

**Green and Regenerative Design  
Enhancing Existing Values  
Towards Climate Neutrality  
Equitable Places for All  
Architect of the Year!**

**Architecture for a Sustainable Life  
Annual and Sustainability Report 2023**



white



*The new promenade along Lake Mälaren, Strandparken in Sigtuna, was designed with a playground, boules courts and seats amongst large existing trees. The new flowerbeds have plants that promote pollinators and the green environment contributes to recreation, beauty and valuable ecosystem services.*



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*The new hospital district in Malmö (NSM) has been one of White's biggest projects in recent years, and after six years of construction the first phase is now complete. The 37,000 m<sup>2</sup> comprise hospital wards, clinics, operating theatres and intensive care. Visible, sustainable architecture with a strong focus on daylight, energy and wellbeing all promote people-centred care.*

**Welcome to White.**

**White was founded in 1951 in Gothenburg by Sidney White. The vision was to improve society through architecture. Since the very start, a sense of social engagement and consideration for people have been key features in our corporate culture. White today is one of Scandinavia's leading firms of architects. We are an employee-owned company with almost 700 employees and a presence in Sweden, Norway, Germany, the UK, Canada and East Africa. We work with sustainable architecture, industrial and urban design, landscape architecture and interior design for current and future generations. Our mission is to enable sustainable life through the art of architecture.**



*The new city beach and Lungegårdsparken city park in Bergen, Norway, provides an attractive urban space for recreation and events of different kinds. The seaside zone will also promote the marine ecology, and a large wetland area will provide an important coastal habitat for birds, insects and marine species.*

# The Art of Sustainable Architecture



The past year has been influenced by geopolitical unease in the world and a weaker market for the construction and real estate sector in Europe, in various segments. Despite this, we can see increased demands on sustainable transition, partly due to legal requirements and high contracting costs. There is a need to utilise existing buildings and infrastructure more efficiently, to build with smart use of resources, reduce material consumption and increase energy efficiency, so that we can develop communities that enhance quality of life, where people can afford to live. Our mission to enable sustainable life through the art of architecture is more relevant than ever. We remain steadfast in our vision that by 2030, all our architecture will be regenerative and climate neutral through design excellence.

Alexandra Hagen, CEO

Through our expertise and commitment, we contribute to our clients' success and to long-term values for society at large. Collaboration is pivotal to success. We bring about change by working across disciplines and uniting design and sustainability in everything we do. Today, 83 percent of our projects are linked to the Sustainable Development Goals (SDGs), and we focus heavily on reducing climate impact from materials and strengthening biodiversity in all the work we undertake.

We engage in research, development and innovation in order to shift the boundaries, both for ourselves and for the industry as a whole. The initiatives we worked on during the year have a strong connection to our sustainability goals. The Positive Energy Planning Process is one example where we apply R&D and our innovation process to translate expertise into business that benefits our clients.

Our expertise in timber construction is attracting international attention. During the year, we have been invited to exhibit at the International Architecture Exhibition of the Venice Biennale, and we were delighted to be voted Architect of the Year by international magazine *Dezeen*. Our emphasis on sustainable architecture, design and urban planning is gen-

erating international business. While the Swedish market was weak in 2023, we experienced increased demand for our services in the UK and Germany, as well as other parts of the world.

In order to actualise ideas and solutions in sustainable architecture, it is crucial that we first understand our clients' business and contribute to the financial viability of each project. During the year, the number of lead consultancy orders increased as we are now winning more international contracts. We also continue to offer active contract cost control as part of our service.

Despite a challenging economy during the past year, we continue to focus on our long-term goals, and to help bring about a shift in each project. Every single project has the potential to make a difference. White will continue to support and run its operations based on the Ten Principles of the UN Global Compact and the aims of the 2030 Agenda.

I would especially like to thank all employees, clients and business partners for their collaboration and commitment during the year. ■

*Alexandra Hagen*

# White 2023 in Brief

**669** employees

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**55%**

women

**45%**

men

**80%**

of employees are co-owners

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**728,000,000**

SEK turnover

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**48**

MSEK to education, research,  
development and innovation

**30%**

of projects have a  
biodiversity focus

**39%**

of projects have a  
focus on climate  
risks for water



83%

of projects have links to the global SDGs

31%

of construction projects have climate goals (energy and/or materials)

27%

of buildings are planned for solar cells

23%

of projects have a solid timber frame (30% 2022)

94

percent of our trips within Sweden are made by train

20

percent of our international trips are made by train

347

tonnes CO<sub>2</sub>e emissions

(547 tonnes 2022)

0.67

tonnes CO<sub>2</sub>e emissions per FTE

(0.96 t/FTE 2022)

75%

lower CO<sub>2</sub>e emissions than in 2018

We have worked in

13

different countries in 2023

Austria, Canada, Denmark, Finland, France, Germany, Italy, Kenya, Lithuania, Norway, Sweden, UK and USA



*Sara Cultural Centre, Skellefteå.  
Winner of CTBUH Awards – Best Tall Building Europe.*

# Awards and Prizes

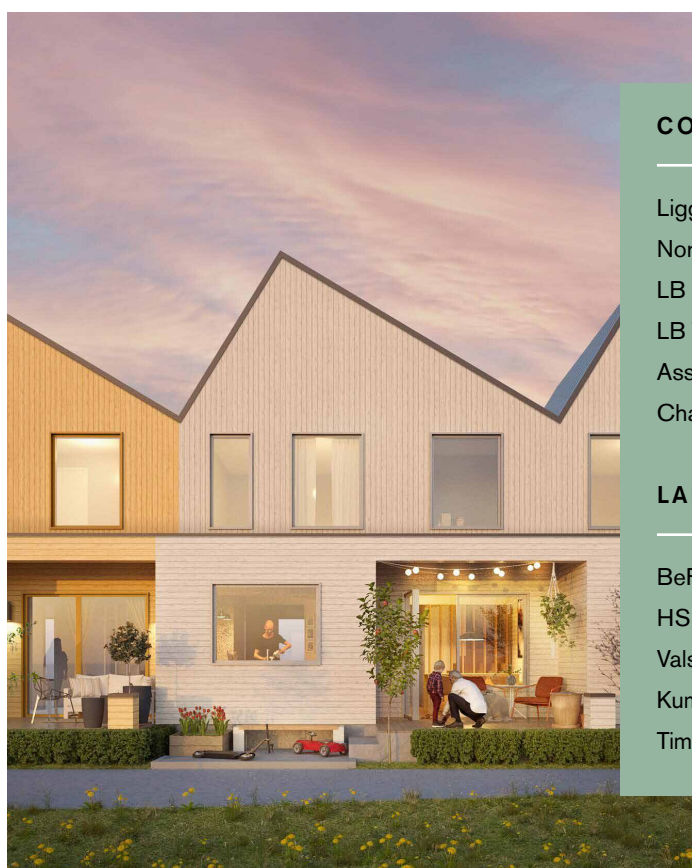
2023 was a successful year, with many international prizes and awards. We were particularly delighted to be voted Architect of the Year at the Dezeen Awards 2023, for being “a leading voice in the drive towards more sustainable buildings”.

Sara Cultural Centre in Skellefteå and Magasin X in Uppsala

have won several awards each, and we have also received various international awards for our healthcare architecture.

We won competitions in Sweden, Norway, the UK, Ireland, Kenya and the US, for everything from parks and tourist routes, to activity centres and climate-neutral homes. ■

*In Sigtuna, we won the land allocation bid for a culture and activity centre in the Valsta district.*



**COMPETITIONS WON**

**LOCATION**

Ligget Park (landscape)	New York City, USA
Norwegian Scenic Routes (landscape)	Kinsarvik, Norway
LB Haringey DPS (homes)	London, UK
LB Waltham Forest DPS (homes)	London, UK
Assisted Living (homes)	Nairobi, Kenya
Charlston House ITT (homes)	London, UK

**LAND ALLOCATION**

**LOCATION**

BeFirst Framework ITT (homes)	London, UK
HSE Framework Ireland ITT (homes)	Dublin, Ireland
Valsta culture/leisure activity centre	Sigtuna, Sweden
Kumla Roten 1 and 2 (homes)	Kumla, Sweden
Timber homes for the future, Rosendal (homes)	Uppsala, Sweden

*In Kumla, we won the land allocation bid for Roten 1 & 2.*

*The renovation of the main stage Hippodromen, once a circus building, at Malmö Stadsteater (City Theatre) received an honorary mention in the City of Malmö Urban Design Award.*

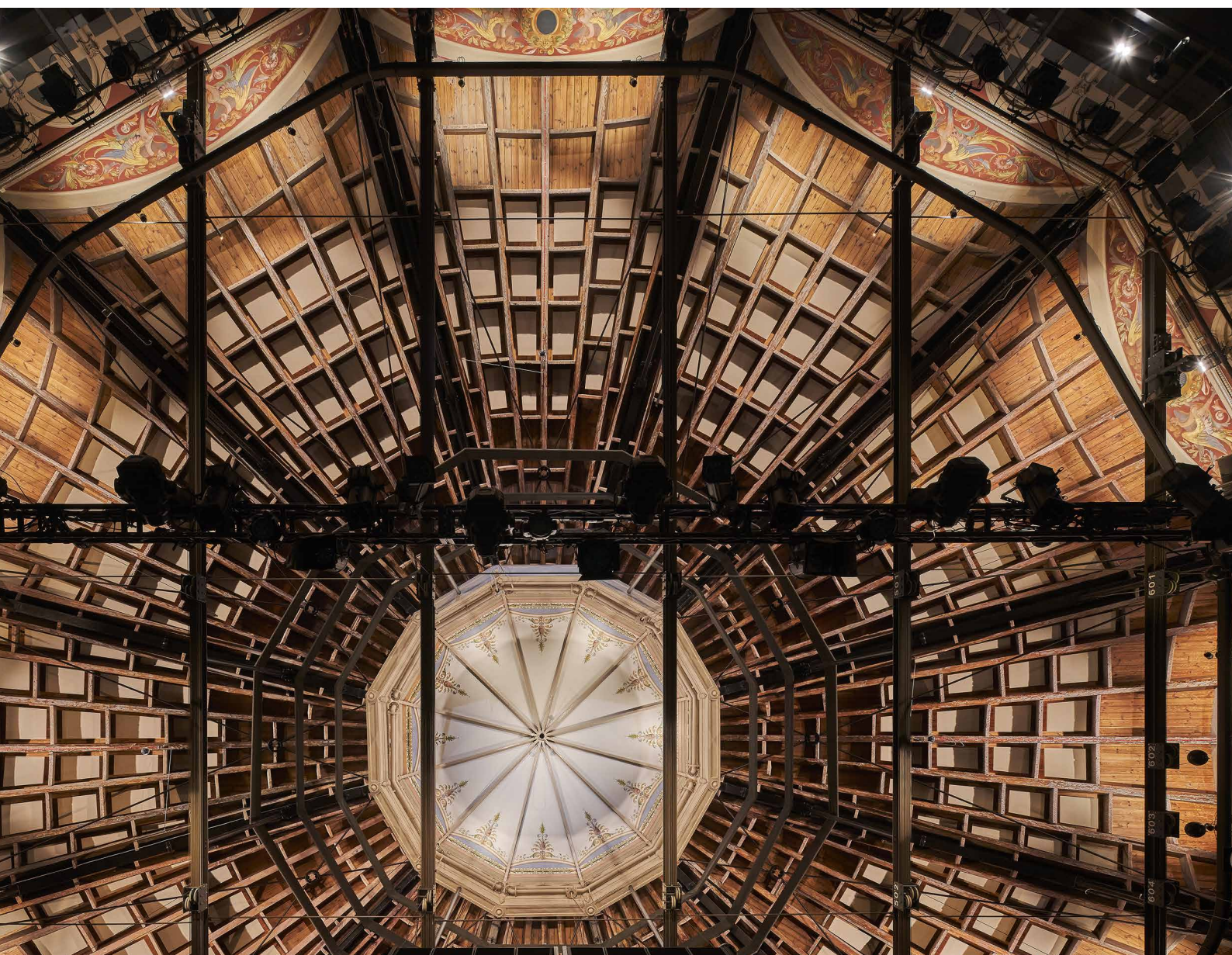
*Magasin X, White's office in Uppsala, won both the Swedish Solar Energy Association Awards and the SGB Awards LEED Building of the Year.*



*The Velindre Cancer Centre in London won the European Healthcare Design Awards.*



*Torns Parish Hall in Lund received the Lund Urban Design Awards.*



## DISTINCTION

Dezeen Awards – Architect of the Year  
 Lund Urban Design Awards  
 Swedish Solar Energy Association Awards  
 Building Better Healthcare Awards  
 European Healthcare Design Awards  
 Sigtuna Municipality Architecture Awards  
 SGB Awards – LEED Building of the Year  
 CNETO (Centre for Healthcare Construction and Technology, Italy)  
 Architects Sweden Västra Götaland, Architectural Awards  
 CTBUH Awards – Best Tall Building in Europe  
 CTBUH Awards – Best Tall Building under 100 meters  
 European Healthcare Design Awards  
 Honorary mention, City of Malmö Urban Design Awards 2023

## PROJECT

White Arkitekter  
 Torns Parish Hall, Lund  
 Magasin X, Uppsala  
 Psychiatric Quarter, Borås  
 Velindre Cancer Centre, Cardiff  
 Borgmästarängen, Sigtuna  
 Magasin X, Uppsala  
 Personal award  
 Nodi, Gothenburg  
 Sara Cultural Centre, Skellefteå  
 Sara Cultural Centre, Skellefteå  
 Arthroplasty Clinic, Bromma Hospital, Stockholm  
 Malmö Stadsteater (City Theatre), Malmö





*White and Henning Larsen Architects have been commissioned to develop Atrium Ljungberg's vision for Stockholm Wood City: to be the world's largest urban design project made of solid timber. The area in Sickla will be a green city district with low climate impact offering a blend of workplaces, homes and services, all made of wood.*

# Sustainable Transition



**We all know that sustainable development is crucial to people and nature, but it is also necessary if companies are to remain relevant, competitive and profitable. The driving forces of the wider world are beginning to have an impact, and change is coming ever faster. Risks are being transformed into major opportunities. White's focus is to create environments and architecture that are climate neutral and circular, while promoting biodiversity, health and social values. With a vast array of services and expertise, together we can contribute to long-term sustainable values – for our clients, society, and the planet.**

Anna Graaf, Sustainability Director

## CALL FOR ACTION

The United Nations SDGs and the 2030 Agenda are a point of departure for sustainable development among nations as well as businesses, but the EU is now more rapidly introducing goals and directives that have even greater impact in the everyday. Underlying it all are the European Green Deal, environmental targets, the Corporate Sustainability Reporting Directive (CSRD), the green taxonomy, and upcoming directives relating to materials, circularity, and carbon emissions. Measurability and evidence will be key in being able to prove progress, not only for nations and businesses, but even more so for properties and products.

## TRENDS

Climate impact continues to be in focus for the construction and real estate sector, and one positive trend is that clients are increasingly specifying concrete, measurable climate goals in their project briefs. White places particular emphasis on choice of materials, energy-efficient architecture, and reporting carbon footprint. Interest in timber construction

remains keen and is increasing, both in healthcare buildings and internationally. We are also exploring other natural materials such as clay, as in the Velindre Cancer Centre in Wales.

The biggest advancements in the industry over the past year have been in reuse, transformation and circularity. The projects are increasing in scale, such as the inventory for Scandinavium in Gothenburg, and interior solutions for the new courthouse in Malmö. Property owners are also coming together in joint initiatives, and the Swedish Construction and Civil Engineering Sector's upgraded *Roadmap for Fossil Free Competitiveness* features a sharper focus on circular construction. We are continuously developing services for managing projects in new ways, for example process management for reuse and circularity.

To mitigate the risks of climate change and protect biodiversity, nature-based solutions are coming more to the fore. Greenery in cities can contribute a range of positive services, especially health and wellbeing.

## “All our architecture is regenerative and climate neutral through design excellence.”

### VISION WHITE

There is clearly also more of a focus on social sustainability, and more clients are setting strategic goals to enhance inclusion, and create equal environments. We also have new kinds of projects related to planning for crime prevention. User engagement processes remain important for local involvement and meeting a wide variety of needs.

#### REGENERATIVE DESIGN

While development is taking great strides towards greater sustainability, a higher tempo and more radical approaches are still needed. Simply reducing impact is not enough; we must also recreate and make sure that all development is part an ecocycle. White's vision puts the focus on regenerative design, which means preserving, protecting and enhancing that which already exists, whether ecosystems, raw materials, energy or social values. We are ramping up what we have already started: creating climate-neutral, energy-positive, circular architecture; evolving urban environments modelled on nature; and enhancing health, equity and social values for people's varying needs.

#### SUSTAINABILITY FOR WHITE

Like many other companies, White's business goals, strategic initiatives and priority sustainability issues start from the UN's SDGs, the 2030 Agenda and the Ten Principles of the UN Global Compact (more on page 53).

Sustainability is integral both in owner directives and in policies. For White, sustainability is about creating cities and societies that are equal, safe and inclusive, and that enhance people's health and quality of life. A condition of this is that development must fall within the planetary boundaries, with consideration for the Earth's resources, nature and climate. Through our projects and supported by our research, development and innovation, we can continuously develop. We are convinced that, together with clients and stakeholders, we can create long-term values in projects – for clients, society, and the planet.

#### THE GLOBAL GOALS

Our projects range from planning towns and cities, to designing buildings and interiors and creating sustainable environments. This is why most of the global goals (SDG) are relevant to us to a greater or

lesser extent, either directly or indirectly. We focus on seven of the goals in particular, as we can pursue these in our projects on a day-to-day basis. During 2023, our projects have focused most strongly on Goals 3 and 11, with an emphasis on health and social sustainability. (More on page 56.)

#### SUSTAINABILITY ANALYSIS

Each project is unique and entails different conditions. To ensure that the projects have the right focus, we always begin with an analysis, usually involving the client. In this sustainability analysis we identify the project's specific risks and prioritised sustainability issues, and we set goals and a strategy for the project in question. The analysis is based on the global SDGs, industry-specific goals, and the objectives of clients and/or other stakeholders. (More on page 56.)

#### STRONG EXPERTISE

The sustainability challenges today are many and complex, and there are increasing demands on verifying the sustainability performance of both buildings and environments. White has built up a strong competence in sustainability over many years, and today has around 30 specialists in areas such as materials, climate, circularity, ecology and social sustainability. We offer a wide range of services throughout the planning and construction process, from vision, planning, preparation and brief to project planning, and into the construction and management phases. Because we can put together interdisciplinary teams of architects, engineers, landscape architects and other specialists, we can guarantee a holistic approach to sustainability in all our projects.

#### ENGAGEMENT

White is involved in several industry-wide forums, including three programmes for climate-adapted construction in Sweden's three biggest cities: *LFM30 in Malmö*, *Klimatarena Stockholm* and *Klimatanpassat byggande in Gothenburg*. It is with our clients, in the projects themselves, that we can make real progress that has a direct impact.

This report presents a selection of our projects from 2023. ■



## The Global Goals for White:

The starting point for our projects is an analysis based on the sustainable development goals. It is in our projects we have the best possibility to make an impact on sustainable development.



#### GOOD HEALTH AND WELLBEING

Ensure healthy outdoor and indoor environments with access to daylight, good air quality and a good thermal climate. Strengthen social wellbeing through access to green spaces, inspire movement and create safe, equal, inclusive environments. Read more on pages 23–29 and 45–49.



#### AFFORDABLE AND CLEAN ENERGY

Ensure energy-efficient buildings and increase the share of renewable energy, e.g solar cells. We offer process management of energy-positive buildings and districts. Read more on pages 20 and 39–43.



#### SUSTAINABLE CITIES AND COMMUNITIES

Start from people's varying needs and create inclusive, safe and equal environments, with access to green spaces, housing for all and sustainable mobility. Promote social and environmental links between urban and rural areas. Read more on pages 23–29 and 45–49.



## WE OFFER SUSTAINABILITY EXPERTISE IN:

Sustainability management and certification  
 Circularity and reuse  
 Climate and energy  
 Digital sustainability  
 User engagement processes and co-design  
 Social sustainability  
 Ecosystem services and climate adaptation

*The Brännaren quarter in Malmö comprises small rental homes for young adults, an aparthotel and a wide variety of social spaces. The patio courtyard is home to a 200 sqm glass house called Smaragden, literally 'The Emerald' – a winter-proof conservatory, and a greenhouse with a service kitchen for year-round cooking and social use.*



## 12 RESPONSIBLE CONSUMPTION AND PRODUCTION

Transition to circular architecture by using existing stock, prioritising reuse and recycling, and creating buildings of high quality that can change over time. Read more on pages 31–37.



## 13 CLIMATE ACTION

Contribute to climate-neutral buildings and environments by reducing energy needs, promoting renewable energy, choosing materials with low climate impact and planning for sustainable mobility. Adapt outdoor environments considering climate risks. Read more on pages 20, 23–29 and 39–43.



## 15 LIFE ON LAND

Enhance ecosystems and biodiversity by integrating ecosystem services. Reduce impact on land and nature. Read more on pages 23–29.



## 17 PARTNERSHIPS FOR THE GOALS

Establish collaborations, research and innovation in order to exchange and enhance expertise and methods that contribute to sustainable development in several countries. Read more on pages 19–21.



*White's contribution to the architecture exhibition at the Venice Biennale focused on whether it is possible to strike a balance between the forest as a resource, and the urgent need to preserve and restore sensitive ecosystems.*

# Research and Innovation



White's explorative culture is vital in developing architecture, expertise and our offerings, and making a contribution to the transition towards a more sustainable society. White Research Lab is where we conduct practice-based research, development and innovation, often in close partnership with clients, the academic sector and other partners.

Anna-Johanna Klasander, Research & Development Director

## FROM IDEA TO BUSINESS

White Research Lab supports practice-based studies and research, and alongside White Innovation Lab we can translate expertise, ideas and creativity into concrete business propositions. An idea explored in a project might turn into a research assignment, which then develops into new services. These in turn might then contribute to a shift, whether for clients, the industry, or even the whole of society.

## NETWORKS AND ACADEMIA

White Research Lab also includes 15 internal knowledge networks which are crucial when it comes to being inspired, both by each other and by the wider world. They also highlight research and expertise and spread them both internally and to our clients and other stakeholders. In addition, we set aside funds for our external research foundation, ARQ.

We have three doctoral students at Lund University Faculty of Engineering and KTH Royal Institute of Technology in Stockholm, who are conducting and disseminating research in qualified subject areas. Furthermore, we have two professors at Chalmers University of Technology in Gothenburg, working in urban design and planning, and architecture for the healthcare sector. Several of our colleagues are regular guest teachers, lecturers and supervisors at the universities.

## INVITATIONS

In 2023 we were invited to the Venice Biennale, where we focused on the complexities of timber construction. Using Sara Cultural Centre as an example, we linked responsible forestry to the positive climate impacts of building with wood using local resources, which was fully in line with the Biennale's theme of *Decolonization, Decarbonization*.

The invitation proves that our explorative culture is attracting attention also internationally, and that it enables us to problematise and engage in a complex industry.

We were also invited to share our expertise at e.g. the SHAREX Conference for Advanced Architecture in Venice, the Norman Foster Foundation Energy Workshop in Madrid, the European Health Property Network (EUHPN) in Copenhagen, and European Healthcare Design in London. These conferences focused on advanced architecture and healthcare.

## RESEARCH PROJECTS

Wood remains an interesting field of development internationally. The research project *Wood for Health* explores new surface treatments for visible wood in healthcare environments, and looks at drafting European guidelines for timber in hospitals. The recently started project *Health in Timber* is looking at timber constructions in buildings with complex programmes. We have also studied clay as a building material, for instance in our collaboration with HSB Living Lab. *Read more about our research projects on our website.*

## DIGITAL SERVICES

We have comprehensive development in digital methodology and tools. WHEAT is our early-stage tool for simulating daylight, microclimate, climate impact, energy and other parameters. Climate calculations and life cycle data are other examples. We also develop tools that support circular architecture: *Square Meter* measures the use of premises to enable optimisation, *ReCapture* 3D scans buildings to establish the potential for reuse, *ReMake* can be used to catalogue reused material to ensure efficient project planning. ■

# 48

MSEK to White Academy, White Research Lab, Innovation Lab, digital development and ARQ.

# 15

internal knowledge networks

# 17

ongoing research projects



*For the Tamarinden housing project outside Örebro, White is developing a district, where the focus is on new energy solutions to accelerate the transition to sustainable cities.*

## Positive Energy Districts

Towns and cities account for 70 percent of global carbon dioxide emissions, and securing stable, renewable energy supply through Positive Energy Districts (PEDs) is a key aspect of the climate transition. A few years ago, White took part in the EU-funded research project PED-ID. We found that there is no decent collaboration process in place to integrate energy in physical planning, and therefore launched our Positive Energy Planning Process (PEPP). This has started to make a good impact in 2023, and we currently have four PEPP projects ongoing in Sweden: Örebro, Järfälla, Gothenburg and Malmö.

The latest one, *Just PEPP*, has now been granted SEK 12 million in

EU funding. The focus of the project is the dual challenge of developing positive energy cities and districts in a manner that is both sustainable and equal. It focuses on two Swedish areas, both with socioeconomic challenges: Vivalla in Örebro and Hällefors in the far north of Örebro County. The project will also be carried out in Norway and the Netherlands.

“Due to the critical climate situation, our towns and cities need to transition now. Energy is an urban planning issue, and integrating social sustainability into PEPP is an exciting approach,” says Lise-Lott Larsson Kolessar, Sustainability Specialist at White.

“Each area faces unique socioecono-

mic challenges such as geographic isolation, an ageing population and people with a migration history. In co-creating with residents, we want to explore solutions for energy efficiency and fossil-free transport,” says Per Carlborg, Project Manager for *Just PEPP* and a senior lecturer at Örebro University.

The Swedish consortium members are Örebro University, White, Örebro Region, NCC, Örebrobostäder and Hällefors Bostad. The international members are Utrecht University, Inland Norway University of Applied Sciences, and Climate Alliance.

**Contact:** Lise-Lott Larsson Kolessar and Keith Boxer

# More Efficient Premises with Square Meter

Since the pandemic, many organisations are considering how they can optimise and adapt their premises to hybrid working. If the degree of utilisation in a working premises is low, it is a huge waste of money and existing resources, and it risks the premises being perceived as desolate and uninspiring. By making better use of existing office space, companies can save energy and materials while also reducing climate impact and costs.

Square Meter by White is a service for optimising premises usage, originally developed through White Innovation Lab for this specific pur-

pose. Square Meter uses sensors to measure flows and degree of usage in premises and individual rooms. After analysing the data, the architect can then formulate a firm, tailored proposal for how operations can be optimised.

White itself was one of the companies that needed help with this, and it used Square Meter.

“Our measurements showed that colleagues spent half their time in meeting rooms. By reducing the number of office workstations and instead creating more small meeting rooms, we could do away with an

entire floor, saving a lot of money and resources. With firm evidence backed by data, it’s easier to take the right measures,” says Martin Ehn Hillberg, Office Director at White Stockholm.

Square Meter provides information that can be used for more than just space optimisation, including acoustics, furnishing, needs-led lighting, and ventilation. It often makes more financial sense to adapt existing offices rather than relocating.

**Contact:** Helena Polgård Nygren and Linda Mattsson

White's office in Stockholm, Katsan.





**IN NATURE-BASED ARCHITECTURE WE OFFER:**

- Analyses and strategy for ecosystem services**
- Climate risk analyses**
- Simulation and analyses of microclimate (wind, water, heat, sun).**

*With nature-based solutions we can develop sustainable, robust and flexible urban environments that last over time. Nature and greenery can deal with overheating and flooding, enhance biodiversity, clean pollutants, and contribute to recreation and cultivation environments. We exemplify this here in one of the most central parts of Gothenburg, around Hisingen Bridge.*

# Green and Regenerative Cities

As cities grow, consumption increases and climate change accelerates, the burden on ecosystems becomes heavier. The consequences of climate change are also a major risk, including elevated water levels, heavier rainfall and a warmer climate. Loss of biodiversity and climate change are two risks that affect each other, and represent a major threat to humanity. To manage these two crises, it is crucial to integrate nature-based solutions into the built environment to an increasing extent.



**Louise Didriksson,**  
Development  
Manager  
Landscape

#### **What is a nature-based approach?**

It refers to actions that start from and utilise the various natural functions of nature and our ecosystems.

#### **What can it help to achieve?**

Nature in cities can support many vital functions such as biodiversity, air purification, and increased wellbeing. By increasing infiltration and creating natural retention, we can mitigate the consequences of climate change. Green and blue networks and variation of species are necessary in guaranteeing living environments that boost biodiversity. Also, parks and green spaces add environments that enhance social life as places where peo-

ple can get together and have fun outdoors. With nature-based solutions we can develop urban living spaces into sustainable, robust and flexible environments that last over time.

#### **How can we accelerate the green transition?**

With the regenerative design approach, we go beyond “just” creating something sustainable. We need to contribute to environments that can be recreated, in order to preserve both ecosystems and natural resources. By starting from or mimicking nature’s processes, we can create resilient, sustainable environments that contribute to long-term values for society. With a stronger focus on land use and natural resources like soil and water, we can bind ever larger amounts of carbon when developing areas. In this way, planners and landscape architects can help to reduce global warming. ■

*“The design was based on an inventory of ecological values. We were able to preserve high biological values, but new vegetation has further enhanced diversity.”*

CAROLINE LINDQVIST, LANDSCAPE ARCHITECT

## New Life in a Forgotten Park

An abandoned, overgrown green space with old ponds has been transformed into an attractive park for residents of the Kneippen district of Norrköping. New opportunities for play, rest and gatherings have given the people of Norrköping a unique park.

Once part of the Norrköping Folk-park (amusement park) with animals, duck ponds and an orchard, the site was gradually forgotten, the ponds were fenced off and the park became overgrown.

White's design helps to open up the park for the residents of the area and for the neighbouring preschool. The park's natural features in the form of water, rock outcrops, fruit trees and fine large trees have been utilised and inspired a design with natural materials such as wood and stone.

The park's design is based on an initial inventory of ecological values. Important biological values have been preserved, but new species have further enhanced the biodiversity. There are educational elements with sand beds, butterfly meadows, bird boxes and tall tree stumps.

At the centre of the park are the two ponds, which, with their different characters and water levels, have provided the basis for the design of

the park. The park's small pond has been designed as a play environment for young children, with flat slopes, footbridges, sand play and jumping stones in the reeds. In close dialogue with the client, we have managed to create a play environment that is safe, secure and accessible, while also allowing close contact with the water.

The park's large pond has been left largely untouched with its beautiful natural character and visible rocky edges. There is space for recreation of various kinds, including a dancing-pier that hints at the site's history and acts as a meeting-place for young people. There is also an educational gathering-point at a specially laid sand bed, with information signs about the insects and their lives. The site's history has inspired the play-ground equipment as well. There is a roundabout, and the playhouses are reminiscent of the duck shelters that were once here.

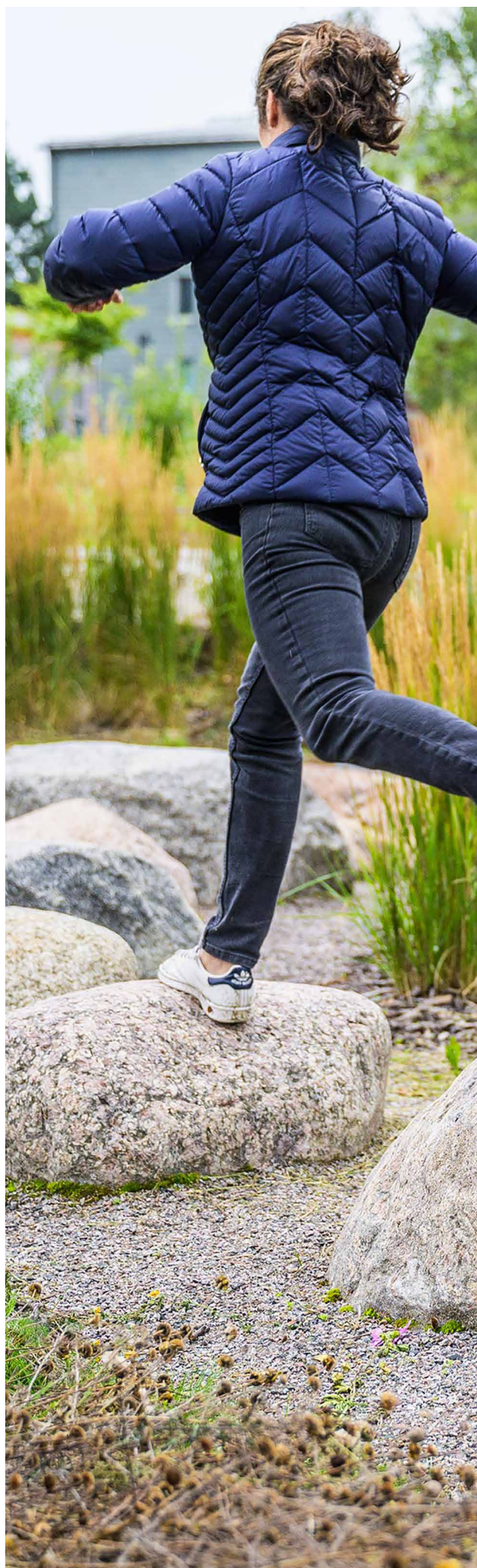
There is a main pathway through the park, linking to the area's pedestrian and cycle paths. The pathway allows access to the various sections of the park: the pond environments, obstacle courses, the playhouses, as well as resting places such as hammocks in the orchard grove and sunchairs on the rocks.

**What:** Kavaljersparken Park, Norrköping

**Client:** Norrköping Municipality

**Status:** Completed

**Sustainability:** Biodiversity, ecological values, climate adaptation, health and recreation







# Climate Quarter in Balance with Nature

Leave as much as you take. Spare half the site from housing construction, and balance environmental and climate impact from new construction with development of farmland and wilderness areas. This is the point of departure in our proposed development of Berga Trädgårdsstad, or 'Garden City'. A prime example of regenerative architecture.

Working with two other firms, White has been commissioned to draft a proposal for the development of Berga Trädgårdsstad, an area of east Eslöv in Southern Sweden that is currently agricultural land but where some 360 homes will be built in the future.

"Creating a new built environment on virgin land is a challenge and a responsibility. Our proposal is a sustainable living environment in balance with nature. An environment like this can't only offer housing; it also has to reinforce the link to the surrounding nature and agricultural landscape, and balance the wellbeing of people and nature," says Åsa Bjernedell, Lead Architect at White.

To achieve this balance, half the plot is being densified with an efficient garden structure, while the other half, about 5.6 hectares, is being reserved for regenerative, locally based food production, wild and recreational nature land, and solar cells combined with cultivation and animal husbandry. If half of the set-aside land is used to grow vegetables, it will cover about

5 percent of the needs of families in Berga Trädgårdsstad\*.

The carbon emissions of the new construction can be balanced by creating long-term carbon sinks on the saved arable and natural land. A rough calculation shows that the embodied emissions of the development are around 11,620 tonnes of CO<sub>2</sub>. Assuming that agricultural land can sequester 40 tonnes of CO<sub>2</sub> per hectare\*\*, in combination with new or expanded tree planting, it could balance the carbon emissions contributed by the new houses.

In addition, a 4,000 m<sup>2</sup> park of solar cells, combined with solar panels on the roofs of the residential buildings, would meet the entire energy need for heating and operation (if the buildings meet the energy requirements for Sweden Green Building Gold certification, Miljöbyggnad).

In addition to the undeveloped farmland, the green spaces in the 'Garden City' will be designed in a way that increases biodiversity in the area overall. They will also enhance the site's resilience to the consequences of climate change, especially regarding water. The developed and natural areas come together in a number of public places and buildings that enhance social life for residents and visitors.

All the homes have a small private garden or courtyard, and there is shared infrastructure where residents can access an allotment or space in a community greenhouse.

**What:** Berga Trädgårdsstad, Eslöv

**Client:** Eslöv Municipality

**Status:** Detailed development plan

**Sustainability:** Regenerative architecture, climate impact, biodiversity

\* Based on the assumption that 2,000 m<sup>2</sup> of vegetables can supply 30 families.

Source: *Odling till försäljning*, Jonas Ringqvist.

\*\* Assumption from Ecotopic, <https://ecotopic.se/>





***“Berga Trädgårdsstad shows the way forward for urban planning, which must take place in harmony with nature. This is crucial to the survival of humanity.”***

ÅSA BJERDELL, LEAD ARCHITECT

*“The greenery is vital in many ways: it provides shade, cleans the air and enhances biodiversity, and makes Slussen a place where people thrive and want to spend time.”*

PAULA MACKENZIE, LEAD LANDSCAPE ARCHITECT



# The New Green Slussen

The transformation of the Slussen lock area in the heart of Stockholm is one of the most complex planning challenges of our time. In order to protect the capital from flooding and secure drinking water, the new lock needs to be able to release more water from Lake Mälaren. Meanwhile the city will have new public spaces and parks in an ideal location, as well as better accessibility for cyclists and pedestrians.

White has been the landscape architect for the Slussen project since 2010. As a central interchange, Slussen needs a lot of hard surfaces, but it will still be a far greener place than it was previously – especially the new park, Katarinaparken. It will be a green lung for the people living and working in the area, and a much-needed space for play and relaxation. Södermalmstorg square will also be characterised by trees and greenery.

But Slussen is a challenging place for vegetation. The new squares and parks rest largely on joists, and there's a lot to fit in underground. Large trees need room for their roots, and the joists need to be strong enough to take the weight of both the soil and the vegetation. And of course the rainwater has to be led off.

Around 100 trees of different kinds will be planted in the new

Slussen. Adjacent to the trees will be planting areas with low bushes and perennials, the species carefully selected to bloom from early spring to autumn. The species have also been chosen to benefit pollinators. The variety of species, both trees and undergrowth, will make the facility more resilient to future climate challenges, which could bring diseases and pests that are currently unknown. The plants also need to withstand the dry, warm location, with no irrigation and lower maintenance requirements.

The project is favourably located for stormwater management: the spaces on Södermalm allow water to flow freely down into Lake Mälaren and the inner Baltic if the urban stormwater systems get flooded. One major problem will be summer drought, so it has been vital to ensure that shade trees and cooling vegetation can withstand dry periods. The plant beds are well sized and are irrigated by stormwater from surrounding paved areas.

The greenery is supplemented with granite in various forms. Using natural materials is another aspect of Slussen's transformation, from a place for cars and lorries to a place where human wellbeing comes first.

**What:** New Slussen, Stockholm

**Client:** City of Stockholm

**Status:** 2010–ongoing

**Team:** Collaboration with Foster and Partners. Lead Landscape Architects at White: Paula Mackenzie, Jack Johnson and Gustav Jarlöv

**Sustainability:** Greenery, biodiversity, climate adaptation, health, mobility



**IN CIRCULAR ARCHITECTURE WE OFFER:**

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**Environmental and reuse inventories**

**Reuse management**

**Strategy for circularity and design concept**



*Turn is a turned table in solid European oak and ash, which can both age and be maintained – fully in line with White's focus on circular design. Offices are increasingly being made more home-like to attract employees back to work after the pandemic. The Turn table can easily be moved around to create more relaxing environments between the formal workspaces. Design: Andreas Sture, White, for Blå Station*

# Enhancing Existing Values

Extraction of materials and consumption has a huge impact on biodiversity and the climate. Consequently, it is essential to save resources and transition to a more circular economy. To succeed, we need to drive development to a new mindset with regard to materials being more prudent with what already exists, and considering long-term quality. We also need to manage design processes in a whole new way.



**Anna Lisa McSweeney,**  
Development Manager  
Transformation and  
Circularity.

## What is circular architecture?

It's architecture based on the principles of a circular economy. Rather than seeing raw materials as consumables, as in the linear economy, we take the approach that resources are scarce. We need to keep materials in use for as long as possible, and then reuse or recycle them at 'end of life' in their current use. Circular design can be applied on any number of scales, from a single product to an entire building or system. Circularity is a key aspect of a regenerative mindset: taking care of natural resources, eliminating waste and pollution, and allowing people and nature to survive, thrive and evolve together.

## What added values can we bring?

With circular architecture we can reduce both climate and environmental impact by reducing the use of raw materials. A cir-

cular approach can save natural resources and reduce costs, especially by focusing on material efficiency and reuse. We can design to extend the life of materials and buildings, in order to retain their value and adapt over time. Circular architecture can also contribute to more attractive spaces and strengthen a brand.

## How can we speed up the transition?

As designers we can help to create a vision for the future and work to change the goals in our industry as a whole. Rather than business as usual, we need alternative approaches to procurement, scheduling and work flows. Throughout the industry, we need to learn and share our experiences so that we can build expertise. We can challenge our clients by always starting from circularity, for instance suggesting an alternative to demolishing a building. We can also show the way for 'new' recycled and biobased materials. Digital tools and material passports will also simplify material management, planning of reuse and long-term administration. ■

# Reuse as a Role Model

When White's office in London was relocating from Shoreditch to Farringdon, the aim was to make the project a prime example of circular architecture. In London alone, some 27 million square metres of office space will be furnished in the next ten years. The environmental consequences are considerable, and there is huge potential for improvement.

"We wanted to create a sustainable, energy-efficient renovation model that can be applied in other projects," says Michael Woodford, Director of White's London studio. "The aim was to reuse as much material as possible, and the office should also have a low climate impact with low energy requirements. The result was 80 percent reuse, seven tonnes less carbon dioxide and 40 percent lower costs."

But there were other challenges too. The office is in a 1960s concrete block with inadequate ventilation, and poor daylight on the bottom floor. Despite this, it was decided to reuse large parts of the internal structures including the elevated floor, ventilation grilles and ceiling panels, even though they were quite worn out. The cladding on the concrete pillars was removed and they were left exposed.

The offices were planned around access to daylight, with an open-plan layout for workplaces at ground level, and spaces for meetings and relaxation in the basement. Plants and natural materials enhance the feeling of comfort.

The main challenge was finding reused material that could meet modern requirements. Furniture from the old office was used along with some from other office refurbishments, including adjustable desks. Carbon

emissions from the interior are seven tonnes lower than if everything had been newly purchased. It is, however, hard to find reliable data, so the calculation is based largely on assumptions and experiences from other projects.

The ventilation system was adapted to reduce the energy requirement, and converted into a supply air system using fresh air. Motion sensor LED lighting was also installed, and indirect daylight in the basement was improved.

Any additional new materials are mainly natural materials with a low carbon footprint. This includes wooden flooring, and woodwork with mycelium panels for 'quiet booths'. All the fixtures are designed so they can be dismantled and reused.

There is a distinct trend in the construction and interior design sector to apply reuse more and more, but the process needs to speed up: digital tools such as Recapture and Remake, which uses 3D scanning and BIM to categorise building products and their potential for reuse, could be a valuable asset.

"The most important thing is to collaborate in new ways along the entire supply chain. It's definitely an advantage to have established contacts with businesses and people who share our goals. That way, we can shape the process from the very beginning and more readily guarantee the schedule and deliveries," says Laura Davies, Lead Architect.

Due to the challenges of finding reused products, the process took longer than planned, but the costs were still 40 percent lower than expected.

**What:** White's offices, London

**Client:** White arkitekter

**Status:** Completed

**Sustainability:** Circular architecture, reuse, climate, daylight







*“If a circular approach was applied to all office renovations in London it would entail massive savings, both in terms of costs and carbon emissions.”*

ANNA LISA MCSWEENEY, ARCHITECT AND HEAD OF SUSTAINABILITY UK



**What:** Malmö New Courthouse, Malmö

**Client:** Malmö New Courthouse/Swedish National Courts Administration

**Status:** Completed

**Sustainability:** Circularity, reuse, low climate impact

## Circularity with "the Flow"

Malmö New Courthouse is not only the largest courthouse in the Nordics, but also one of Sweden's biggest and most complex interior projects covering 30,000 m<sup>2</sup> in all.

At 14 storeys high, the courthouse is a prominent feature of the Malmö cityscape. Housing the District Court, the Administrative Court and the Tenancy Tribunal, the building has some 40 courtrooms, around 700 workplaces, meeting rooms, dining areas, lounge spaces and roof terraces.

The project has focused heavily on sustainability, and White has applied "The Flow" method to ensure an efficient process for reusing furniture.

"It calls for a different approach compared to simply buying new furniture. The design process includes aspects such as inventory, reconditioning, logistics, and above all project management to bring everything together into a harmonious whole," says Mia Erlandsson, Lead Interior Architect.

The method entails first utilising existing furniture as far as possible, although eventually also new furniture should be able to circulate over time. Furniture should be made from recycled and recyclable materials, but must also be flexible. Table bases, for instance, must be able to fit different sizes of table top. It should also be possible to renovate the furniture over

and over again, and colours should last over time.

In all, some 2,500 pieces of furniture from the old courthouse have been reused. All of them have required some kind of work, from washing and cleaning to painting, re-upholstering or re-stuffing. Fabrics should be hardwearing and removable for washing.

A building contains different materials, textures and colours, plants, sounds, light and air.

"When everything works together, we tend not to even think about it. But as soon as one element is missing, something feels wrong. In the courthouse project we've worked with a wide variety of material palettes, and they work together to form a whole," says Martin Pålsson, Interior Architect.

Reusing 2,500 pieces of furniture while also creating a pleasant new design has been a challenge, but made easier by defining different room types and minimising the number of unique spaces. This also allows greater flexibility, as it makes it easier to move furniture between different spaces as required.

This has also been key in keeping costs down. Since the project should not disrupt work at the courthouse there was quite a logistical challenge, both in terms of the move itself and when it came to working with reuse on such a large scale.

*"We have used as much as possible of the existing interiors. It may seem expensive to reuse and upgrade furniture, but it's often the opposite."*

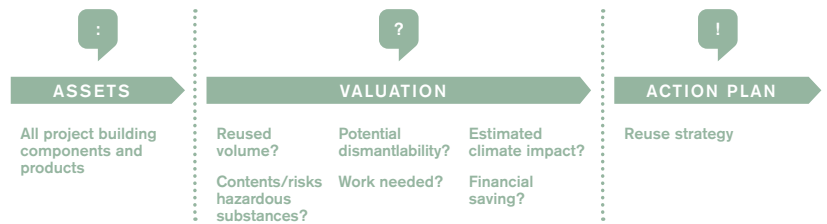
MIA ERLANDSSON, LEAD INTERIOR ARCHITECT





***“In Scandinavium there’s great potential for reuse. Prefabricated elements and building components can be sawn into new walls or girders.”***

KARIN HEDÉN, LEAD SUSTAINABILITY SPECIALIST



# Reused Materials become New Arenas

The arena and events zone in central Gothenburg is facing a major transformation. For instance Scandinavium stadium and Valhallabadet swimming hall are to be replaced with new arenas and sports centres. The City of Gothenburg has high sustainability aims for the area, including near-zero goals for climate impact, and highlighting the development as a role model for the transition to a circular economy.

Both Scandinavium and Valhallabadet are planned to be demolished, but to investigate how materials of the existing stadiums could be reused, White was commissioned to carry out a comprehensive inventory and develop a circular strategy for the area.

The buildings have a joint total area of 60,000 m<sup>2</sup>. They almost exclusively comprise concrete frames, with certain bearing sections in steel and timber, with facades of brick or metal. Managing a reuse project on this scale calls for a systematic approach, with clear mapping of assets, valuation based on different aspects, and a summary formulated in an action plan.

The process began with a general inventory and quantification of all the main building components, such as frames and envelopes. The materials were then assessed and prioritised based on both quality and aesthetic values, and also their ability to be reused and recycled. Climate calculations were also made to provide data for prioritisation.

Concrete accounts for about 90 percent of the buildings' total weight and almost 60 percent of their carbon footprint. Steel, girders, structural reinforcements and sheet metal account for about 6 percent of the weight, but a

far larger proportion, about 35 percent, of the carbon footprint. The calculation shows how different materials should be prioritised in terms of reuse.

One important aspect lies in assessing whether the various materials can be reused. Steel is widely reused today, and there are well-established methods in place for quality assurance. Concrete can be reused, for example by being sawn into smaller pieces, although it will primarily be crushed and recycled. Methods are being developed to also be able to separate cement and reinforcements. The facade brick can be reused as well, but there are special procedures for quality assessment.

"When it comes to reusing concrete, we have identified prefabricated elements and flat building components that could be sawn out into wall or floor elements," says Karin Hedén, Lead Sustainability Specialist at White. "For example, we're looking at whether the ramps from Scandinavium can be reused in one of the arenas."

The analysis shows that there is great potential for reuse. As well as the concrete elements in the frames, walls and intermediate floors, there are also steel columns and girders. The valuation has been summed up in a circular strategy that provides the point of departure for ongoing work, including project planning for dismantling and new construction.

"The main challenge will be the planning of the actual work process, including dismantling, interim storage and logistics, since the buildings are in a built-up central area," says Johanna Engberg, Project Business Director at White.

**What:** Reuse inventory of Scandinavium and Valhallabadet, Gothenburg.

**Client:** City of Gothenburg

**Status:** Ongoing. Dismantling will begin 2030 earliest.

**Sustainability:** Reuse, inventory, circularity



*At Odenplan in Stockholm, White has won the contract from Skandia Fastigheter to design a new building with ambitious climate and environmental goals, on the Spelbomskan 9 block. The aim is to make it a wooden building, the first tall one in Stockholm, and to reuse materials from the existing building.*



**IN CLIMATE AND ENERGY WE OFFER:**

- Climate and energy calculations
- Climate coordination/Process management
- Climate and cost management
- Expertise in solar cells
- PEPP – Positive Energy Planning Process

Our definition of climate neutrality: Carbon emissions from the production of materials, construction and energy during operation are balanced with renewable energy and carbon storage in, for example, wood. (Calculations include stages A1–A5+B6, and materials according to the criteria for the Swedish climate declaration.)

# Towards Climate Neutrality

The property and construction sector accounts for 20 percent of Sweden’s carbon emissions. Architecture and urban planning have great opportunities to contribute to the transition, by focusing on low carbon, energy efficient and circular construction. But the pace needs to increase radically if we are to reach the industry’s target of halving carbon emissions by 2030 and net zero by 2045.



**Marja Lundgren,**  
Development  
Manager,  
Climate & Energy.

## **In what ways can architecture contribute to the climate transition?**

Architecture is a lot about valuing, refining and developing what we already have. To primarily develop our existing buildings and only as a last resort build new ones is a very effective way of reducing material resources and carbon emissions. In new construction we need to reduce the carbon footprint by using biobased, reused, recycled materials, or natural materials such as clay and slate.

We also need to save energy and reduce its carbon emissions. Energy is an urban development matter. At the local level we can work strategically by defining an energy framework, so that we can create energy-positive areas. (Read more about PEPP, Positive Energy Planning Process, on page 20.) By ensuring energy efficiency in the existing stock and focusing on renewable energy, new construction can be developed without exceeding the energy framework. Energy is also an important design issue when balancing daylight and energy efficiency.

There is also great potential to integrate solar cells into the design.

## **How are things developing?**

Everything is moving quickly now. We’re in the middle of a crisis so rules and regulations are being stricter, particularly from the EU, as are voluntary initiatives. System limits for climate budgets are also being tightened all the time, and we can see clients increasingly specifying firm climate goals in their projects. That’s a positive development. With clearly defined targets, the whole project team can steer towards a common goal and take responsibility for thinking along new lines and finding solutions. That’s the approach we have to take.

## **What’s the next step?**

The key is to understand the whole. Climate, energy, natural resources and biodiversity all go together. Several factors have to work together simultaneously in order to reduce carbon emissions. On the one hand we need to be mindful of the site and retain both the nature (which is a carbon sink) and the material resources. On the other hand, we need to make sure that we limit energy use, even though the population and needs are increasing, and that we transition from fossil-based to renewable energy types. ■





*“This is the first major healthcare building to be made of timber. The carbon footprint is estimated to be 40 percent less than similar buildings in Sweden.”*

MATHIAS NILSSON, PROJECT BUSINESS DIRECTOR

## A Unique Wooden Building

In January 2019, White won the contract to redevelop and extend the Central Hospital in Karlstad. The project is the region's largest ever hospital investment. The first phase encompasses a new emergency hospital, reception building, technology supply centre and car park. At the same time, the existing hospital will be preserved and developed. In total, phase 1 comprises new construction of 107,000 sqm, redevelopment of 29,000 sqm and demolition of 53,000 sqm and is expected to be completed in 2033.

The future brings challenges that render major healthcare projects complex. The project has to guarantee that the transformation of the hospital lays the foundation for functioning, sustainable healthcare far into the future.

“The way we give and receive care could be completely revolutionised several times over the life of a hospital. Changing care requirements, a healthier yet ageing population, more citizens needing care; all these things involve challenges that architecture needs to consider,” says Cristiana Caira, Lead Architect.

Region Värmland's ambitious sustainability programme stipulates three overarching goals for the project: Health-promoting and healing environments for all; Climate smart, robust and resource-efficient; and Design for societal benefit.

The reception building is the first sub-project in this phase. At roughly

14,000 m<sup>2</sup> and eight storeys high, the building will have a timber frame and a facade of reused brick. Calculations show that the building will have 40 percent lower climate impact than other Swedish hospital buildings have on average.

“We have continuously taken measures to reduce the carbon footprint during planning. As well as the glulam frame and 4,000 m<sup>2</sup> of reused brick on the facade, we have reduced concrete volumes, used climate-enhanced concrete, reinforcements and leveller, prescribed timber in infill walls and interior glazing, and have used glass wool rather than rock wool to insulate the walls,” says Mathias Nilsson, Project Business Director at White.

The carbon footprint of the reception building has been estimated at 273 kg CO<sub>2</sub>e/m<sup>2</sup> BTA. This can be compared to Sweden Green Building (Miljöbyggnad) Gold level, which is 330 kg CO<sub>2</sub>e/m<sup>2</sup> BTA for the ‘other buildings’ category.

Due to the demands on robustness placed on societally critical infrastructure, it is not without controversy to construct a hospital building with a timber frame, but the services that will be occupying the building are various kinds of day care and clinics. Future phases of new construction will relate to more advanced healthcare services involving in-patients, so those buildings are being planned with frames of low carbon concrete and steel.

**What:** Reception building for Central Hospital, Karlstad, Sweden

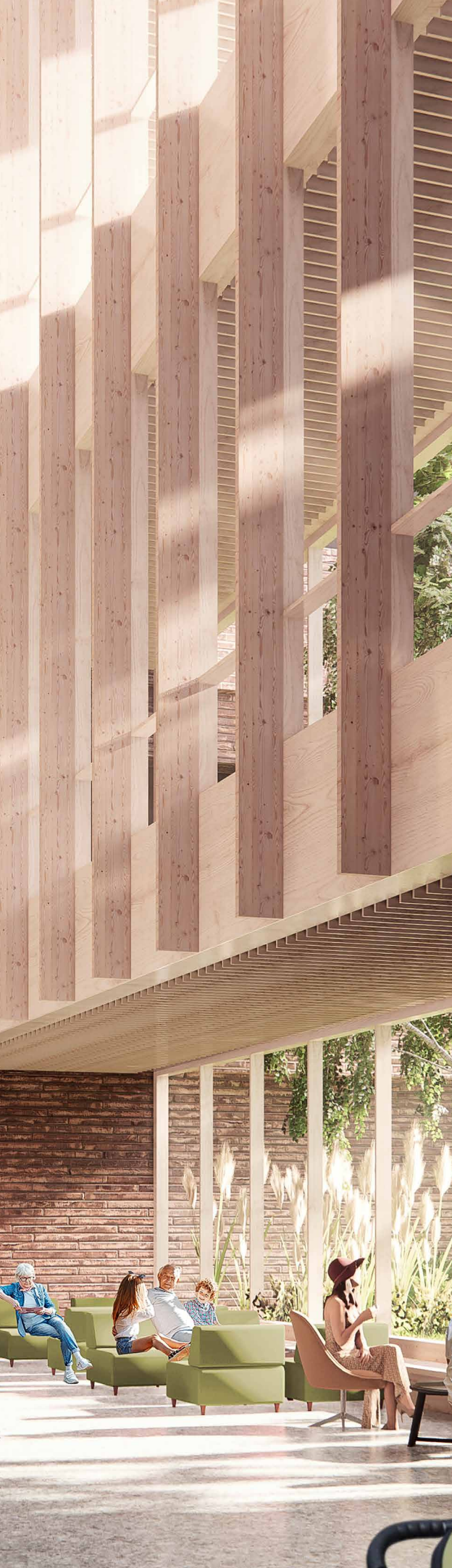
**Client:** The new hospital is a partnering project between Region Värmland and Skanska.

**Status:** Ongoing. Construction of the reception building will start in 2024.

**Size/area:** 14,000 m<sup>2</sup>

**Sustainability:** Low climate impact, timber, reuse, health and wellbeing

**Climate impact:** 273 kg CO<sub>2</sub>e/m<sup>2</sup> BTA (phases A1–A5, according to Swedish climate declaration)



*“Hemlingby comprises rental apartments with a strong focus on sustainability, natural materials, low climate impact and architectural qualities. We hope the project will be a role model for the future of housing development.”*

ANNA-LENA ELFVING, LEAD ARCHITECT



# High Quality with Low Climate Impact

In Gävle's new district of Södra Hemlingby, White has designed six rental apartment buildings of high quality, with low climate impact. The silhouette with no eaves and a well-considered choice of materials makes the buildings stand out without being pretentious. The expression of the buildings is cohesive, and the gables feature a clearly welcoming feature motif with a variation of French balconies and floor-to-ceiling windows.

The buildings are made largely of natural materials. The frame is solid timber, and the facades are clad in slate. To contrast with the black and green-shimmering slate facade, there are elements of softer wood panelling in entrances, balconies and outdoor spaces.

The materials convey a robust impression and will age with dignity. To minimise the use of concrete, the buildings have no basement level, and joint compound has been used for noise reduction in the joists rather than concrete. On the roofs are solar panels which supply renewable power to the apartments.

The natural materials contribute to a low carbon footprint. Calculations to Swedish criteria for climate declarations indicate a footprint for the buildings of 230 kg CO<sub>2</sub>e/m<sup>2</sup> BTA (phases A1–A5). This is 30 percent lower than the median in Sweden, and fully in line with White's new climate goals in projects (and better than the climate indicator for Sweden Green Building (Miljöbyggnad) Gold level).

The apartments feature a host of qualities. The floorplans are space-ef-

ficient, and with rooms in rows as well as circular access, the homes feel larger than they are. Most of the apartments have a flexible extra half-room. It is smaller than a standard room but has plenty of daylight, so it can be used as a workspace, a reading nook, storage, or as a bedroom for a young child. Its use may vary over time, which means that more people can live in less space, bringing both sustainability and financial benefits.

Thanks to large windows, often in several aspects, the apartments have plenty of light and varying views. Every home has a balcony or outdoor space. The timber frame is visible in selected parts of the interior. This is partly to show off the basic structure, but visible wood also has a positive impact on comfort and wellbeing.

The placement of the buildings in the environment maximises light and space in relation to the surroundings, while also retaining an urban feel in the structure. The outdoor environment links naturally to surrounding thoroughfares, a major feature of the district's qualities. The land between the buildings has been taken care of, and all parts of the plots are activated with private, semi-private and public spaces.

Several studies were conducted during the project. For instance, researchers from RISE Research Institutes of Sweden have monitored it regarding moisture inspection of the protective membrane on the exterior of the timber frame. Through White Research Lab we have also conducted our own CO<sub>2</sub> analyses, as well as a study into wood exposure in apartments.

**What:** Rental homes, Södra Hemlingby, Gävle, Sweden

**Client:** Gavlegårdarna (public housing in Gävle)

**Status:** Completed

**Size/area:** 132 apartments, BTA 15,180 m<sup>2</sup>

**Sustainability:** Climate, timber, natural materials, housing for all.

**Climate impact:** 230 kg CO<sub>2</sub>e/m<sup>2</sup> BTA (phases A1–A5, criteria for Swedish climate declaration)





**IN HEALTH AND SOCIAL VALUES WE OFFER:**

- Digital analyses of daylight, indoor climate and microclimate**
- Social analyses and consequence analyses**
- User engagement processes and co-creating**
- Socioeconomic analyses**

Central Malmö has five kilometres of canals, an amazing but as yet rather unexploited resource. On behalf of the City of Malmö, we have drafted a vision for seven different canal areas. It highlights the opportunities for new spaces, walkways, activities and a highly desirable swimming area, which would give locals and visitors access to the water, natural meeting-places, and attractive new outdoor environments in the city centre.

# Equitable Places for All

An equal society is based on the principle of equal rights and opportunities for everyone, regardless of their gender, ethnicity, functional ability or age. Cities and buildings are for everyone, so they need to be designed to cater for many different needs. Furthermore, well-designed environments can boost people's mental, physical and social health and well-being.



**Viktoria Walldin,**  
Social Sustainability  
Specialist at White.

## What does social sustainability mean to you?

In urban development and architecture, it's about a movement between environmental psychology – *the interplay between people and the environment* – and the spatial design of social welfare and social values – *different people's access to equal life opportunities such as safety, participation and meeting-places*.

## What are the greatest challenges?

We need to counter housing segregation, which leads individuals, particularly children and young people, to have different circumstances in their living and upbringing, which means unequal opportunities in life. It applies both to individuals but also on a societal level. When young people

don't have the conditions to achieve their full potential, all of society loses.

## In what ways can architecture and urban development contribute?

Municipalities, property developers, planners and architects have an important role in creating mixed dynamic areas that are accessible and attractive to more people. Places where there's room for commercial variation, but also for meetings and social life beyond the commercial. Where children's perspective is considered and the design is norm-creative. Where the traffic structure is reversed, and vulnerable groups are also considered.

Vulnerable groups risk being de-prioritised in favour of modern technology and rationalisation. The Central Station project (see p. 48) was an eye-opener as regards how visually impaired people have been affected by the digitisation of signs and information. ■



*“The care environment focuses around the children, rather than their diseases.”*

CRISTIANA CAIRA, LEAD ARCHITECT

# Care with Children in Focus

The new ultra-modern Cambridge Children's Hospital supports a new model of care for physical and mental health, making this the first purpose-built facility of its kind – set within a zero carbon architectural vision.

The hospital integrates physical and mental healthcare, bringing young people, their families, doctors and researchers into the same space. The care environment focuses around the children and their families, rather than their diseases. The hospital's multiple departments are organised to share resources, create greater operational efficiency and encourage collaboration. Bringing together personnel who are currently in several different places will enable a better exchange of expertise in paediatric care.

This new model aims to treat the whole child, not just their underlying symptoms, by taking into account the mental health implications of long-term hospital stays and the physical complications faced by patients with mental illnesses.

"Through our extensive user engagement with children, parents and care staff, we learned the importance of empathy – that children seeing other children with conditions different to their own helps to promote empathy, which in turn can improve their own recovery time," says Cristiana Caira, Lead Architect.

The children also revealed that a connection to the surrounding context and landscape offered a sense of belonging and was a key to recovery for long-stay patients.

White has long experience of health-care architecture, both in research

and in practice. Our architecture is founded on the knowledge that the design of the care environment and access to daylight, greenery and outdoor environments all have an impact on recovery times and increase wellbeing for patients, parents and clinicians alike.

At the heart of the children's hospital is a large courtyard contributing to a sense of activity and vibrancy on the ground floor. All around the courtyard there are winter gardens on the different levels, contributing both daylight and spaces for play and socialising. Large terraces line the psychiatric wards, and there are additional small internal courtyards inside the wards. By locating the private single-occupancy rooms to the upper levels of the hospital, all patients are able to enjoy views out to the surrounding landscape.

"The new Cambridge Children's Hospital enables a radical change in the model of care for children and young people, and we have shaped this vision to form a new healthcare typology. We hope it will be a role model for a future generation of hospitals," says Cristiana Caira, Lead Architect.

The hospital has high focus on sustainability and aims for net zero carbon emissions. There is a carbon strategy in place encompassing emissions over the entire life of the project. The carbon footprint is limited through the optimisation of the building's envelope and use of materials. Endemic tree and plant species were selected to create a resilient and natural habitat for birds and insects, especially house martins and other endangered bird species.

**What:** Cambridge Children's Hospital, UK

**Client:** Cambridge University Hospitals NHS Foundation Trust, Cambridgeshire and Peterborough NHS Foundation Trust, University of Cambridge

**Team:** Turner & Townsend (Design Team Lead Consultant/Project Manager), Hawkins\Brown and Ramboll

**Status:** Planned completion 2025.

**Sustainability:** Climate, physical and mental health, biophilia, biodiversity



*“In order to create an equal city for all, it is crucial to invite and find out about different people’s needs.”*

VIKTORIA WALLDIN, SOCIAL SUSTAINABILITY SPECIALIST

## A Station for All

Centralstaden or ‘Central City’ in Stockholm is one of the biggest urban development projects for Jernhusen, Sweden’s railway real estate company. It includes an overbuild of the track zone and an extension of the capital’s Central Station to allow for a doubling of passenger capacity. The aim is to create an accessible interchange for public transport, with a more functional, safe and attractive environment for travellers.

White has been commissioned to draft design objectives for the development of the Central Station. These will address what needs to be designed, and will form the basis for a design programme and project planning. The project has ambitious goals as regards environmental, economic and social sustainability.

Stockholm Central Station welcomes a wide variety of people and travellers with different needs: commuters, schoolchildren, families, tourists, elderly people, young people, and travellers with different kinds of functional diversity. To gain a deeper understanding of the kinds of needs the new station has to be able to accommodate, White conducted a study focusing on the user perspective. Six overarching themes had been defined: Identity, Usability, Waiting, Staying, Meetings and Interplay.

“Everyone is different, has a different life situation, and has different needs and preconditions. The passenger environment needs to be designed so it works for everybody,” says Dirk Noack, Lead Architect.

In the first stage, interviews were conducted at the station with 26 randomly selected travellers, and also with six experts with in-depth knowledge of Stockholm Central

Station. To further enhance the analysis White then turned to vulnerable passenger groups, which in this case was seniors (aged 68–79), young people (13–17) and people with neuropsychiatric disabilities (NPD). The groups were then asked to come on a walking analysis around the station for a structured discussion relating to six specific places and themes.

This analysis revealed for instance that several of the seniors valued the existing station’s architecture, meeting-places and welcoming feel, but would like to see more places to sit, more calm areas and clear signage. The young people were largely about function – “everything has to work: the trains, the platforms, information,” – and decent places to sit. For the NPD group, navigability, clarity and uniform design were most important, including walkways that do not cross, consistency as regards all escalators working in the same direction, and clear signage.

“We received a very positive response from accessibility organisation Begripsam and the regional Habilitation & Health Service, for involving people with NPD in the analysis. It’s clear that this group is far too rarely included when designing our shared urban environments,” says Viktoria Walldin, Social Sustainability Specialist.

Some of the other design aspects mentioned were that the environment should be inviting, be safe and secure, should help travellers to find their way around, should be open and without hiding places, have a good air and sound environment, and also a good light environment to compensate for the lack of daylight and enhance the site’s character, perception and function.

**What:** User engagement process and Design objectives for Stockholm Central Station, Centralstaden Stockholm.

**Client:** Swedish Transport Administration

**Status:** Completed

**Sustainability:** Social sustainability, inclusion, user engagement process





Stockholm Central





*The project for StickerApp's headquarters and production facility in Lomma, southern Sweden, is a collaboration between Johan Sundberg arkitektur, Studio Ålund and White. The aim was to create an interior that bolsters the company's culture and promotes collaboration between employees. The project was nominated for the Architects Sweden's Interior Awards, Golden Chair, 2023.*

# White arkitekter AB 2023



*For the interior design of the new court building in Jönköping, including the Göta Court of Appeal and Administrative Court of Appeal, we were inspired by the forests of Småland province, opting for a simple ethos with durable materials. The project includes a high proportion of reuse. The existing chairs, sofas and tables were renovated to extend their useful lives, and to bring harmony to the overall interpretation.*

## The Ten Principles of the UN Global Compact:

HUMAN RIGHTS	LABOUR	ENVIRONMENT	ANTI-CORRUPTION
<p><b>PRINCIPLE 1</b> Businesses should support and respect the protection of internationally proclaimed human rights; and</p> <p><b>PRINCIPLE 2</b> make sure that they are not complicit in human rights abuses.</p>	<p><b>PRINCIPLE 3</b> Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining; and</p> <p><b>PRINCIPLE 4</b> the elimination of all forms of forced and compulsory labour;</p> <p><b>PRINCIPLE 5</b> the effective abolition of child labour; and</p> <p><b>PRINCIPLE 6</b> the elimination of discrimination in respect of employment and occupation.</p>	<p><b>PRINCIPLE 7</b> Businesses should support a precautionary approach to environmental challenges;</p> <p><b>PRINCIPLE 8</b> undertake initiatives to promote greater environmental responsibility; and</p> <p><b>PRINCIPLE 9</b> encourage the development and diffusion of environmentally friendly technologies.</p>	<p><b>PRINCIPLE 10</b> Businesses should work against corruption in all its forms, including extortion and bribery.</p>

# Responsible Business

**White's core business is architecture, design and urban development. A strong commitment to society and an ethical and democratic fundamental view are the cornerstones of White's corporate culture. Not taking responsibility for how the business affects people or the environment is today associated with major risks. Our projects bring us the major opportunity to take responsibility for driving more sustainable development.**

### VALUES

Our Owner Directive is fundamental to our operation, and is based on three powerful core values for everything we do: White will be explorative, responsible and act with respect and participation.

### CODE OF CONDUCT AND ETHICAL RULES

Our Code of Conduct for Corporate Sustainability is based on the Ten Principles of the UN Global Compact as regards human rights, labour, environment and anti-corruption. It is our tool for how we as employees and as a company take responsibility, act, and what we expect of ourselves and our partners.

Our employees should also adhere to the ethical

rules of both Samhällsbyggnadssektorn (Swedish construction sector) and Architects Sweden. These rules mean that we oppose all forms of corruption, strive for competition on equal terms and promote social responsibility in the value chain.

We act in accordance with both international and national laws, norms and directives. This permeates our three policies: Employee Policy, Quality Policy and Sustainability Policy.

The Code of Conduct and policies can be found on our website, along with our whistleblower service, which can be used anonymously both by colleagues and external parties. During 2023, we have not had any reports of deviations from the Code of Conduct or reports of other irregularities.

**WHITE WORK**

To support our ongoing operations and projects we have a management system, White Work, which is certified to ISO 9001 and ISO 14001 for quality and environment.

Kvalitetsbygget (“Building Quality”) is our internal organisation for maintaining and developing White Work, and we have a comprehensive level of staff involvement, with quality managers assisting with ongoing training and education, and internal audits that are performed twice a year. Measurement of the company’s development in relation to quality and environmental performance takes place continuously, and is followed up annually at the Management Review meeting.

**STAKEHOLDERS**

Since we work in societal development we have a broad range of stakeholders, from property owners, users, consultants and contractors to local authorities, organisations, the academic sector and media, and our employees and owners. We assess the need for improvement in various ways, including experience feedback in projects, client surveys, market research and employee surveys. We also invite stakeholders to seminars to share views on how the industry as a whole needs to evolve. We are diligent in monitoring our social media, which provide rapid feedback on what we do.

**RISK ASSESSMENT**

The company’s overall risk analysis is reviewed annually and followed up by the board. We regularly follow

up on areas such as our employees’ work situation, market development, key performance indicators, and assignment results. We believe that there is a low risk that our operations will have a direct negative impact from a sustainability perspective. Nevertheless, through our projects we have potential to prevent sustainability risks (see also the table below).

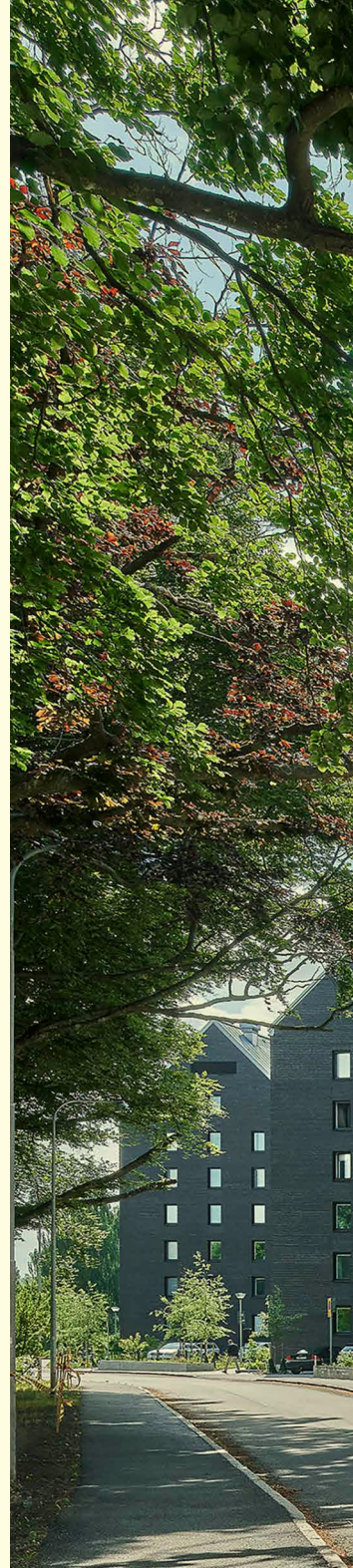
**RISKS IN THE SUPPLY CHAIN**

Our Code of Conduct for Clients and Suppliers, which is based on our Code of Conduct for Corporate Sustainability, clarifies the expectations we have of our business partners. When signing an agreement, the operator must confirm that they have understood the content of and undertake to comply with the Code of Conduct for Clients and Suppliers. An initial evaluation takes place by way of the project qualification analysis, project risk analysis, procurement criteria and sub-consultant assessment. Monitoring is carried out by random sampling.

**PROJECT RISK ANALYSIS**

Project risk analyses are carried out in connection with tenders and contracts. Assessments are made based on our business goals, Code of Conduct for Corporate Sustainability, sustainability goals, and financial conditions. Country risk assessments are also carried out for projects outside of our main markets linked to democracy, human rights, corruption and business risks associated with each specific country. The analyses are based on evaluations by Freedom House, the Swedish Export Credit Agency and Transparency International. ■

*Inspired by the rocky terrain in the area, on Sven Brolids Väg in Gothenburg we have created robust buildings that make the most of the daylight and focus on shared use. 327 student apartments and a pre-school co-exist without compromising on the quality of materials or quality of life. The project was nominated for the Per & Alma Olsson Prize for the best new construction in Gothenburg.*



**Risk analysis:**

**CLIMATE AND ENVIRONMENTAL IMPACT**

We work continuously to prevent and reduce negative environmental impact, both in our operations and in our projects. There is low risk of direct environmental impact, but we have good opportunities to make a difference in our projects.

**Risk minimisation:** Requirements on travel, purchases and suppliers; Competence development via White Academy and WRL; Sustainability analyses in projects; Specialists in climate and environmental issues.

**SOCIAL RESPONSIBILITY**

Our operation, employees or business partners should not cause, contribute to or be linked to the violation of human rights or corruption. The risk is deemed to be low, but the consequences for the company’s brand and trust could be serious.

**Risk minimisation:** The Code of Conduct and ethical rules; Code of Conduct for Clients and Suppliers; Country risk assessment for projects outside of the domestic market.

**BUSINESS PARTNERS**

Our suppliers and business partners should not, in the areas they work in, cause or contribute to the violation of human rights, corruption or negative environmental impact. The consequences could damage White, but also the people and areas affected.

**Risk minimisation:** Tender, project and sustainability analyses; Code of Conduct for Clients and Suppliers; Purchasing procedures and supplier evaluations; Sub-consultant assessments.



#### THE ECONOMY

An uncertain economy and global situation, including a declining construction sector, affect the company in many ways and is the main risk factor right now. In some cases it is harder to ensure sustainable projects, which prevents us from achieving our business goals.

**Risk minimisation:** Variation in projects and markets to spread risks; New services and business opportunities; Monitoring of the economy.

#### WORKING ENVIRONMENT

Employees should have a good working environment and feel they have a balance between work and leisure time. Satisfaction and good leadership are crucial to the company's attractiveness. Consequences could be serious for the employee, but also for the company generally.

**Risk minimisation:** Health profile assessments; Occupational healthcare and wellness activities. Courses in leadership. Performance appraisals and employee surveys; Health & safety officers.

#### EQUAL TREATMENT

All employees shall be treated equally and with respect. The consequences could be serious not just for our employees, but also for the company's trust and attractiveness.

**Risk minimisation:** Code of Conduct for Corporate Sustainability; Employee Policy; Plan for equal rights and opportunities with ongoing monitoring; Code of Conduct for Clients and Suppliers.

#### COMPETENCE

Having the best employees who can continuously develop is crucial to the company's success and to project quality. Good opportunities for development make the company attractive. Shortcomings in projects and damage could lead to financial losses and reduced trust.

**Risk minimisation:** White Research Lab; Grow at White, White Academy; Performance appraisals and employee surveys.

## Focus for the UN Sustainable Development Goals (SDGs) in our projects:



- **Goal 3: Good Health and Well-Being (27%)**  
Daylight, Stimulate physical activity, Indoor environment, Damp safety
- **Goal 7: Affordable and Clean Energy (10%)**  
Energy-efficient building, Renewable energy (e.g. solar cells)
- **Goal 11: Sustainable Cities and Communities (24%)**  
Safe and secure environments, Equal and accessible environments, Involvement of users, Sustainable mobility, Preserve cultural values, Economic values
- **Goal 12: Responsible Consumption and Production (12%)**  
Material choices, Health and environment, Reuse and recycling, Sustainable lifestyle, Timber construction, Circular architecture
- **Goal 13: Climate Action (13%)**  
Climate neutrality, Low carbon materials, Climate adaptation
- **Goal 15: Life on Land (14%)**  
Integrating nature-based solutions and preserving ecological values

# Sustainability in our Projects

White wants to take responsibility for driving society towards a more sustainable development. In our assignments, we have the opportunity to drive change every day, by creating equal and green urban environments, healthy buildings with low climate impact or ensuring circular architecture and design.

### PROJECT FOLLOW-UP

White's greatest opportunity to contribute to reducing the environmental and climate impact in society is through our assignments. As consultants, we do not have full control over the objectives and results of our projects, but by proposing sustainable solutions we can support our clients to achieve more.

Every year, we follow up on our sustainability performance in projects, and also in relation to the SDGs. The follow-up takes the form of a questionnaire sent out to all. In 2023 the response frequency was 55 percent, equating to 305 responses, covering a wide range of projects in all market areas, services and phases (but not competitions). The reported statistics are based on the answers received.

### CLIMATE AND ENERGY

Climate requirements are increasingly being placed on materials and/or energy in White's projects, which is a positive development. We focus particularly on the choice of materials, energy efficiency, and on developing climate calculations in our projects. As many as 31 percent of the projects have climate targets for materials and/or energy, but few clients aim for climate neutrality. We have therefore not achieved our own goal of 30 percent climate-neutral buildings by 2023. We currently have nine ongoing projects aiming for climate neutrality.

27 percent of the projects are planned for integral solar cells, which is an increase on the previous year (15 percent). Our service PEPP (Positive Energy Planning Process) has made quite an impact, with four major projects in its first year.

Timber construction remains strong, with higher demand in healthcare and internationally. 23 percent

of construction projects are planned with timber frames, which also helps to reduce the climate impact of our projects. We have also explored building with clay, as in the Velindre Cancer Centre in Wales and HSB Living Lab, Gothenburg.

### CIRCULARITY

Reuse, circularity and transformation of existing environments are increasing in the industry, and we are continuously developing our services in inventory, re-design and reuse management. The projects are increasing in scale, including for instance inventories for Scandinavium in Gothenburg, and reuse in the redevelopment and refurbishment of the Lumi office building in Uppsala. Reuse is applied in almost all interior architecture projects, such as in the Malmö New Courthouse and new offices for Battery Loop in Gothenburg.

### NATURE-BASED SOLUTIONS

Nature-based solutions and biodiversity are increasingly in focus in the industry, and we have developed offerings in areas such as climate risks, ecosystem services and nature inventories. 30 percent of the projects in this category focus on enhancing biodiversity, while 39 percent focus on managing climate risks related to higher water levels and torrential rain.

### HEALTH AND SOCIAL VALUES

Clients are stipulating increasingly strategic goals for social sustainability, and we have received new types of projects involving planning for crime prevention. User engagement remains important in order to ensure inclusion and participation. ■

# 23%

of projects have a bearing timber frame (2022: 30%)

# 83%

of projects have links to the global SDGs (2022: 83%)

# 31%

of projects have climate goals for materials and/or energy (2022: 39%)

# 30%

of projects focus on enhancing biodiversity



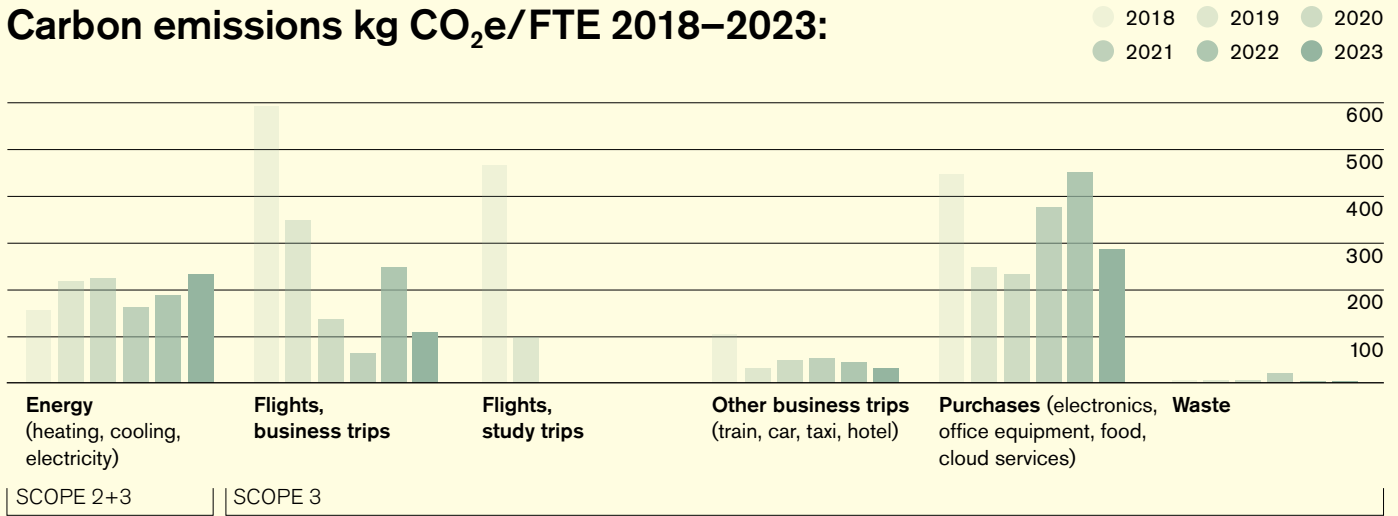
*The interior of the main building at KTH Royal Institute of Technology won the Architects Sweden's Interior Awards, Golden Chair, 2023. With sensitivity to the building's cultural heritage, we have created an attractive, welcoming environment in a historical context, but with contemporary function and expression. The focus has been on functionality, flexibility and reuse.*



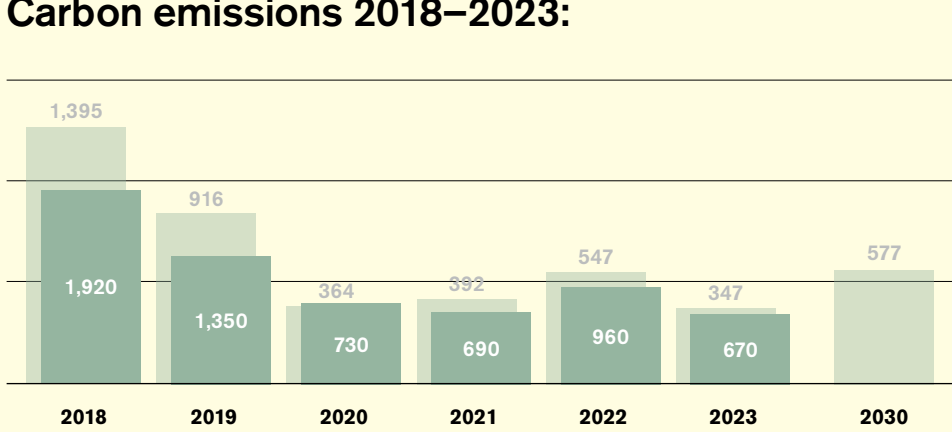
**Goals for 2023:**

30% of our design projects (buildings) are climate neutral.  
All projects are linked to the Sustainable Development Goals..

### Carbon emissions kg CO<sub>2</sub>e/FTE 2018–2023:



### Carbon emissions 2018–2023:



● tonnes CO<sub>2</sub>e total  
● kg CO<sub>2</sub>e/FTE

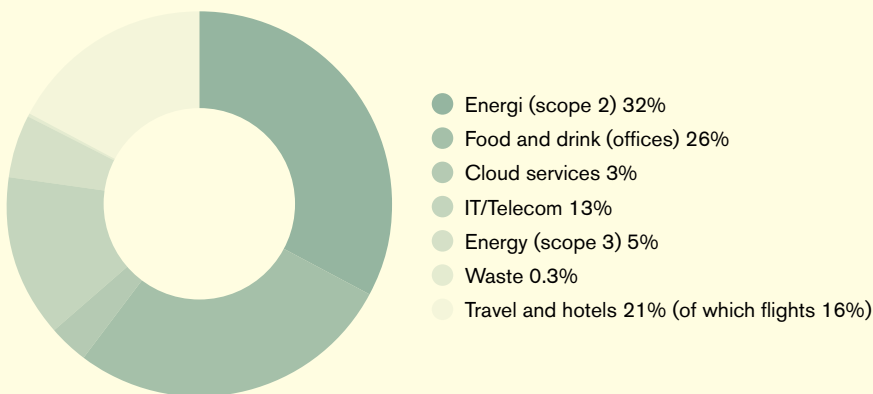
#### Input data

Input data for the operation's climate impact is data from property managers, energy companies, travel companies, and our finance department. This applies to all offices.

The climate calculations have been made by the company 2050 in accordance with the Greenhouse Gas (GHG) Protocol.

The 2030 bar shows the target level for achieving the 1.5°C goal in accordance with SBTi.

### Distribution of CO<sub>2</sub> emissions 2023:



**94%**  
of all trips within Sweden are made by train  
(20% of trips to countries in Europe)

**347**  
tonnes CO<sub>2</sub>e emissions in total

**0.67**  
tonnes CO<sub>2</sub>e emissions per FTE

**75%**  
lower CO<sub>2</sub>e emissions than in 2018

## Goals for 2023:

CO<sub>2</sub>e emissions from our operation have decreased by 30% since 2018.

90% of our trips within Sweden are made by train.

50% of trips within Europe are made by train.

# Environmental and Climate Accounts

We continuously strive to reduce our impact on the environment and since 2018 our climate impact has been reduced by more than 60 percent. We have achieved this by changing the way we travel, taking the train to an even greater extent, also internationally. As a company, we play an important part in motivating and inspiring our colleagues and the wider world towards a more sustainable lifestyle.

## ENVIRONMENTAL AND CLIMATE ACCOUNTS

Our climate accounts are prepared in accordance with the Greenhouse Gas Protocol and we are covered by Scope 2 (electricity, heating and cooling) and Scope 3 (travel, hotels, purchases, cloud services, waste and energy-related activities), see diagram.

Total emissions in 2023 amounted to 347 tonnes of CO<sub>2</sub>e, which is equivalent to 670 kg of CO<sub>2</sub>e per FTE. Emissions have decreased compared to 2022, primarily due to reduced travel. Compared with the base year of 2018, however, we have reduced carbon emissions by 75 percent.

**Travel and hotels:** Account for 21 percent of emissions, corresponding to 73 tonnes of CO<sub>2</sub>e. 94 percent of journeys within Sweden and 20 percent to the rest of Europe were made by train. (The respective goals are 90 percent and 50 percent.) No study trips were undertaken in 2023.

**Electricity, heating and cooling (Scope 2+3):** Account for 37 percent of emissions, corresponding to 122 tonnes of CO<sub>2</sub>e. In Sweden, all electricity in our operation is renewable and ecolabelled. The Swedish offices are connected to district heating and in some cases also district cooling. For the offices in London, Oslo and Stuttgart we base our figures on a European electricity mix.

**Purchases (paper, IT/telecom and food/drink):** Account for 41 percent of emissions, corresponding to 140 tonnes of CO<sub>2</sub>e; of this, purchases of food and drink represent the largest item with 93 tonnes CO<sub>2</sub>e, followed by IT/telecom/electronics with 47 tonnes CO<sub>2</sub>e.

**Cloud services:** Account for 3 percent of the emissions, corresponding to 11 tonnes of CO<sub>2</sub>e. This includes emissions for using our digital tools for project planning, communication and internal support.

**Waste:** Accounts for 0.3 percent of emissions, corresponding to 1 tonnes of CO<sub>2</sub>e.

## CONTINUOUS IMPROVEMENT

We strive continuously to reduce our climate and environmental impact through various kinds of measures:

**Energy:** We have exclusively green electricity at our offices in Sweden, and green district heating wherever possible.

**Travel:** We always prioritise travelling by train. This was rewarded in 2023 with Swedish railway company SJ's diploma for sustainable business travel. Rental cars and taxis should primarily be electric or green vehicles. Hotels must have a clear focus on sustainability. To encourage employees to cycle more, we have bicycles available to borrow, and we offer bicycle servicing at our offices.

**Purchases:** Suppliers must fulfil the criteria in our Code of Conduct for Corporate Sustainability. We lease our computers, thus extending their useful life and contributing to a circular economy. When buying IT and electronics, there are requirements encompassing energy efficiency, environmental and social requirements on materials and production, as well as health aspects and ergonomics. Office supplies should be ecolabelled and ideally be refillable. We serve only vegetarian food at lunches and parties, and the goal is that all food should be ecolabelled.

**Waste:** We separate our waste at source into at least six fractions. To minimise waste, we have for example return systems for toner cartridges, we avoid disposable items, and primarily order food served at plates rather than individual portions.

## CARBON COMPENSATION

We compensate for all our emissions. In 2023 this entailed contributions for Clean Water Filters in Kenya, and the Puerto Carreño Sustainable Plantation in Colombia.

## ENGAGEMENT

We are engaged in many different forums in order to drive transition in our industry. We are part of Fossil-Free Sweden and support the Roadmap for a climate-neutral construction and civil engineering sector by 2045. We are involved in Architects Declare in Sweden, Norway and the UK, and are members of the Green Building Council in Sweden, Norway, the UK and Germany, and Circular Sweden. Our Christmas gift for 2023 went to Save the Children Sweden. ■

*“Our ambition is to attract and develop the best employees in the industry.”*

FROM THE WHITE EMPLOYEE POLICY

# Our Employees

**Our employees are the heart and strength of White. Our collective expertise, creativity and commitment are the core of our business, and the foundation for creating long-term sustainable projects based on the needs of society and our clients. We own the company together and are able to invest in what we believe in. As our employees develop, so does the company.**

## OWNERSHIP

In our employee-owned company, 484 or 80 percent of employees are co-owners, of whom 111 are partners and majority owners. Since the beginning, this shared ownership has been a strength for the company, and we are convinced that it helps to boost engagement.

We believe that success comes from a variety of experiences and competences working together. We therefore create teams including architects, engineers, urban planners, behavioural scientists, environmental experts and digital specialists.

## EQUALITY

White shall be an equal and fair workplace, free from discrimination. We have an even distribution between women and men, also on the board and executive management. We strive for diversity from various perspectives and approximately one-quarter of employees have a background outside of Scandinavia. Our ‘Plan for equal rights and opportunities’ is followed up annually through central and local action plans. We conduct an employee survey every other year with a focus on equality, the work environment, development, leadership, and culture.

## WORKING CONDITIONS

Our Employee Policy states that every employee should have the opportunity for career and personal development based on their abilities, for the success of the company and the individual. We work for safe, secure employment. Where applicable, we follow the industry’s collective agreements and have union representatives for all offices.

## WORK ENVIRONMENT, HEALTH AND WELLNESS

White aims to be a healthy, sustainable workplace, and we work broadly with health and wellness. We conduct systematic work environment efforts, with central and local work environment plans that are continuously followed up, and safety representatives at all offices.

Managers are responsible for monitoring employees’ health and work situation, and for adapting the work as necessary. We have Guidelines for Alcohol and Drugs, Guidelines for Reachability at Work, Guidelines for Rehabilitation, and guidance regarding the Working Environment Beyond White’s premises.

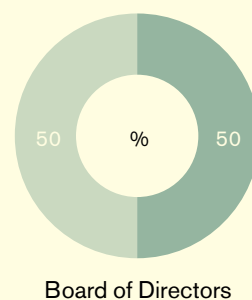
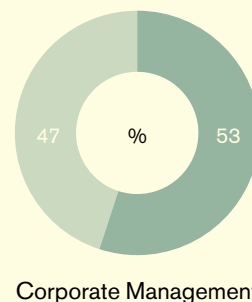
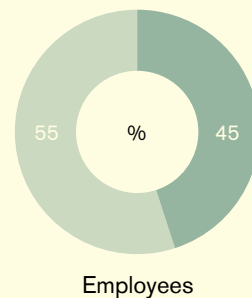
All employees are offered wellness allowances, study grants and health profile assessments. Massage is available at our offices, and a variety of activities are also organised via the White IF sports club, such as running sessions and yoga.

## PERSONAL DEVELOPMENT

Performance appraisals are held with all employees at least once a year, where personal goals are set. We build and reinforce our culture with onboarding days for new recruits, the annual White Day and study trips.

White Academy offers a wide range of internal training courses, covering e.g. leadership, sales, digital tools and sustainability. White Research Lab gives all employees an opportunity to apply for funding for research and development projects, in order to explore ideas or expand expertise linked to our projects. ■

## PROPORTION OF WOMEN & MEN



● women ● men





# Results for the Year

2023 has been a year of both challenges and success. The economy has been our greatest challenge, but Group results were positive despite what is perhaps the worst crisis in the Swedish construction industry since the early 1990s. Housing construction and new construction of offices were particularly affected. Housing construction has decreased by 50 percent in Sweden. Falling demand has led to lower turnover, prompting a need for transition and reduced costs throughout the organisation.

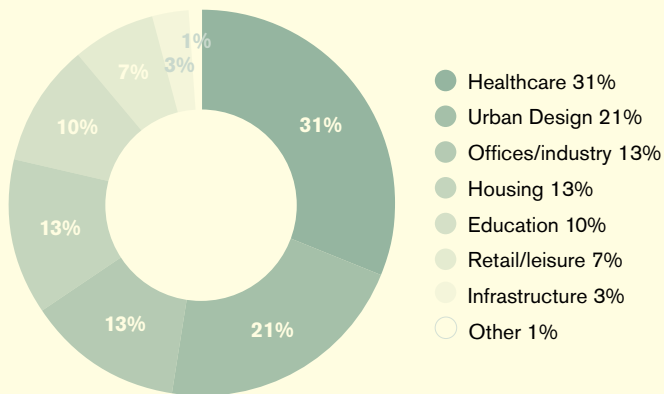
Demand in public construction has remained good, although subject to greater price competition. Meanwhile, we have noticed growing demand especially for sustainable healthcare architecture on the German and UK markets.

Despite the tough times in Sweden, White's financial position remains strong with an

equity/assets ratio of 36 percent. Turnover for the year decreased to SEK 728 (767) million. Our incoming orders outside of Sweden in 2023 amounted to SEK 117 million, which corresponds to 16 percent of total sales. Operating profit amounts to SEK 5.4 (-1.9 mSEK). This corresponds to an operating margin of 0.7 percent (-0.2 percent). ■

## Market areas 2023:

(percent of incoming orders)



## Financial summary, White Intressenter AB

	2023	2022	2021	2020	2019
<b>FROM THE INCOME STATEMENT (KSEK)</b>					
Operating revenues	728,461	767,407	770,988	746,452	812,779
Operating profit/loss	5,389	-1,881	32,606	26,150	10,262
Profit/loss after financial items	4,663	-1,122	33,331	26,111	9,837
Tax on profit for the year	-2,198	-1,074	-7,481	-14,153	-4,206
Results for the year	2,465	-2,196	25,850	11,958	5,631
Minority share of profit/loss for the year	0	-35	-70	0	0
Results for the year	2,465	-2,161	25,920	11,958	5,631
<b>FROM THE BALANCE SHEET (KSEK)</b>					
Property, plant and equipment	2,353	1,448	783	1,334	2,382
Financial assets	1,731	393	411	457	484
Current receivables	327,611	302,960	261,715	248,612	291,574
Cash and bank balances incl. short-term investments	27,113	41,671	77,702	65,151	38,059
Total assets	358,808	346,472	340,611	315,554	332,499
<b>SHAREHOLDER'S EQUITY</b>					
Minority share of equity	0	0	1,701	1,771	6,771
Provisions	25,948	28,117	29,075	31,631	29,948
Long-term liabilities	0	0	0	0	0
Current liabilities	202,353	193,342	159,497	141,694	169,271
Total shareholder's equity and liabilities	355,808	346,472	340,611	315,554	332,499
<b>KEY METRICS</b>					
Return on equity (%)	2.0	-1.6	17.8	8.9	4.3
Profit margin (%)	0.6	-0.1	4.3	3.5	1.2
Earnings per employee (KSEK)	1,398	1,339	1,357	1,355	1,303
Equity/assets ratio (%)	35.8	36.1	44.1	44.5	38.3
Average no. of employees (FTE)	521	573	568	551	624

### Definitions

Return on equity (%)	Profit/loss for the year excl. minority share as a percentage of average shareholder's equity excl. minority share.
Profit margin (%)	Profit/loss after financial items as a percentage of operating revenues.
Earnings per employee	Operating revenues divided by number of employees.
Equity/assets ratio (%)	Shareholder's equity excl. minority share as a percentage of total assets.

# Yours Sincerely

Josef Abrahamsson, Tarek Adhami, Ivan Agoes, Jimmie Ahlgren, Oskar Airijoki, Mahmoud al-Shihabi, Malin Alenius, Elin Allbäck, Joakim Allerth, Aksel Alvarez Jurgueson, Hans Alving, Jonathan Anderson, Alice Andersson, Anneli Andersson, Jens Rasmus Andersson, Johan Andersson, Niclas Andersson, Per-Anders Andersson, Alan Andrews, Shreya Aneja, Rodrigo Angeles, Fredrik Angner, Pål Annerström, Fredrik Arbell, Anders Arvidsson, Anna Arias, Hedda Arlid, Gry Arvidsson, Martin Arvidsson, Joyce Asante-Crompton, Daniel Asp, Johanna Augustsson, Jens Axelsson, Josefin Axén, Arya Azadrad, Alyaa Azhar, Hanna Backmann, Pontus Bahrtine, Nicholas Baker, Gunvor Bakke Kvinlog, Kristjan Baldvinsson, Angeliki Baltoyianni, Gabriela Banic Hjörvar, Helda Bara, Adolfo Barbeito Ulloa, Luis Barri, Gina Bast Mossige, Sara Bauer, Elif Bayazit, Petter Beckne, Malin Belfrage, Michelle Bengtsson, Sofie Bentzen, Jerome Beresford, Adam Bergendal, Vera Berggren, Josefine Berglund, Lisa Bergstrand, Anna Bernmark, Helen 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OPEN A WINDOW TO THE SYMBIOTIC CITY

FUTURE WINDOW N.02

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FROM A POSSIBLE FUTURE CITY BY SALLY, EY DOBERMAN AND WHITE

*The world is at a crossroads, and our towns and cities need to change. But how do we live in a city where we think radically differently about mobility, nature, energy and the flow of resources? In the fascinating exhibition Future Window, in association with SALLY we used the city as a stage for exploring different scenarios of the future, through storytelling and Augmented Reality.*

This Sustainability Report encompasses White Intressenter AB and its subsidiaries, with the exception of the subsidiary Koggensgrand AB and dormant companies. Where indicators, metrics or procedures do not tally with this delimitation, this has been duly noted. The report has been prepared in line with the Swedish Annual Accounts Act, which means it contains the sustainability disclosures required to understand the company's development, position and results, as well as consequences resulting from the operation. The report covers aspects related to the environment, social conditions, personnel, respect for human rights and anti-corruption. The report refers to the financial year 1 January–31 December 2023.

The report relates to our commitment according to the UN Global Compact and its Ten Principles. It also comprises our annual Communication on Progress and will be published on the UN Global Compact website, [www.unglobalcompact.com](http://www.unglobalcompact.com). The report is also published on the White website, [www.whitearkitekter.com](http://www.whitearkitekter.com).

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This is our **Communication on Progress** in implementing the principles of the **United Nations Global Compact** and supporting broader UN goals.

We welcome feedback on its contents.

**White Arkitekter is one of Scandinavia's leading architectural practices. We work with sustainable architecture, industrial and urban design, landscape architecture and interior design for current and future generations. Our mission is to enable sustainable life through the art of architecture. Our vision is that by 2030 all our architecture will be climate neutral, through design excellence. We are an employee-owned architect collective with almost 700 employees and a presence in Sweden, Norway, the UK, Germany, Canada and East Africa.**



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*Front cover: As our cities expand, so does the need to clean stormwater and protect them from flooding. The new stormwater pond at Exercisfältet in Uppsala solves both problems, while contributing to biodiversity and creating a place where people can socialise and go for a stroll.*