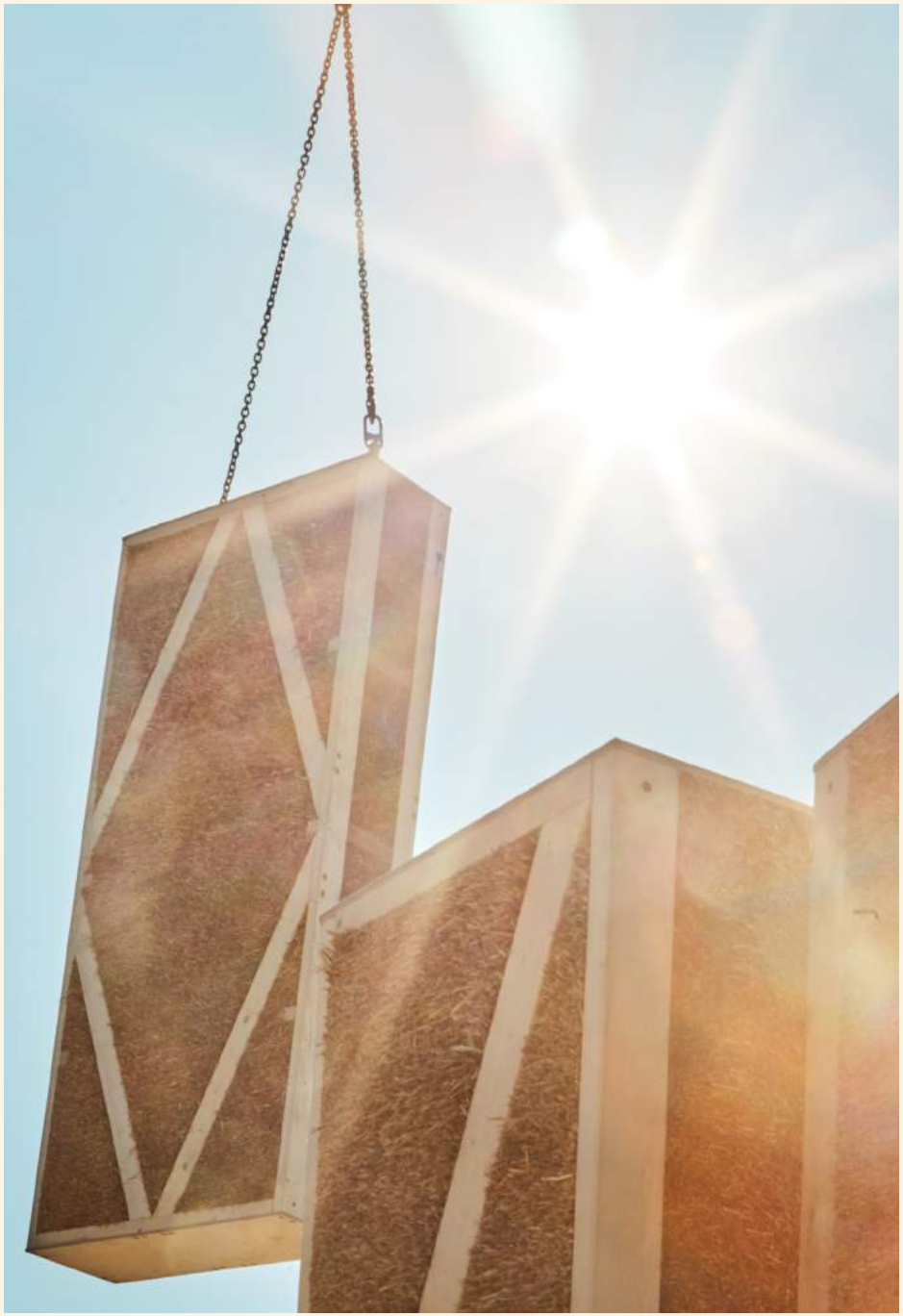
eco cocon

Together, we are building
a sustainable way of living
that creates a safer future
for the generations to come.

A wall system designed by nature

EcoCocon is a construction system based on the Cradle to Cradle philosophy, making the best of natural materials – timber, straw and clay – while ensuring maximum indoor comfort and energy-efficiency.



CARBON-STORING CONSTRUCTION
98% natural renewable materials sequester tons of CO_2 in each project.

OPTIMAL HUMIDITY
Directly applied interior clay plaster as a natural humidity regulation system.

INDOOR COMFORT
Excellent indoor microclimate together with great acoustic and thermal comfort.

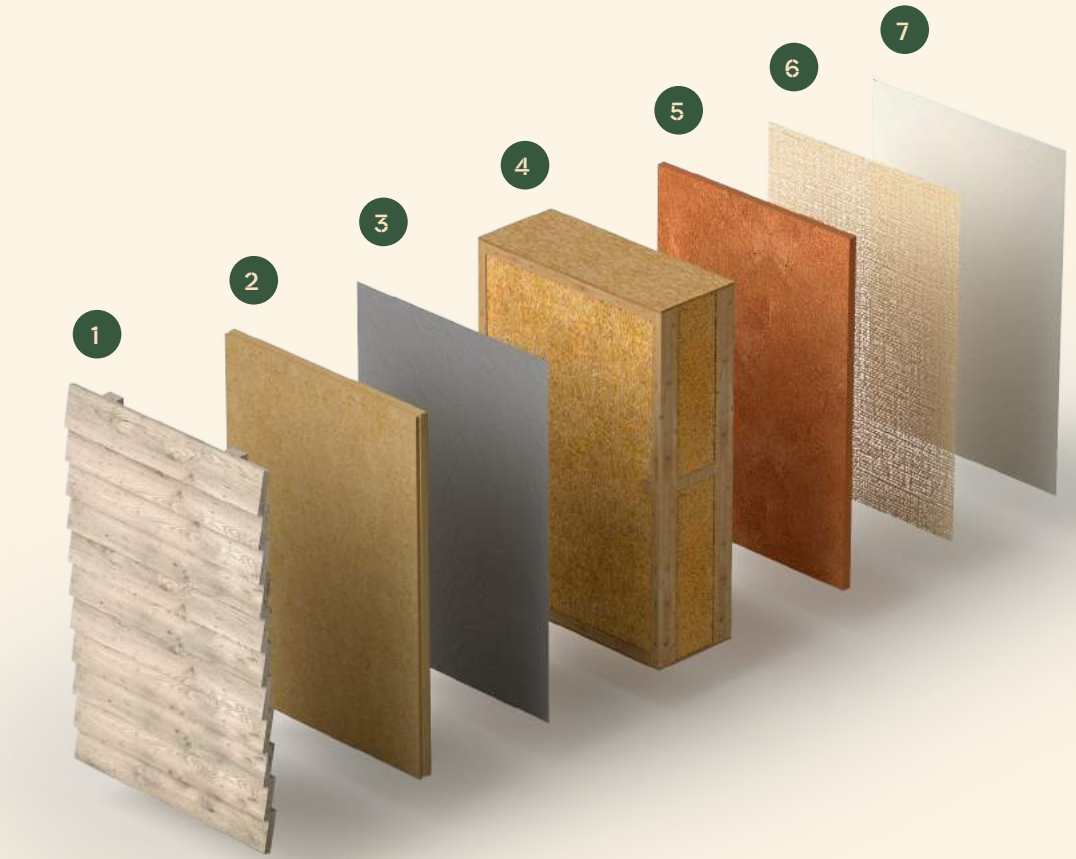
PASSIVHAUS CERTIFIED COMPONENT
Super-insulated walls with no cold bridges and an easy-to-achieve airtightness concept.

MADE TO MEASURE
Custom-made to fit any building design – residential, educational, or commercial.

RAPID INSTALLATION
Precision-cut prefabricated panels for simple and rapid installation on site.

Wall build-up

The EcoCocon wall system is a certified Passivhaus component. The main building blocks are structural timber-straw wall elements that are made to measure for every project.



An integral part of the system is the use of an airtight, yet diffusion-open membrane on the outside of the panels. The membrane also provides weather protection during construction.

A layer of insulating fibre board is fixed over the membrane. The required thickness of the board varies depending on the climate. It can be finished with a render or any kind of ventilated facade.

The system is certified together with a humidity-regulating natural clay plaster on the interior side. This construction has been verified by WUFI calculation and on-site measurements. A variety of standard interior finishes is also available.

More than 30 variants of predefined wall build-ups are accessible as 3D BIM models for Revit, containing key technical parameters and facilitating the design process.

OUTSIDE

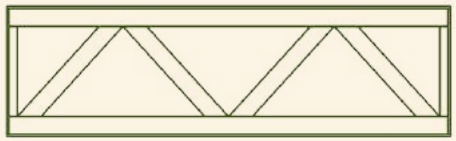
1. Ventilated facade / Render
2. Insulating fibre board (60 – 100 mm)
3. Airtight membrane
4. Timber-straw panel (400 or 300 mm)
5. Base clay coat (25 mm)
6. Reinforcing mesh

INSIDE

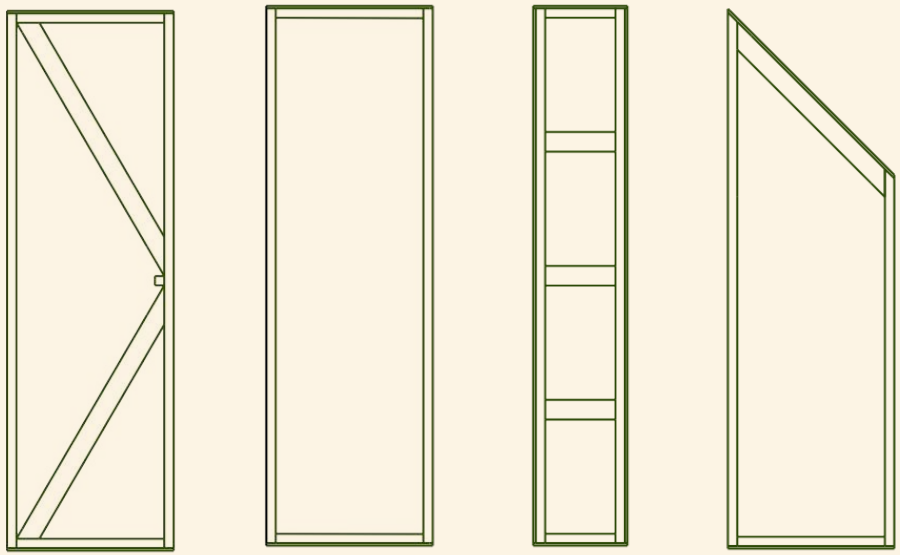
7. Fine clay plaster (3 mm)

Panel types and sizes

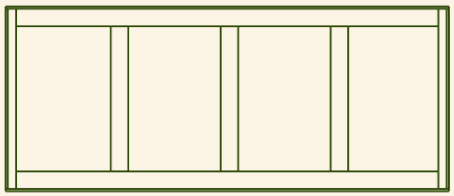
The panels are made in 1 mm increments to fit any kind of building design.



LINTEL



BRACED STANDARD COLUMN INCLINED



SILL

Panel types include braced panels, lintels, sills, and inclined gable wall elements. Different structural demands can be met by placing the panels closer together or by using plywood reinforced column elements.

The double wooden frame of the panels ensures the structural capacity for up to 6 storeys and easily supports ceilings, roofs or facades. The system is designed to be load-bearing without creating any thermal bridges.

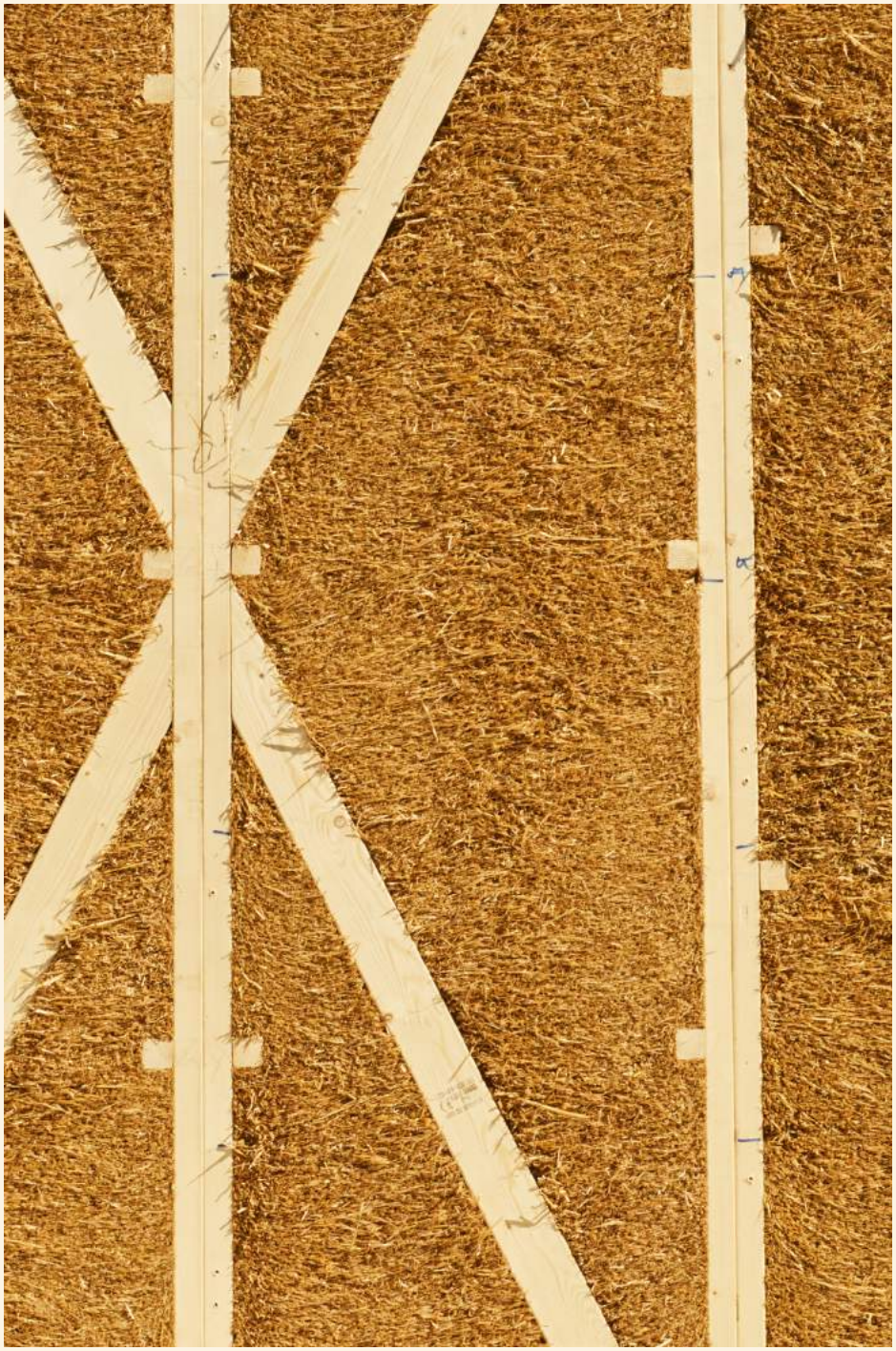
Standard panel thickness is 400 mm. 300 mm is also possible upon request.

Technical characteristics

Characteristics for an average EcoCocon wall with 30 mm clay plaster, 400 mm timber-straw panel and 60 mm wood fibre board:

U-value	0.123 W/m^{2}K
Thermal conductivity	0.0645 W/mK
Fire resistance	120 min
Flammability	B-s1 , d0
Airborne sound insulation	54 dB
Vertical load-bearing capacity	up to 110 kN/m
Precision	2 mm over 3 m length *
Average straw density	110 kg/m^3 *
CO_2 emitted in production	2.8 kg/m^2 *
CO_2 sequestered	97.6 kg/m^2 *
Assembly time	20–40 min per m^2*

* EcoCocon panels only



Regenerative design for a positive climate impact

EcoCocon is the only building component with both Passivhaus and Cradle to Cradle certifications. Making the most of renewable materials, it was created to have a minimal ecological footprint and to be safely returned to nature after use.

To protect world's forests from over-exploitation, the system is designed to use as little wood as possible – just enough for it to be load-bearing.

An average EcoCocon panel is composed of 10% timber and 89% straw. The wood comes from sustainable forestry and the straw is sourced at local farms. Used in their raw states, the production process demands very little primary energy.

Both materials sequester large amounts of CO_2 through photosynthesis over their lifetime. This CO_2 is then safely stored in the construction resulting in a highly positive climate impact. Panels in a typical house with an external wall area of 130 m^2 sequester more than 12 tons of CO_2.

By replacing carbon-intensive materials such as concrete, bricks or polystyrene, as well as saving carbon in operations, EcoCocon's real contribution towards the climate becomes even more significant.

Comfort at heart of our solution

The EcoCocon wall system provides superior indoor air quality, as well as exceptional thermal and acoustic comfort. It creates a healthy microclimate with even temperatures: warm in winter and cool in summer.

The wood and straw in the panels contain no glues and have not undergone any chemical treatment during the production process.

Interior clay plaster acts as an effective humidity regulator. It absorbs excess humidity and releases it when the humidity levels drop, keeping it close to the optimal level. It is a completely natural finish without any VOCs, and with low embodied energy and a high thermal mass.

The system is airtight, yet vapour permeable. It allows excess humidity to escape and with no thermal bridges it leaves no space for draughts, mould or condensation problems that are often present in modern sealed buildings.

EcoCocon panels have a resistance to the passage of sound of 54 dB. This greatly exceeds the minimum standard requirements and results in exceptional acoustic comfort.

Smooth planning process with full technical support

With more than 10 years of experience, EcoCocon's natural construction system has been tested and verified in more than 20 countries and on 3 continents.

EcoCocon combines the beauty of natural materials with the efficiency of the Passivhaus standard. Details, cost effective solutions, and building physics knowledge are all part of the package we provide.

Being able to accommodate any building design, EcoCocon ensures complete creative freedom for the architect. Predefined EcoCocon wall elements are also available in 3D BIM models for Revit, streamlining the design process. Once the design of the building is ready, our in-house structural engineer prepares a detailed technical panel project that specifies all the panel types and sizes required for the project.

Each project is overseen by a local technical consultant that ensures smooth cooperation and provides technical support whenever required.

Are you a builder?

» Raise your company profile with a highly sustainable alternative for your clients.

» Provide certified quality all year round with your regular team of carpenters - no special qualifications are required.

» Speed up your work on the building site with prefabricated panels or preassembled wall elements.

» Provide precise quotes in advance and increase your added value.

Are you an architect?

» Design quality architecture in line with the UN Sustainable Development Goals.

» Create an exceptional quality of living that surpasses the expectations of the client.

» Easily achieve Passivhaus standard and maximise the use of natural materials.

» Have fun working with our modular elements and predesigned details.

Are you a public stakeholder?

» Align your public buildings with the CO2 emission targets and save carbon in construction as well as in operations.

» Set an example for others by showcasing ultra-low energy buildings built from renewable materials.

» Provide a healthy environment for your constituents in schools, kindergartens, sports halls, public housing, and offices.

» Use local resources and builders to keep the added value at home.

Are you a developer?

» Provide higher quality at comparable costs, using efficient preassembly techniques.

» Set yourself apart from the competition and increase your visibility on the market.

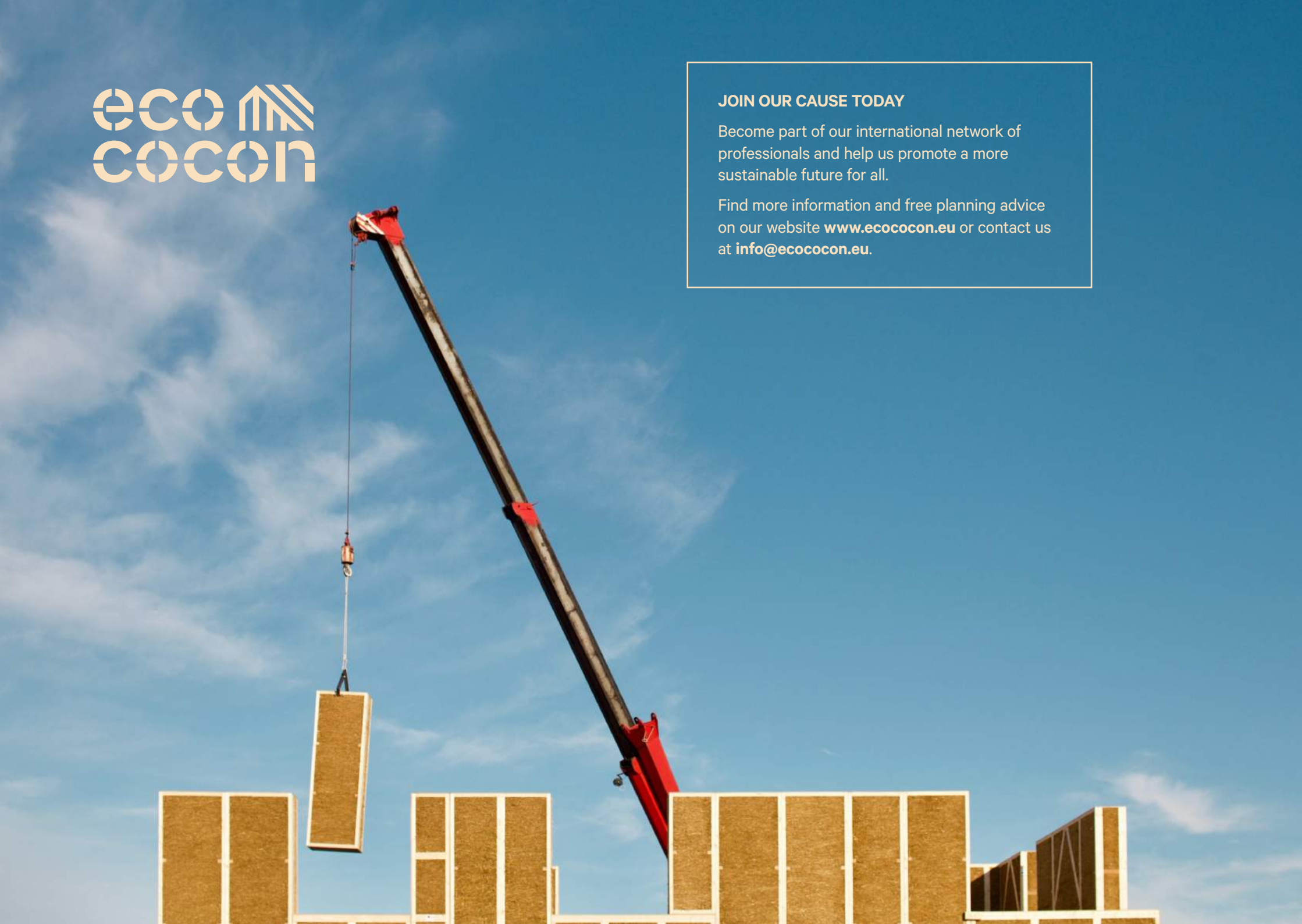
» Dry construction with prefab elements shortens the time to completion, producing a faster return for your investment.

» Create a healthy and comfortable indoor climate without the use of expensive technology.

About us

Founded in 2008, we came into existence with the idea of creating an accessible way of building real Cradle to Cradle buildings.

We aim to revolutionise the construction industry by delivering a climate-neutral, healthy, and effective construction system designed to be returned safely to nature after use.



eco cocon

JOIN OUR CAUSE TODAY

Become part of our international network of professionals and help us promote a more sustainable future for all.

Find more information and free planning advice on our website **www.ecococon.eu** or contact us at **info@ecococon.eu**.