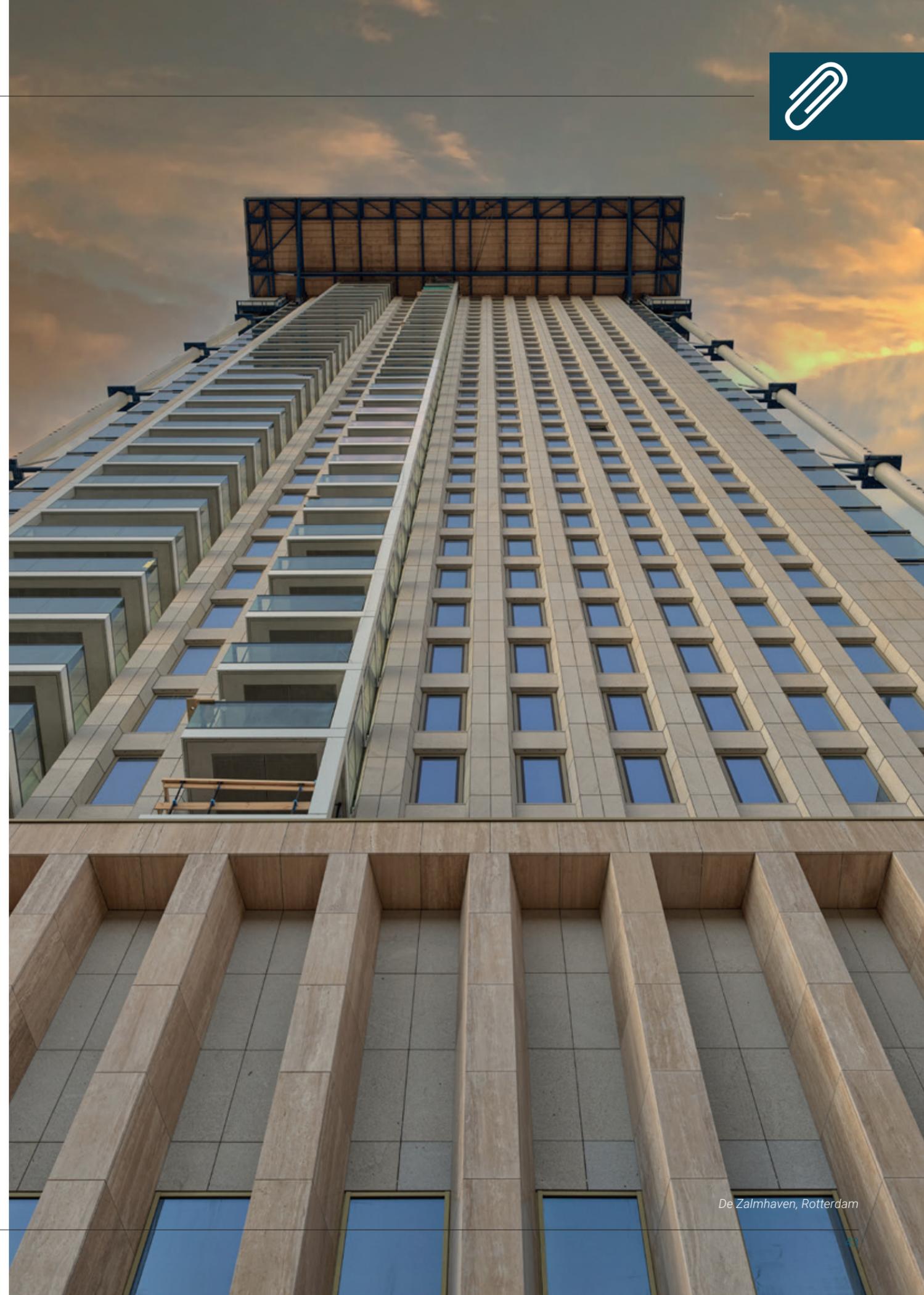
However, we also see added value in the fact that many people earn their income through contributing to our process. Not only employees (permanent and flexible), but also people working in our supply chain and supporting processes.

Although we have a difficult year behind us, which forced us to adjust the organisation to meet the volume of work, we are still committed to maintaining working opportunities through investing in (retaining) our personnel, good training and development processes, social support, which is why we work with NBBU/SBA certified employment agencies.



## APPENDICES

- Carbon footprint report 2020  
<https://www.byldis.com/media/2042/carbon-footprint-rapport-byldis-2020-versie-31-dd-20201207.pdf>
- Waste flows 2020-2021, Byldis Prefab, Byldis Facades  
<https://www.byldis.com/media/2286/afvalstromen-byldis-prefabplusfacades-uitleg-doelstellingen-2020-2021.pdf>
- Training "Work and rescue at height" assembly teams  
Byldis Prefab, December 2019  
<https://www.byldis.com/media/1721/werken-en-redden-op-hoogte-bij-byldis-prefab-montage-dec-2019.pdf>



## ABOUT THIS REPORT

Byldis aims to make sustainability accessible and understandable to a wider audience. We hope that this report contributes to this. If you have an idea, tip, question or comment, please get in touch with us.

Send a message to [info@byldis.com](mailto:info@byldis.com)

Want to know more about a sustainable Byldis?

Visit: <http://www.byldis.com>

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## DISCLAIMER

Although the contents of this report have been compiled with the greatest care and attention, there is a possibility that certain information may, over time, become obsolete, incorrect or incomplete. Not least because at the time of writing we are experiencing the initial consequences of the corona crisis. Byldis is not liable for any errors in this report.

The sustainability report contains links to various web pages. It is possible that these may be moved or become unavailable over time.

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