

Annual Sustainability Report

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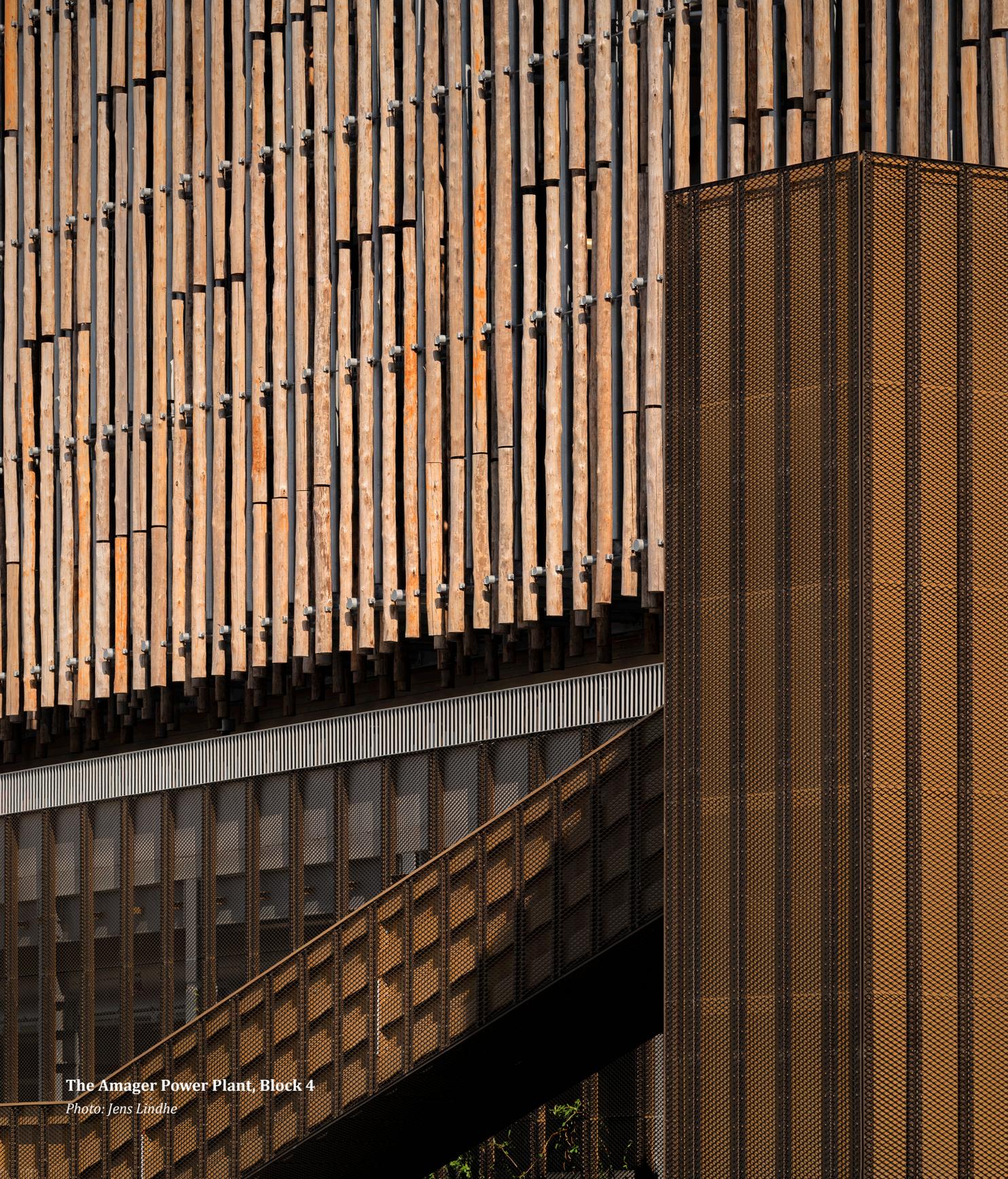
'21

GOTTLIEB
PALUDAN
ARCHITECTS



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The Amager Power Plant, Block 4

Photo: Jens Lindhe



introduction



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Danske Bank

Fløide & Sørensen

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together we create **cohesion**

Great architecture evokes great passion. For us, this is the kind of architecture that contributes to solving the challenges we face today. The kind that creates sustainable development, vibrant and diverse cities, beautiful and future-proof structures as well as inviting urban spaces and landscapes for all to enjoy. An integrated approach and collaboration across professional disciplines form the basis for our contributions to a society that functions today and will function tomorrow.

For us, it is all about creating architecture that connects people and cities – architecture that makes life run smoothly, supplies the necessities for everyday living and inspires positive development. We develop solutions and processes that originate from interdisciplinary collaboration for the common good and with the clear aim of creating greater cohesion. We believe that our communities are stronger and the challenges more manageable when the spaces we share and the connections between them are beautiful and beneficial to us all.

We insist that our projects contribute to the common good. We therefore always employ a fully integrated approach to understand and sensitively develop the sites and structures which are entrusted to us. With both vision and insight, we create simple, timeless and responsible architecture. Collaborating closely with the client, users and professionals of other disciplines, we provide functional, technically sound and aesthetically complete solutions which provide their own contribution – be it small or large – to the world around us.

Working out of offices in Copenhagen, Oslo, Trondheim and Stavanger, we strive to create architecture that understands, connects and enriches the whole world. Together we create cohesion.

At Gottlieb Paludan Architects, we work pro-actively to integrate the UN Sustainable Development Goals in all our projects and practice.

comments from the CEO

On behalf of Gottlieb Paludan Architects, member of United Nations Global Compact since 2009, I am pleased to reaffirm our continued support of the Ten Principles of the United Nations Global Compact. I am also delighted to share our progress on sustainability initiatives, activities and results for 2021 followed by our focus and ambitions for the year to come.

At Gottlieb Paludan Architects, we are convinced that sustainability must be part of everything we do, today and in the future. We strive to deliver knowledge-based sustainable solutions for our clients, conduct business responsibly and be an attractive employer.

We work to meet the current needs of society as well as the needs of future generations. We acknowledge the complexity of dealing with the global challenges - in health, economics, the climate crisis and the increasing pressure on the planetary boundaries. By following the challenges closely and developing our business accordingly, we aim to be a preferred partner in the transition of our society. It is our experience that an interdisciplinary and holistic architectural approach can make a significant impact.

This year, Gottlieb Paludan Architect has undergone a generational change of management and, with this change, the company is ready for a decisive step towards an even more sustainable

practice. The new management team is committed to three main agendas, which support the company's strategic ambitions and international growth targets: sustainability, diversity and digitalisation.

We recognize that a key requirement for accelerating the sustainable transition is building a base level of sustainability competency and energy literacy across our practice and, therefore, we have launched an internal training program for our entire architectural practice. With this program, our ambition is to build a common understanding of what sustainability means for Gottlieb Paludan Architects and enable our firm and employees to address the challenges we face.

Moreover, we have initiated an inclusion and diversity process where all employees are invited to participate. Our aim is to support and ensure a motivating, safe, inclusive, and respectful work environment for all. As the first concrete result of this initiative, we have recently launched a new policy against sexual harassment.

Lastly, we will accelerate our digital growth in order to continuously improve our project outcomes - create buildings fit for the challenges that we face now and in future which have a positive impact on users, communities and the environment.

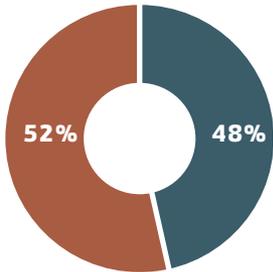


On behalf of Gottlieb Paludan Architects, I would like to thank our customers, partners and employees for great collaboration during the year. We look forward to continuing the strong collaboration.

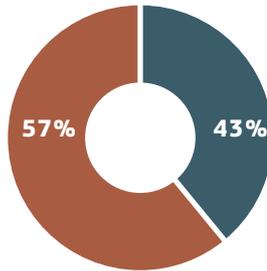
Copenhagen, June 2022



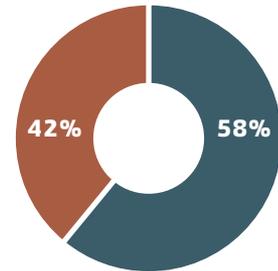
Mette Lyng Hansen
Chief Executive Officer



Employees: **139** in total



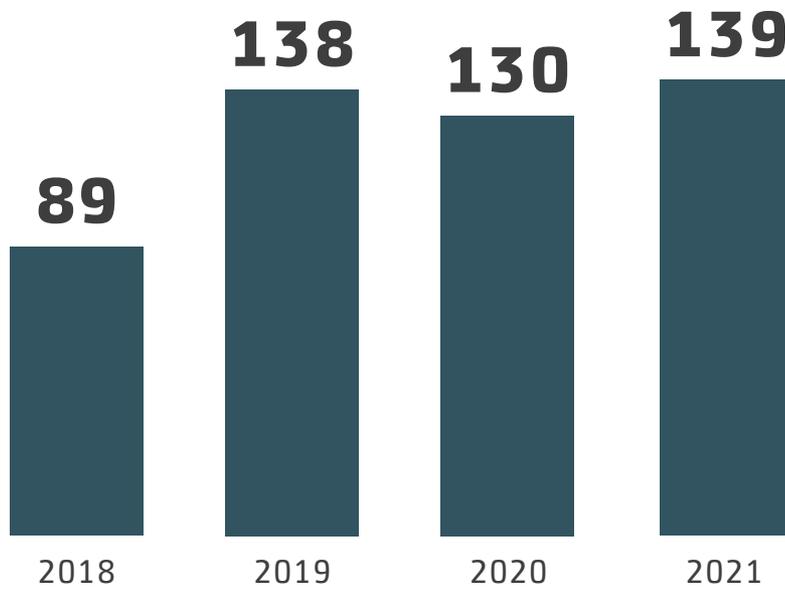
Hereof Management: **7**



Hereof Team Leaders: **19**

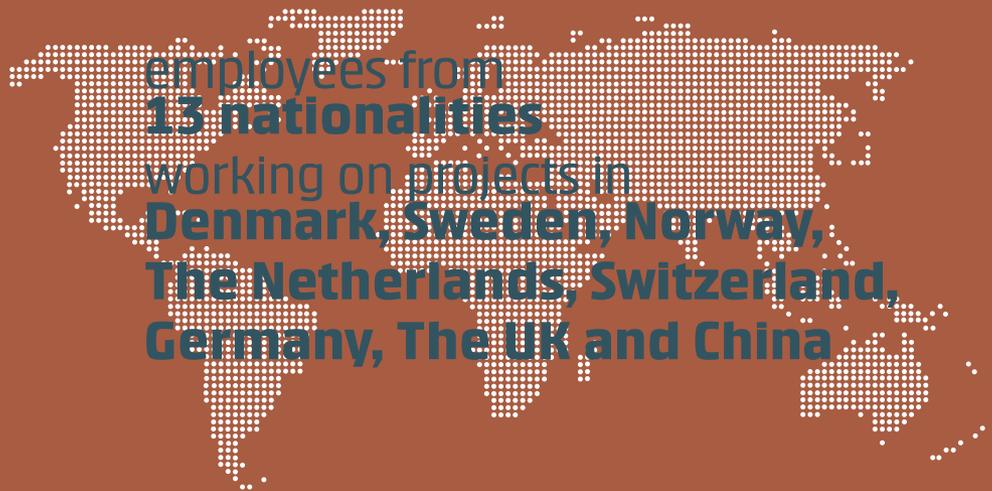


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Infographic
Employees and gender diversity



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Infographic
Change in the number of employees over the past 4 years

the year in numbers



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Infographic

GPA: diversity and activities across borders

Financial ratios	2018*	2019*	2020*
Turnover	100,4	80,9	83,3
Pre-tax profit	10,5	3,9	10,9
Equity	24,2	19,2	25,1
Balance sheet	71,2	54,9	69,1
Equity ratio	33,9%	34,9%	36,6%

All figures are stated in DKK million

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Infographic

Financial key figures

* Numbers reflect Cottileb Paludan Architects in DK



Shared storage facility for the Royal Danish Library and National Museum

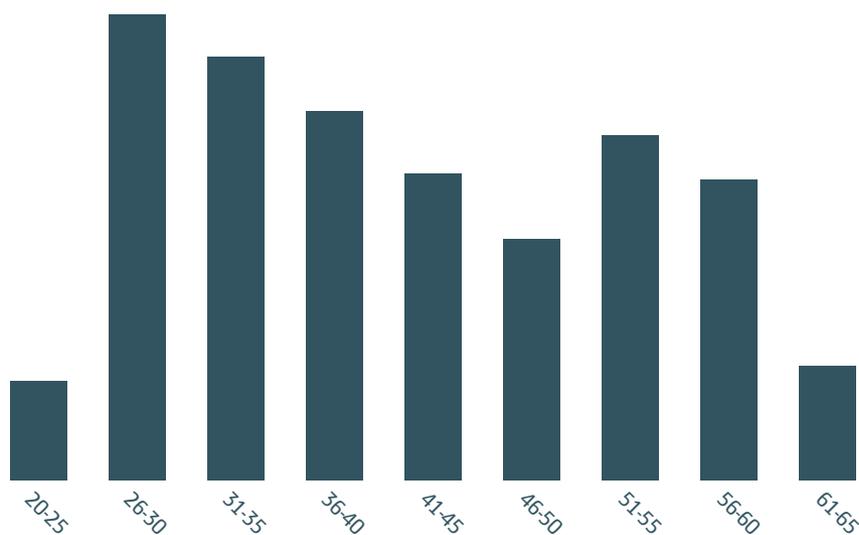
Photo: Moe, Kristian Erlandsen

the year in numbers

Who we are

Architects	66
Constructing Architects	13
Landscape Architects	20
Engineers	6
Interior Architects	7
Communication, IT and administration	13
Geographers, Sociologists, Philosophers etc.	4
Students and interns	10

In total 139



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Infographic

Age distribution of employees



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Infographic

Distribution of employees: Copenhagen, Oslo, Stavanger and Trondheim

the year in **brief**

- » On Thursday 7 October 2021, HOFOR inaugurated the facade lighting of Copenhagen's new biomass-fired power plant, AMV4, marking the end of its construction period. Read more about the plant on page 61.
- » Gottlieb Paludan Architects strives to increase diversity and gender balance to secure long-term growth and profitability, and to create a good work environment and high-performance teams. Read more about our diversity, inclusion and equal opportunity initiatives on page 38.
- » This year, it was announced that the world's first energy islands will be constructed in Denmark, exploiting our immense wind resources in the North and Baltic seas. As a response, we published our concept for the construction of energy islands, which our architects and landscape architects have developed in collaboration with water construction experts from DHI A/S. By using raw materials already available on site, our design mimics nature and thereby reduces its negative impact on the surrounding marine environment.
- » As part of an international team, Gottlieb Paludan Architects has analysed seven international passenger stations along the future Rail Baltica line, while identifying possibilities and proposing maximisations of local value creation. The project embraces the commercial and urban development of the railway stations and their surrounding communities and mobility aspects, such as accessibility and connectivity to other means of transport.
- » On 14 June 2021, Mette Lyng Hansen joined Gottlieb Paludan Architects as its new CEO. Her appointment completed the generational change of management which started towards the end of 2020. Read more about the new management team on page 37.
- » 2022 is the year that Gottlieb Paludan Architects takes a decisive step towards a more sustainable practice. We have launched an internal education program for our entire architectural practice in Copenhagen. With this initiative, we will build a common understanding of what sustainability means for Gottlieb Paludan Architects and enable our employees to address the environmental challenges we currently face. Read more about the education program on page 33.
- » Gottlieb Paludan Architects will head the architectural and landscape design of the Borgarlinan, a large public transport project intended to push green transformation of traffic in the Icelandic capital. We won the project as part of a French-Danish-Icelandic team.

our workplace knowledge is key

We combine our professional expertise with a keen eye for society's challenges, user needs and client wishes whether we are working on new builds or renovations. As architects, we have a passion for our profession and for working closely with both clients and colleagues. This is what powers our teams, and we expect a similar attitude and commitment from those wanting to come aboard with us.

Project management: Every project manager who is the lead professional on a specific assignment is a member of the GPA Project Manager Forum. The members come together to participate in structured programmes on the responsibilities, duties and tools of project managers. The programmes are concise and carefully managed; internal as well as external speakers contribute and members share their knowledge and experience, ensuring that the company's knowledge is updated and employees apply uniform methods wherever relevant.

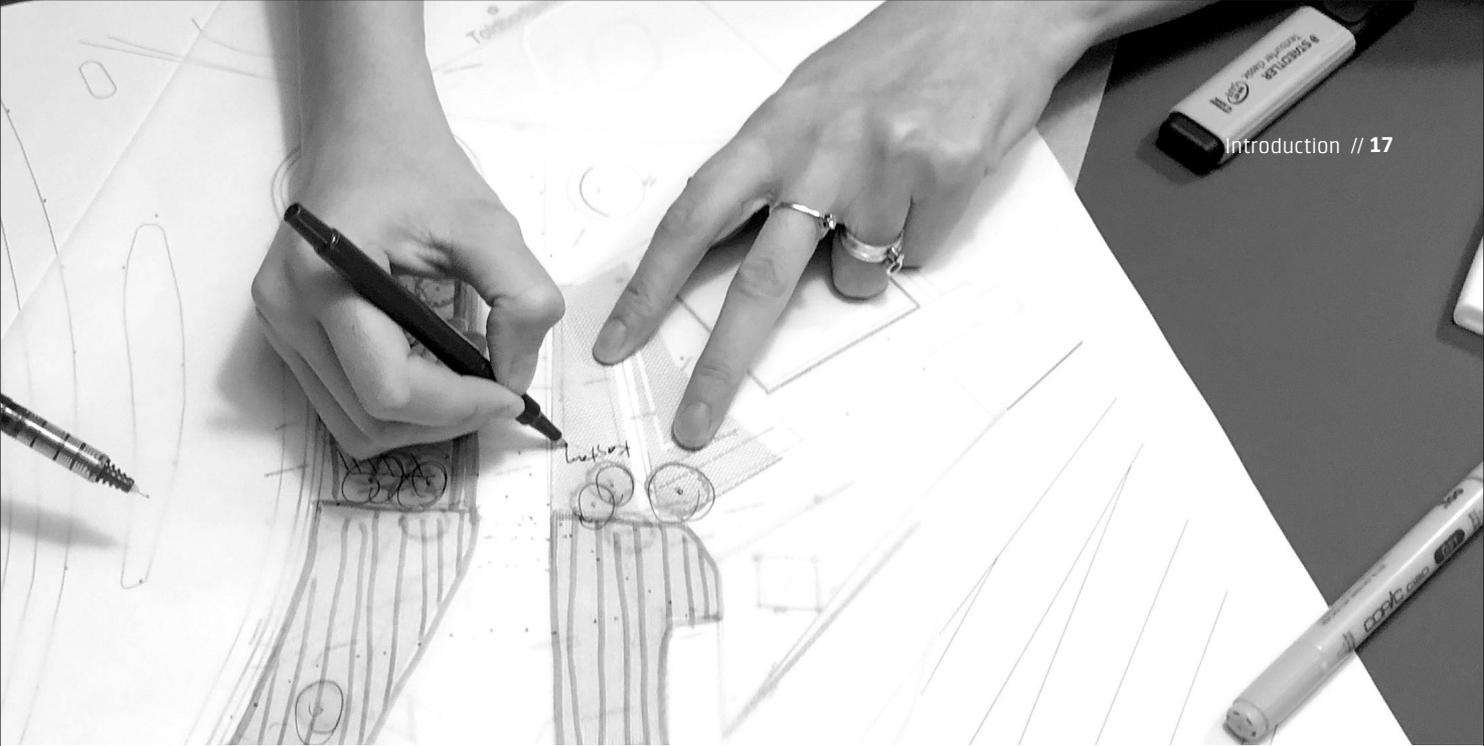
Digital development: Gottlieb Paludan Architects uses BIM, VR and other digital tools on many levels. Employees are invited to participate in ad hoc, internal training courses, adapted to specific projects or current challenges, and in external programmes, such as ICT management courses.



Skills networks: Employees at Gottlieb Paludan Architects develop their skills and professional networks via a formalized internal networking programme which supports the company's strategic tools and business areas. The internal networks have set coordinators who organize about four annual meetings which revolve around internal or external presentations.

Currently, Gottlieb Paludan Architects is hosting the following networks: Design Planning & Technology, Theory & Practice, Materials, Behavioural Design, Mobility & Urban Development, Sustainability and Landscape.

Professional events: 'Friday Briefing' is a set weekly presentation on current projects or themes. Venues are organized with internal and external speakers, internal workshops and study tours.



GPA Practice: Every six months, Gottlieb Paludan Architects runs GPA Practice which is the company's modular induction course for new employees and interns. The seven modules provide the participants with insight into the company's general expertise and specialisms, phased services, contractual basis and business understanding.

GPA interns: At Gottlieb Paludan Architects, we regard interns as valuable and significant members of the company. GPA internships provide students with the opportunity to develop their skills and professionalism while they are still at university. All interns are asked to attend the modular induction course GPA Practice, and they are allocated individual mentors who function as their supervisors throughout their internships.

The mentors ensure that all the interns are academically challenged during their internships and that they are appropriately equipped to embark on their professional careers in the construction industry.

There is a pleasant atmosphere in our office; we are friendly, open and respectful of each other. We share knowledge and experience freely among ourselves, and no one hesitates to ask for help or advice. We are busy, but we make space for inspiration and reflection and always take the time to celebrate our successes.

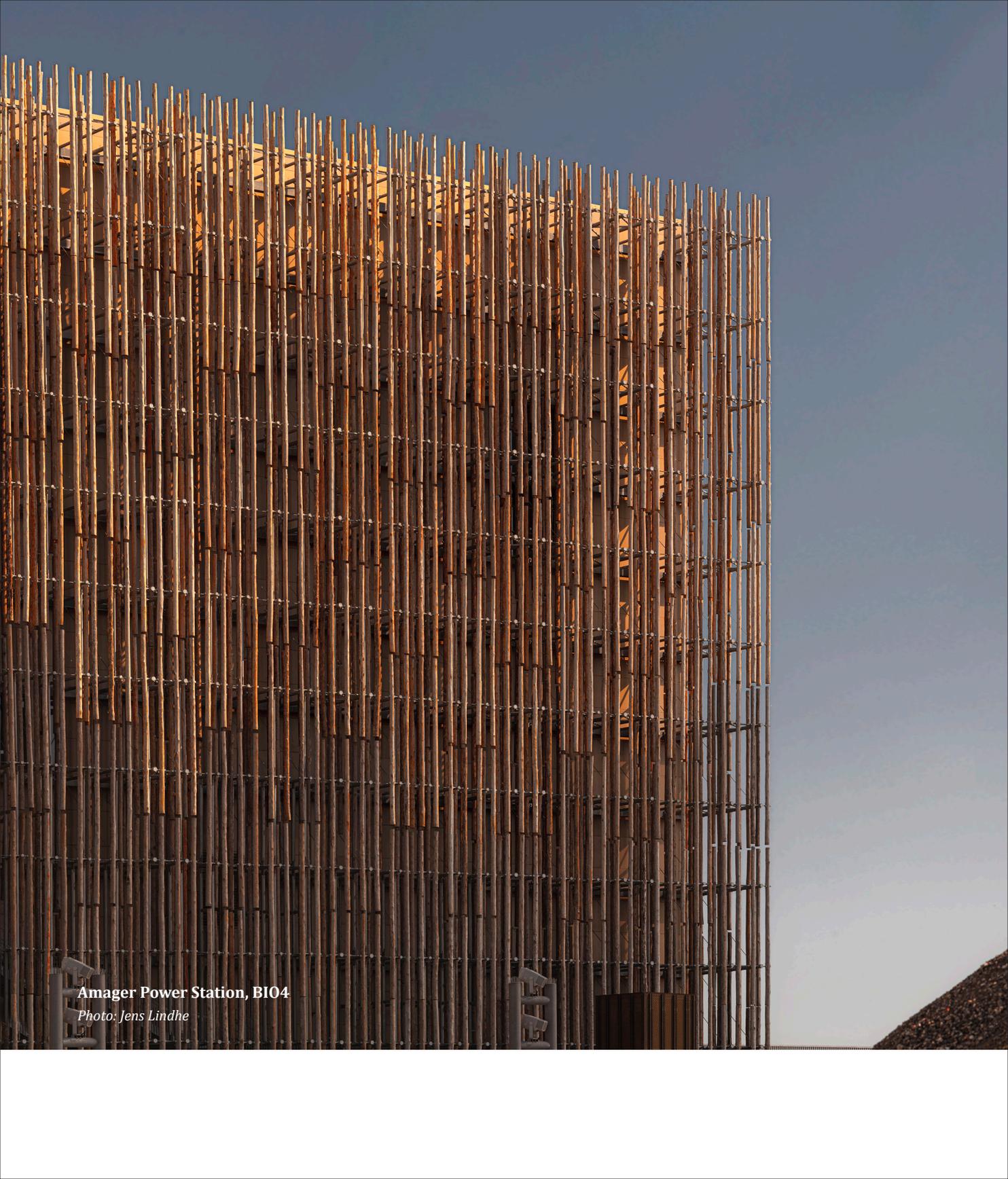


Solrødgård Climate and Environmental Park

Photo: Gottlieb Paludan Architects

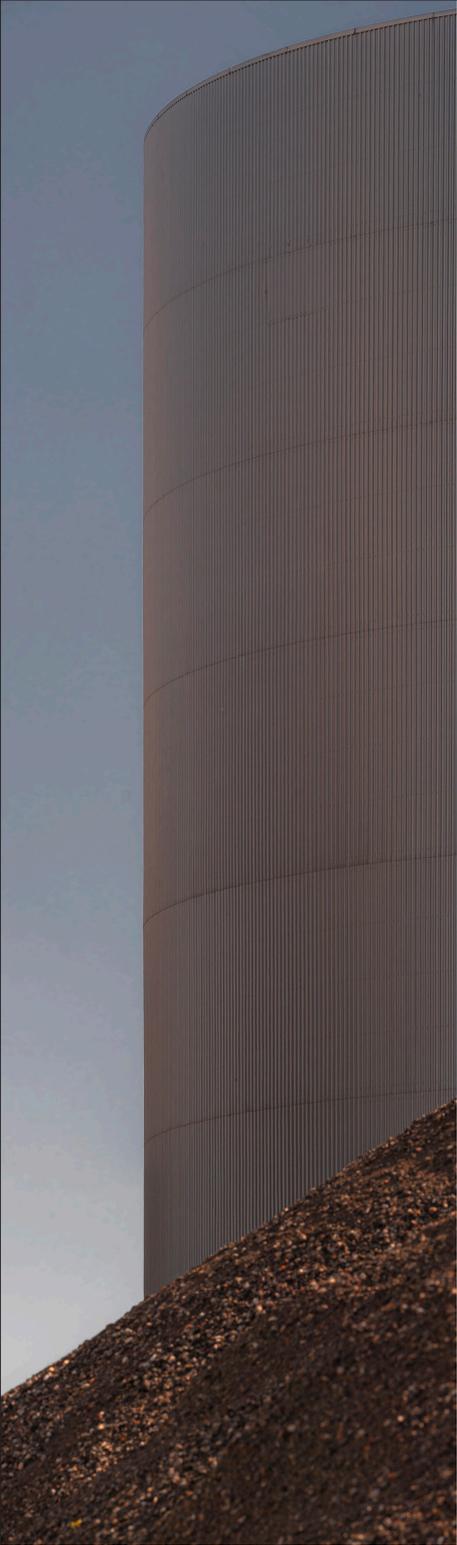


how we
take
responsibility



Amager Power Station, BIO4

Photo: Jens Lindhe



the Global Compact core values

It is emphasised with the 17th goal that concerted and collective efforts across all levels of society are necessary, in order to achieve each Goal by the year 2030. However, the UN has estimated that the active participation of companies is crucial, in order to achieve as much as one-third of these Goals.

Global Compact is a corporate sustainability initiative which urges companies to align strategies and operations with universal principles on human rights, labour, environment and anti-corruption, and take actions that advance societal goals. Gottlieb Paludan Architects continues to commit to the 10 principles of UN Global Compact. We do this as described below and, specifically, we uphold our standards by committing to the Code of Conduct issued by our mother company, AFRY.

The Code of Conduct is a compilation of the commitments, rules and guidelines that form the basis of our operations and defines the norms and values that form the basis of how we conduct business relationships with clients, business partners, employees and other stakeholders. The Code of Conduct applies to alle employees and in 2020, a mandatory e-learning course was launched ensuring full compliance.

the Global Compact

ten principles



Human Rights

Principle 1:

Businesses should support and respect the protection of internationally proclaimed human rights and

Principle 2:

make sure that they are not complicit in human rights abuses.



Labour

Principle 3:

Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;

Principle 4:

the elimination of all forms of forced and compulsory labour;

Principle 5:

the effective abolition of child labour; and

Principle 6:

the elimination of discrimination in respect of employment and occupation.



Environment

Principle 7:

Businesses should support a precautionary approach to environmental challenges;

Principle 8:

undertake initiatives to promote greater environmental responsibility; and

Principle 9:

encourage the development and diffusion of environmentally friendly technologies.



Anti-corruption

Principle 10:

Businesses should work against corruption in all its forms, including extortion and bribery.



Human Rights

Principle 1: Businesses should support and respect the protection of internationally proclaimed human rights; and

Principle 2: make sure that they are not complicit in human rights abuses.

Gottlieb Paludan Architects complies with our mother company AFRY's Code of Conduct, which sets the key ethical principles for how we all must act as individuals and as a company, wherever we operate. It guides our actions in practice and is the basis of our operations. The Code also defines how we handle business relationships with clients, business partners, employees and other stakeholders.

Gottlieb Paludan Architects respects human rights and is committed to following the principles of the United Nations Universal Declaration of Human Rights. We conduct our business in accordance with Danish legislation, which meets international conventions on human rights.

We require that our business partners also acknowledge and comply with basic human rights.





Snekkersten waterworks
Photo: Lars Mortensen



Labour

Principle 3: Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;

Principle 4: the elimination of all forms of forced and compulsory labour;

Principle 5: the effective abolition of child labour; and

Principle 6: the elimination of discrimination in respect of employment and occupation.

Gottlieb Paludan Architects conducts its business in accordance with Danish law, including the Danish Salaried Employees Act (Danish: Funktionærloven) which secures human rights and employment rights, including the prevention of child labour, forced labour and employment discrimination. All employees have the freedom of association and collective bargaining. We communicate general work conditions, benefits, rules, and regulations in the Employee Handbook.

The work environment and well-being of our employees is highly prioritised at Gottlieb Paludan Architects. In our industry, we are often subject to deadlines, requirements and changes from clients and partners, in relation to project-oriented work. We strive to constantly improve how we organise projects and regularly discuss our flexibility and allocation of resources. We try to align expectations on an ongoing basis to each other in terms of our time, our tasks and the quality of the work we do.

Every third year, Gottlieb Paludan Architects conducts a detailed employee survey, the Workplace Assessment/ WPA. The WPA supports us in monitoring organisational development on physical working conditions as well as the psychological working environment. If necessary, action is taken on different organizational levels to improve the working environment.





Byens Bro, Foot and Cycle Bridge
Photo: Steffen Sten, Kristine Autzen

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Køge Waterworks

Photo: Gottlieb Paludan Architects



Environment

Principle 7: Businesses should support a precautionary approach to environmental challenges;

Principle 8: undertake initiatives to promote greater environmental responsibility; and

Principle 9: encourage the development and diffusion of environmentally friendly technologies.

As an endorsed brand within AFRY, we have adopted our mother company's sustainability policy, which aims to strengthen the way in which operations are managed in line with the 1.5°C ambition and the 2030 Agenda. Carbon dioxide emissions from business travel and energy consumption in offices are calculated annually, and initiatives to reduce these emissions

are continually implemented. Framework agreement suppliers are assessed according to set criteria which include environmental and climate impacts.

The policy specifies that operations are to have a holistic approach in client assignments, business and strategy development, partnerships and collaboration with civil society; that sustainability-related risks and opportunities are to be identified and managed at the tender stage; that we are to work to increase awareness and skills among all employees about how they can help improve sustainability performance through their assignments; and that sustainability aspects are to be identified and integrated into assignments.



We are constantly seeking out new initiatives to reduce the environmental impact of the maintenance and operation of our own facilities and how we carry out our own activities. In 2021, the following initiatives have been set in place to integrate responsible behaviour in our everyday work:

- » We support the green transition by purchasing Guarantees of Origin from our energy supplier Ørsted. The certificates document the origin of the electricity, which is produced from renewable energy sources.
- » A lunch scheme is in place at our office in Copenhagen, allowing staff members to enjoy healthy, fresh and well-prepared lunch
- » meals. This year, we are cutting down on meat in our meals and are offering more vegetarian alternatives. We avoid food waste by offering a take-away solution. The supplier, Cheval Blanc, is certified with the Organic Trademark verified by the Danish Veterinary and Food Administration.
- » Gottlieb Paludan Architects is currently working on achieving the ISO 14001; an environmental management system, which ensures systematic environmental efforts.



Anti-corruption

Principle 10: Businesses should work against corruption in all its forms, including extortion and bribery.

Corruption is a threat to economic, social and democratic development. It distorts competition and represents serious legal and reputational long-term risks to business. As an endorsed brand, Gottlieb Paludan Architects supports its mother company AFRY's standpoint on fraud, bribery, corruption and extortion; we have a zero tolerance policy.

The zero tolerance policy applies both to transactions made directly or through a third party such as an agent or other intermediary. The AFRY anti-corruption framework incorporates guidance from leading standards introduced by, among others OECD, ICC and Transparency International. We comply with applicable laws and regulations with respect to illegal and improper payments to domestic or foreign officials

and other persons. As an AFRY employee or entrusted business partner, you are expected to act in accordance with our policies and guidelines when it comes to accepting or offering any form of gift or hospitality.

Gottlieb Paludan Architects complies with AFRY's Code of Conduct and Compliance & Ethics Policy. This policy sets out guidelines for preventing, identifying, reporting and investigating potential irregularities, corruption, conflicts of interest and other actions which are in breach of the Code of Conduct.

All employees undergo mandatory training in anti-corruption, and the company's Executive Management has also completed anti-corruption training. Moreover, a whistleblowing system is available, where both employees and external parties can anonymously report breaches of laws and breaches of our policies without fear of retaliation.



Byens Bro, Foot and Cycle Bridge
Photo: Lars Mortensen



Oslo Sentrum Firestation

Visualisation: Gottlieb Paludan Architects

sustainability learning program

This year, we have taken a decisive step towards a more sustainable practice. We have launched an internal education program for our entire architectural practice in Copenhagen, which aims to raise the common level and understanding of holistic sustainability throughout the organisation and improve our ability to contribute to a more sustainable construction industry.

The concept is an education for all Gottlieb Paludan Architects' employees, which can be supplemented with external educations. The program is divided into the following four sections; Holistic sustainability, Sustainability in the architectural industry, Technological development and sustainability and GPA tools and methods.

The green transition is driven by knowledge. Therefore, the building blocks of this program is a series of winter lectures that will increase our knowledge, promote awareness and encourage discussions about the sustainable challenges facing the construction industry today. Four knowledgeable guest speakers presented their take on the challenges as well as the solutions.

Subsequently, we will strengthen our competencies in transforming complex challenges into sustainable architectural solutions by developing and adapting our methods and tools. For example, our employees will be offered training in sustainability screening, LCA, LAA and other tools that support sustainable choices in design, construction and choice of material.



Gottlieb Paludan Architects, Cph office

Photo: Jens Lindhe



professional and organisational development



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New management

From left to right: Tine Kjærulff Bay, Mette Lyng Hansen, Thomas Bonde Hansen and Clement Bue Maali

Photo: Gottlieb Paludan Architects

new management team at gottlieb paludan architects

Gottlieb Paludan Architects has completed a new management team in 2021. Mette Lyng Hansen joined Gottlieb Paludan Architects as its new CEO on 14 June 2021. Her appointment completes the generational change of management which started towards the end of 2020, and Mette now heads the new management team of one of Denmark's oldest architectural companies.

Mette Lyng Hansen comes from C.F. Møller, another Danish architectural company rich in traditions, where she held various managerial positions over the past eleven years, most recently as Head of the company's Copenhagen office, and at Gottlieb Paludan Architects, Mette completes the newly formed management constellation.

With respect for the company's history, Gottlieb Paludan Architects has undergone a generational change of management which

supports the company's strategic ambitions and international growth targets. The management team now comprises CEO Mette Lyng Hansen, the two Creative Directors, Tine Kjærulff Bay and Thomas Bonde-Hansen, as well as COO Clement Bue Maali.

Thus, the new management team includes both existing key employees who have played a major role in shaping the company over many years and new faces who have leadership skills and experience from elsewhere in the industry. The new management team is therefore well equipped to balance continuity and renewal on the path into a new era with an even greater focus on international projects.

Gottlieb Paludan Architects is developing rapidly, enjoying financial growth and a continual flow of projects. The company has also taken on many new employees over the past year.

inclusion & diversity initiatives

We are convinced that a diversified workplace makes a company a more attractive employer. We actively pursue the promotion of inclusion and diversity to develop our procedures to attract and recruit new managers and employees, to ensure fair and gender-neutral pay and to educate and train managers in inclusive leadership.

In 2021, initiatives have been launched to promote inclusion and diversity at Gottlieb Paludan Architects in Copenhagen. By the end of 2020, a disturbing amount of testimonials surfaced regarding sexual harassment and gender inequality within the architectural industry. Accordingly, the Danish Union of Architects published an adapted paradigm for a "Personell Policy against Sexual Harassment in the spring of 2021. At Gottlieb Paludan Architects, we took this as a call to assess our own culture and to elevate our ability to have open and inclusive conversations.

Specifically, the process was launched with a joint kick-off seminar on inclusion and diversity by Sofia Klingenberg, Inclusion & Diversity Manager at Gottlieb Paludan Architects' parent company AFRY. At this seminar, the company was introduced to concepts such as jargon and unconscious biases to better understand what inclusion and diversity is and to enhance our self awareness.

Subsequently, everyone underwent a dialogue-based workshop in groups with a broad representation of age, nationality, sex, etc. to ensure the exchange of different views and experiences. The workshops consisted of group discussions based on a series of real testimonies and situations from the architectural industry. Each group had to consider what they would think, what they would say, what they would do and, lastly, what their workplace could do. In this way, we discussed and articulated the culture and work environment we want and how everyone can support this on a daily basis.

A focus group consisting of Gottlieb Paludan Architects' CEO and COO, four employee representatives and an HR staff member was responsible for identifying some of the core themes from the group discussions as useful input for shaping the policy.

Based on this process, Gottlieb Paludan Architects has drawn up a policy against sexual harassment in a collaborative effort across the company's staff and management. The policy clarifies the culture and values we commit to uphold and how we deal with potential sexually offensive behaviour.

>
Gottlieb Paludan Architects, Copenhagen office

Photo: Jens Lindhe



the new sustainability paradigm with Søren Bak-Andersen

Søren Bak-Andersen is an architect at Gottlieb Paludan Architects and external lecturer at the Royal Danish Academy. Søren specialises in building culture and has written the PhD thesis 'Old knowledge for new buildings', which researches how traditional materials and their corresponding craft techniques are applied in contemporary construction.

Introduction

We live in a time of disruption in which the prevailing sustainability paradigm is constantly changing. Since the 1970s, the dominant sustainability paradigm has focused on operational energy in relation to post-insulation, energy frameworks as well as heating and power consumption.

Today, we have reached a point where, in new buildings, more energy is always used to construct the building than to operate it afterwards, regardless of typology and construction type. As a result, the sustainability paradigm has shifted to encompass the embedded energy in materials and the way we process them leading to a shift in the materials we consider fitting. However, today's limited amount of renewable and carbon-

neutral energy poses a challenge for producing the materials we want our future buildings to consist of.

As we expand the renewable energy supply, something Gottlieb Paludan Architects is taking an active part in, we are getting closer to another paradigm shift in our understanding of sustainability. When energy supply neutrality is achieved, our understanding of sustainability will shift to other finite resources – like the cycles of the materials used. Thus, materials used in the future must be able to enter into continuous cycles, either technical or biological. This is important to note, as it is expected that Denmark will achieve CO2 neutrality in energy supply by 2050; in just 28 years. Since everything we build now will also be in place in 28 years, and preferably much longer, it must therefore fit into both the current and future sustainability paradigms.

A lasting sustainable building practice

At Gottlieb Paludan Architects, we not only design new buildings. We also transform and carefully restore historic buildings. Both are relevant to the many industrial and transport buildings from the 19th and 20th centuries that are still in use today.



Søren Bak-Andersen

Photo: Gottlieb Paludan Architects

A robust building is able to accommodate the many flexible functions that, particularly in the energy and utilities sectors, require equipment and installations to be changed frequently. A robust building is also able to withstand major alterations and transformations, as long as this is done on the building's terms. The fact that high architectural value is also a key consideration has meant that we, as a population, have embraced these buildings. A beautiful building is simply better looked after.

This, in turn, provides the answer to how we, at Gottlieb Paludan Architects, should work sustainably. We need to understand the embedded energy in the materials we use. We

need to design robust yet flexible buildings. We must build, and rebuild, so that it is possible to reuse building components and materials. But, at the same time, we must build to the highest architectural quality, giving buildings a longer life, ensuring that embodied energy remains in buildings for many years and that, over their lifespan, buildings beautify the world we live in.

Selection of materials

In Denmark, and in the world to a large extent, there is not enough wood from sustainable forestry to build everything we want. In Denmark, we import about 90% of the sawn timber we use. Emissions of climate gases other than CO₂, e.g. methane and nitrous oxide, are not included in the successive LCA calculations we use today and that are part of the forthcoming mandatory requirements for CO₂ reductions the government is planning to implement from 2023. This has implications when we look at the use of sawn timber from areas that have not previously been in conversion but have become so, in response to the increased demand for timber for construction. As a result, the construction industry cannot limit itself to building everything in wood.

Sentrum Brannstasjon in Oslo, which is expected to be completed by the end of 2022, is an example of a project that fits into the contemporary sustainability paradigm because of its strong focus on biogenic materials. A hybrid construction method is used, where the use of CLT is limited to the necessary boards, and the rest of the building's support system is in glulam.

It has been advantageous to use steel in some parts of the construction, in terms of strength and consequently reduced structural build-up.

The focus has therefore been a pragmatic approach to CO2 emissions and material reduction. Sentrum Brannstasjon is certified to BREEAM excellent, and achieves at least 40% reduction in climate footprint from the embedded materials compared to a conventionally constructed building of the same size.

Craftmanship and assemblance in unison

The evolution of construction in the mid-20th century meant that over a short period of time in the 1950s and 1960s, we moved from a crafts-based construction to an assembly-based construction. At the same time, this development meant that greater responsibility for construction shifted from the craftsmen to the designers and, subsequently, to the manufacturers of the building components. This is what we usually refer to as the disempowerment of the craftsman in the 20th century. With greater and greater co-design by contractors and manufacturers, the architectural profession must be vigilant that it does not also become disempowered.

Architecture is an interdisciplinary and holistic profession by nature. It is exactly this overarching role that is needed to address the obvious challenges facing construction in the next generation when the choices we make in relation to materials have far-reaching consequences for future generations who will have to live with it and eventually dispose of it again.

Gottlieb Paludan Architects puts a lot of work into the detail, as this is where the answer lies to reusing building components and recycling materials. We consider constructions' buildability, mechanical assembly and lifespan. We have many years' experience of designing for the utility

industry giving us extensive knowledge about transforming buildings and accommodating them to new features and technologies. With flexible and adaptable design, we build added value into our buildings for our clients – and for the future generations.

In formal order of priority, we must aim to build according to the following criteria:

- » Our designs must be beautiful and durable so buildings can have a long life and be maintained well.
- » Our designs must be robust and flexible so it is possible to transform and add new functions.
- » Our designs must have mechanical and uncomplicated assemblies so building parts can be reused.
- » We need to manage the buildings' life cycles so it is possible to recycle all materials used in their construction.

These above criteria must be combined with the knowledge that the most finite resource of our time is not yet material, but rather climate-neutral renewable energy. Therefore, in addition to complying with the above, what we design must also have the smallest possible climate footprint.

At Gottlieb Paludan Architects, our goal is to achieve absolute sustainability. The buildings we design must not limit the possibilities of future generations. This means that all newly constructed buildings must contribute positively on all the parameters we associate with sustainability be it climate, environment, social, economic etc.





Gottlieb Paludan Architects, Copenhagen office

Photo: Jens Lindhe

Green Mobility

Urban infrastructure

We advise cities and municipalities on the development of urban life through improved connectivity

Traffic hubs
We create intermodal traffic hubs that support the efficient interchange between different modes of transport

Light rail

We manage and execute large design tasks for comprehensive transport systems

Bridges

We design bridges for soft and motorized traffic

Bicycle parking

We plan, develop and design bicycle parking and innovative parking racks

Cycle lanes

We plan and design safe and attractive bicycle lanes



Station forecourts

We shape attractive and flow-efficient public space in connection with stations and traffic hubs

Train stations

We design, renovate and transform stations for local, regional and international train traffic

Metro lines

We contribute to feasibility studies and design stations for metro lines

BRT systems

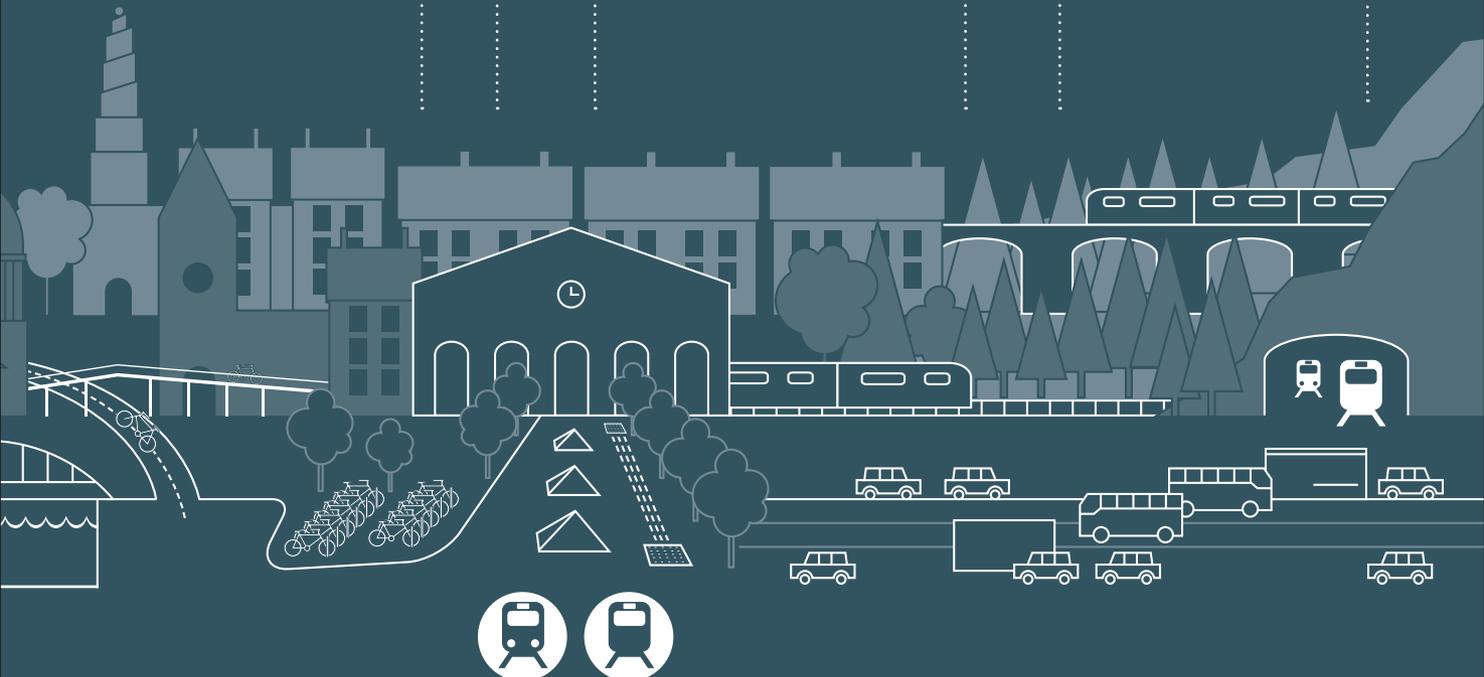
We plan and design for the integration of Bus Rapid Transit systems into existing urban contexts

Industrial design

We design all the fittings, fixtures, equipment and furniture needed for urban space, station forecourts and platforms

Railway lines

We contribute to feasibility studies, environmental impact assessments and design tasks for new railway lines





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Borgarlínan

Visualization: Gottlieb Paludan Architects

BRT system in Reykjavik

Gottlieb Paludan Architects will head the architectural and landscape design of the Borgarlínan, a large public transport project intended to push green transformation of traffic in the Icelandic capital. We won the project in collaboration with a French-Danish-Icelandic team.

The Borgarlínan project is a so-called 'Bus Rapid Transit' system, where buses run in a dedicated lane, have their own stops and a separate identity. The BRT system combines the high capacity and speed of the tram with the flexibility and lower capital expenditure of the bus. It is a solution that provides superior operational flexibility, excellent opportunities for urban integration and favourable return on investment.

Gottlieb Paludan Architects won the project as part of an international team, headed by the French consultancy firm Artelia; the other members of the team are consulting engineers MOE (Denmark) and HNIT (Iceland) together with the Icelandic architectural firm YRKI. Gottlieb Paludan Architects and YRKI Architects will collaborate closely on the architectural design of the Borgarlínan.

The focus will be on designing a transport system with a clear, local identity that contributes positively to the green transition and to the creation of functional urban spaces and new traffic patterns in the metropolitan area. The BRT system is to be an efficient and environmentally friendly alternative to the car and may also help pave the way for more pedestrian and bicycle traffic in Reykjavik. The possibility of running on sustainable fuel is being explored, and the Borgarlínan is an important element in Iceland's target of carbon-neutral public transport, which will contribute to the country's fulfilment of the Paris Agreement.

Gottlieb Paludan Architects is able to draw on many years of experience with similar projects in Denmark and other Scandinavian countries, such as the Copenhagen Light Rail, Aarhus Light Rail (phase 2) and Bussveien BRT in Stavanger.

The project will start in 2021, and the first phase of 14 kilometres is expected to be completed around 2025. The Borgarlínan project is built by the Icelandic state and six local authorities in the metropolitan area.

amstel station

Amsterdam

In collaboration with Dutch architects Office Winhov, Gottlieb Paludan Architects has designed the overhaul and expansion of Amstel Station in Amsterdam.

Amsterdam Amstel Station, originally designed by architects Schelling and Leupen and urban planner Van Eesteren, dates from 1939 and is a national monument. The renovation of the historic station hall aimed to bring the building into a new era, meeting the needs of the modern traveller, while restoring the original expression of the building.

The station hall was originally open but over the years, shops have taken up much of the space in the centre of the station. Today, the hall has been freed up again, improving accessibility and flow while allowing the history and character of the hall to be experienced. Not least, two large murals by Peter Alma are now visible again.

The renovation and expansion of Amstel Station was divided into two phases, bringing new and old together into one architectural vision. On Thursday 28 October 2021, the preservation-worthy Amstel Station in Amsterdam reopened after several years' extensive renovation. The reopening of the station marks the end of the first phase, which comprises the renovation of the existing, preservation-worthy building and a new forecourt. The next phase of the project includes the creation of a new station building, connecting Amstel Station to the area between the railway line and the Amstel River, where a new neighborhood is currently developing.

Gottlieb Paludan Architects has previously collaborated with Office Winhov on the Delft New City Archive, which won the internationally renowned Weinerberger Brick Award in 2020.



rømersgade, linnésgade and vendersgade in central Copenhagen



The two streets Rømersgade and Linnésgade near Torvehallerne in Copenhagen have been paved with recycled cobblestone as part of a major transformation of the street spaces. Parking spaces have been removed to create greener urban spaces with bicycle parking and more room for recreation as well as pedestrians and cyclists. Similar construction work is now taking place on Vendersgade.

Rømersgade, Linnésgade and Vendersgade are located on the old ramparts between Ørstedparken and the Botanical Gardens. The cobblestone paving and increased greenery has given the streets a new visual appearance, supporting Copenhagen Municipality's vision of creating more space for pedestrians and cyclists

and a clear green connection between the two parks.

A total of 15 new trees have been planted on Rømersgade and Linnésgade and by introducing 3m wide "flex zones" reserved for trees among other things, the existing trees in and along the streets are highlighted. Wider pavements will increase accessibility for pedestrians and highlight the cobblestone pavement, which will help to slow down the pace and give the streets a more homogeneous visual appearance, reinforcing their identity as classic urban streets.

The original cobblestone pavement that once covered the streets was hidden underneath the asphalt and all the stones have been reused in the



renewal of the streetscape. The recycling, along with the use of electrically powered construction equipment, has helped to reduce the project's climate footprint.

32 parking spaces have been removed and the redesign of the street spaces supports the vision of increased accessibility and recreational space. The project has also provided space for outdoor catering for establishments in the streets, such as The Workers Museum on Rømersgade.

On Vendersgade, where construction work is now taking place, the physical layout of the street will also indicate that it is designed predominantly for so called soft traffic. The solution will support the street's function as an arterial road for cyclists, support pedestrian flow

around Torvehallerne and create better space for the delivery of goods.

In addition to traffic improvements, Copenhagen Municipality wants Vendersgade to be climate adapted in a way that creates added value for users. The traffic and climate adaptation solution are linked in a holistic solution where traffic conditions are improved while a spatial and visible climate solution creates recreational opportunities.

The project is carried out in collaboration with SWECO and with Scheller, Hougaard & Petersen as paving contractor.



Network Rail Frame bridge

Visualization: Gottlieb Paludan Architects

network rail footbridges

Gottlieb Paludan Architect's design 'Frame' is part of Network Rail's new catalogue of signature footbridges that will replace current bridges at stations on the British railway network in the years ahead.

In 2018, the Frame footbridge was selected as the winning design among 120 entrants from nineteen countries in Network Rail's open design competition. Network Rail's design competition sought ideas for pedestrian footbridges with optimized accessibility that can be used across the British rail network. Network Rail owns almost 2,400 footbridges across all of Great Britain, only 200 of which meet the future requirements.

Gottlieb Paludan Architect's design 'The Framing Bridge' will improve accessibility for train passengers and other pedestrians. The new footbridges must also address the challenges of electrifying the rail network with overhead masts and lines that require extra clearance above the tracks. Gottlieb Paludan Architect's winning design will be developed further and adapted to the many different locations where it is expected to be deployed.

The simple construction and framing of the bridge creates an open space where local features or artistic elements may be added. In addition to contributing to a good overview of the platform, the simplified design makes the bridge more identifiable and adaptable, both technically and architecturally.

green energy

Industrial facilities

We specialize in the development and design of efficient, sustainable and architecturally distinct industrial facilities.

Recreational storm water solutions

We offer experienced specialists in recreational rainwater management and integrated solutions for complex climate challenges.

Cooling plants

We helped design the very first sustainable cooling plants in Denmark and we continue to assist in this sector

Control facilities

We have delivered numerous control room facilities securing optimal work environments and the highest level of operational safety.



Water works

We have contributed to developing Denmark's clean and efficient groundwater extraction system by designing state-of-the-art waterworks

Heat and power plants

Having realized a very large number of projects, we have gained outstanding competencies within the planning and design of sustainable power plants.

Data centres

We have managed the planning and design of some of Denmark's largest data centres

Switch stations

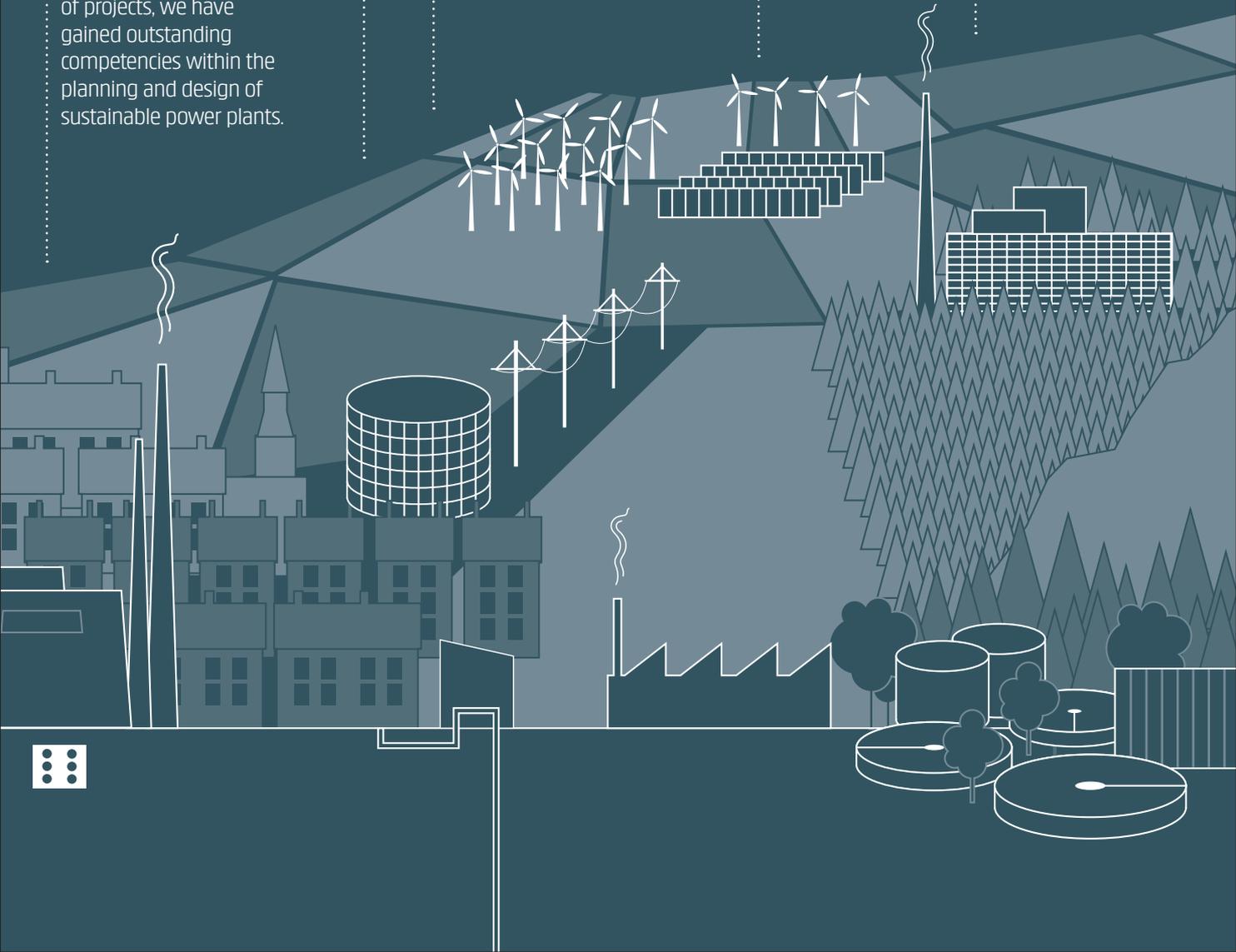
We design new switch stations as well as extensions of older facilities – large and small alike

Energy from Waste facilities

We design some of the largest EfW facilities in the world

Waste water treatment plants

We have a lot of experience with water treatment plants and their integration into often scenic and protected surroundings



energy island

Our architects and landscape architects have aided water construction experts from DHI A/S in developing a concept for the construction of energy islands with the smallest possible negative impact on the surrounding marine environment.

Based on parallel development of construction methods and design as well as interdisciplinary collaboration, Gottlieb Paludan Architects and DHI A/S have designed an island that is built mainly of sand, which is typically found in large quantities on the seabed. In addition to sand, the proposal uses groynes as coastal protection which makes it possible to design an island that is part of the natural marine environment with beaches, dunes and underwater rock reefs that provide new habitats for flora and fauna.

By mimicking nature and using raw materials already available on site, the transportation and processing of materials is minimized. This is also an end-of-life benefit where the island could be reused for other purposes or disposed of with minimal impact on the natural marine environment.

The development project is based on a unique approach that perceives marine forces, such as waves and tides, as external opportunities that can be used to maintain artificial beaches - in contrast to the traditional approach, where the marine environment is considered a problem generator. In other words; we work with nature, not against it.

The approach, which is also called 'soft engineering', "reduces negative impact on the environment and creates more sustainable solutions as compared to hard engineering projects, such as building sea walls, groves and other structures", says Dr. Nicholas Grunnet, Head of Coastal and Estuarine Dynamics at DHI.

The proposal is an example of something we are particularly good at in Denmark, and that the world around us is looking for: Uniting industrial infrastructure, landscape and architecture through integrated visionary design and interdisciplinary thinking. GPA and DHI are further developing the concept for marine environments around the world.



Energy Island

Visualization: Gottlieb Paludan Architects



new biomass plant in Gothenburg

In 2021, Gottlieb Paludan Architects designed the winning competition entry for Göteborg Energi's new power plant unit at Rya in the Göta Älven estuary.

The requirement: As Gothenburg wishes to supply its growing population with sustainable power and district heating a new, wood fired unit is needed in the near future. While the power plant will use sustainable fuel the building itself must be both a symbol of sustainability and truly sustainable in its own right.

The concept: As the boiler dimensions were not fully known at the time of the competition the design is flexible in terms of size and height.

To protect the technical installation from the elements the two rounded volumes contain not only the boiler but also staircases, fuel silos and

much more, leaving a clean and easily understood exterior, touched only by conveyor belt bridges and pipe bridges.

The rounded shapes distinguish themselves from the more traditional structures on site and relate more to the smoke stack and a tall silo. The new building is in the realm of the wind and clouds and is distinguishable on the skyline of Gothenburg.

The silhouette is soft, characteristic and uncomplicated while at the same time being the largest volume in the entire estuary. It may be popularly known as 'The Stove', the place where the warming hearth of Gothenburg is burning.

The look: The design is unmistakably technical with the charisma of industrial architecture while also being visually appealing and relatable.



Biomass plant in Gothenburg
Visualization: Gottlieb Paludan Architects

The sustainability: Minimizing material use and designing for disassembly were key, leading to a design which shrinks the building skin tightly around the plant elements. The sheet metal facade element is repeated everywhere justifying extensive investigation and development to improve its environmental performance.

The supporting steel structure is minimized made from recycled and recyclable steel which can be sourced locally.

Glass embedded photovoltaic panels with a silver metallic color can be deployed to integrate power generation seamlessly into the facade itself.

'The stove'

While developing the concept we took inspiration from the classical Swedish stove, developed during the eighteenth century as an innovative response to the shortage of fire wood brought about by the huge fuel consumption of the iron industry.

The stove, a tall, white tiled cylinder, was a comfortable and energy efficient solution to a serious environmental challenge. To this day it is regarded as effective, beautiful and desirable.

The stove - 'Kakelugnen' - became the affectionate nickname for the project and a fitting name for our design, inspired by a very powerful symbol from the Swedish cultural legacy.

The Amager Power Plant, Block 4

Photos: Lars Mortensen

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the amager power plant **block 4**

Gottlieb Paludan Architects has designed Copenhagen's new biomass-fuelled CHP unit and a master plan for the Amager Power Station. As a symbol of renewable resources, 'The forest' became a recurring architectural theme for both the new CHP unit, BIO4, at the Amager Power Station and the master plan for the future development of the area.

The planting of trees is a principal, distinguishing element of the landscape design. The CHP unit is enclosed by a deep façade made up of suspended tree trunks. This illustrates the vision promoted by Greater Copenhagen Utility (HOFOR) and Copenhagen Local Authority for green energy through powerful architecture which tangibly depicts the changeover from fossil fuels to renewable energy.

BIO4 integrates seamlessly with the existing technical installations, while infusing the peninsula with new architectural expression. Though prioritizing security and safety, the design has made arrangements to invite visitors to get close to the production processes.

In October 2021, HOFOR inaugurated the facade lighting of Copenhagen's new biomass-fired power plant, AMV4, marking the end of its construction period.



From now on, the lighting will make the plant and the spectacular facade of tree trunks visible to Copenhageners in the evening hours. The façade lighting creates a vibrant but subdued night scene, where the light moves calmly across the facade, revealing the structure and depth of the stems. Behind the outer façade, the interior of the power plant is revealed by bright light coming from angular glass bay windows, that can be seen between the tree trunks.

The plant is an important element of the City of Copenhagen's efforts to become the world's first carbonneutral capital by 2025.



Nørreport station

Photo: Jens Lindhe

our focus in 2022

During the coming year, we will focus on the following ambitions:

- » We will actively pursue assignments and research projects with a sustainable profile.
- » We will continue to invest in training our employees in the most up-to-date knowledge within the field of sustainable solutions, in order to enhance the sustainability of our practice.
- » We will appoint a Sustainability Manager to be responsible for Gottlieb Paludan Architects' sustainability initiatives and strengthen our focus on sustainable development both internally and externally.
- » We will continue focusing on constantly improving our work environment in 2022.
- » We will reassess and digitalize our Project Plan to manage and store documents and guides so they are easily accessible for our employees.
- » We will work intensively to retain our position as Scandinavia's preferred infrastructure architect.
- » We will develop a Sustainability Policy to describe the management commitment to sustainability in all our projects.





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Spidslastcentralen

Photo: Gottlieb Paludan Architects



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