



COMMUNICATION ON PROGRESS 2012

C.F. Møller



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ABOUT C.F. MØLLER

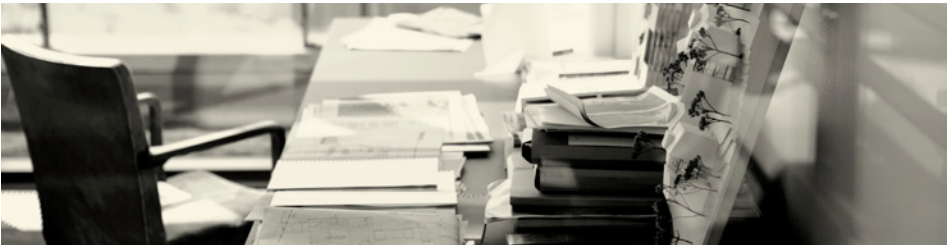
C.F. Møller Architects is one of Scandinavia's oldest and largest architectural firms. We work within a broad spectrum of disciplines – architecture, landscape, urban planning, interior design, health service planning, management and product design. We have a staff of 330 people in our offices in Aarhus, Copenhagen, Aalborg, Oslo, Stockholm and London.

The goal of C.F. Møller Architects is to be at the cutting edge in the sustainable agenda. We aim to provide the most qualified knowledge in the field, and the best advice for our customers.

At C.F. Møller, accountability is a part of everyday life, and is integrated

into the way we work. C. F. Møller Architects was the first major architectural practice in Denmark to have introduced an environmental management system, and was certified in 2009 under the international ISO 14001 standard. This certification documents the practice's active efforts to minimise the environmental effects of all of its processes and services.

For almost 90 years, C.F. Møller Architects has helped to shape the Danish and Nordic welfare societies. We have developed spaces and buildings for hospitals, universities and schools, the public administration, master plans and housing, with a constant focus on social innovation through architecture.



THE TEAM

330 in total



* 143 architects | 42 constructing architects | 31 administration etc. | 22 trainees | 17 technical illustrators/assistants | 17 consultants | 16 branch heads/leaders | 11 landscape architects | 10 engineers | 8 partners | 8 designers | 8 IT | 1 CEO

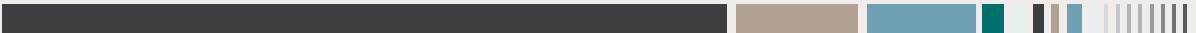
NUMBER OF EMPLOYEES IN OUR OFFICES



* 140 in Aarhus | 84 in Copenhagen | 48 in Stockholm | 29 in Oslo | 26 in Aalborg | 14 in London

NATIONALITIES

17 countries in total



* 231 Danes | 39 Swedes | 30 Norwegians | 5 British | 5 Germans | 2 Poles | 3 Americans | 2 Italians | 3 Icelanders | 2 Spaniards | 2 Fins | 1 Australian | 1 Mexican | 1 Hungarian | 1 Lithuanian | 1 Iranian | 1 Portuguese

GENDER

45% women • 55% men



* 149 women | 181 men

* April 2012



STATEMENT OF SUPPORT

As architects, we help to create surroundings for human beings. It is part of our social responsibility as consultants to ensure that these surroundings are sustainable and beneficial for human beings, the environment and society. By supporting the UN Global Compact, C.F. Møller Architects wishes to send a clear signal to our customers, employees and partners that we take this responsibility seriously. And we wish to continuously remind ourselves that our work with sustainability is a constant process in which we can always improve our performance.

The practice devotes special attention to the principles of environmental sustainability. A sustainable future demands new materials and technologies, and complex architectural methods in the built environment. It is therefore within the scope of the environmental principles – principles 7, 8, and 9 of the Global Compact – that we as architects see our biggest opportunity – and obligation – to make efforts and achieve progress.

The need for CSR tools is growing as C.F. Møller Architects increasingly works with international projects. In 2011 we formulated our first CSR policy, which is also published on our website.

This year, we have initiated a development project with the aim of becoming even better at implementing the principles of the Global Compact in our daily work. This project is facilitated by the Responsible Assets consultancy, which develops a number of tools for C.F. Møller Architects on the basis of our CSR policy.

The goal of the project is to create tools for both communication and quality assurance which can be used in co-operation with international clients with a view to securing the principles of the Global Compact in our future contracts. One example of these tools is a "Supplier's Declaration" which we ask clients to sign, and which requires the individual construction project contractors and subcontractors to adhere to the principles of the Global Compact.

Once these tools have been tested and evaluated, we intend to continue the work of developing a more detailed Code of Conduct for C.F. Møller Architects as part of our future CSR policy.

C.F. Møller has also been active in the development of the Nordic Built Charter, which acts as the fundamental value system for Nordic construction. The Nordic Built Charter is a Nordic initiative which aims to promote the development of sustainable construction. It was initiated by the five Nordic ministers for trade and industry and adopted in October 2011. We signed the charter on 1 October 2012.

Every year, we monitor the development of sustainable projects at C.F. Møller Architects via our ISO 14001 certification. In 2012, the share of projects integrating sustainable solutions, in addition to the Danish minimum standard, amounted to a total of 63% of all new projects.

We are proud to say that we enjoy a good reputation for designing sustainable architecture, and it is with great pleasure that C.F. Møller Architects continues to fully support the ten principles of the Global Compact.


Anna Maria Indrio


Mads Møller


Julian Weyer


Tom Danielson


Klavs Hyttel

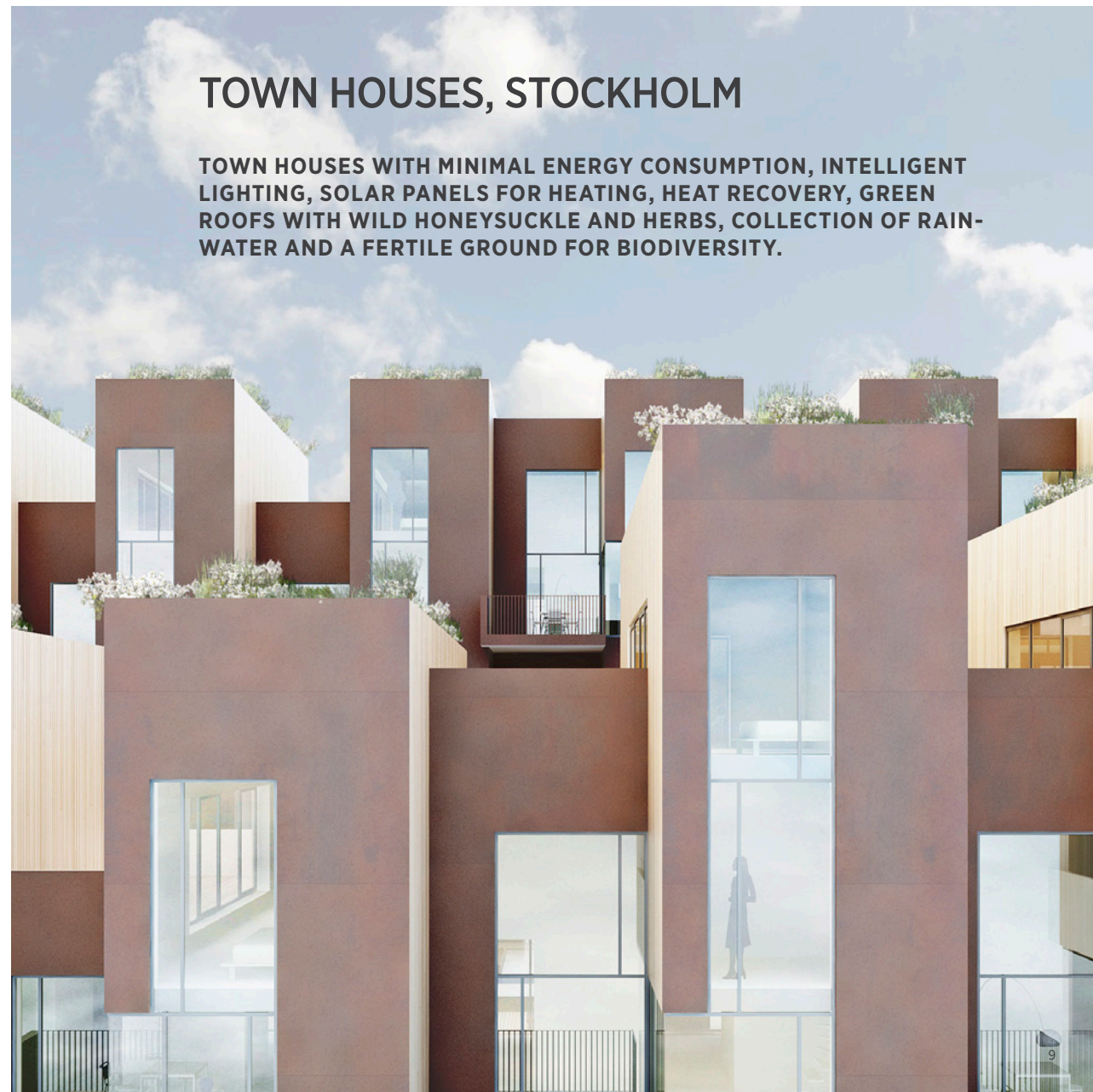

Mads Mandrup


Klaus Toustrup


Lone Wiggers

TOWN HOUSES, STOCKHOLM

TOWN HOUSES WITH MINIMAL ENERGY CONSUMPTION, INTELLIGENT LIGHTING, SOLAR PANELS FOR HEATING, HEAT RECOVERY, GREEN ROOFS WITH WILD HONEYSUCKLE AND HERBS, COLLECTION OF RAIN-WATER AND A FERTILE GROUND FOR BIODIVERSITY.



HUMAN RIGHTS

Principles

1. Businesses should support and respect the protection of internationally proclaimed human rights; and
2. make sure that they are not complicit in human rights abuses.

When we work in countries in Europe, we comply with European laws protecting human rights, both as regards our own departments and the people who work on the construction sites of projects we have designed or worked on.

When we work in countries outside the EU, we strive in our projects to describe and refer to the binding legislation and human rights laws that must be taken into account. Special emphasis is placed on the safety of the work to be performed, and on ensuring that the work is performed in accordance with the human rights proclaimed by the United Nations.

C.F. Møller Architects has a member representative on the Sustainability Committee of the employers' organisation Danske Ark (the Danish Association of Architectural Firms). In 2012, we helped to play an active role in promoting the preconditions for allowing member companies to act sustainably, and thereby realise responsible and commercially sound development. The committee is concerned with activities, media influence, frameworks and legislation, providing advice for members, and co-operation with relevant bodies.

In 2012, C.F. Møller Architects was also a partner in the World's Best News campaign organised by the United Nations, Danida and more than 80 Danish development agencies. The goal of the 'World's Best News' campaign was to give people more accurate knowledge about the actual results of development aid and efforts to combat global poverty. Specifically, the campaign is linked with the UN's 2015 Goals, which provide a widely-accepted yardstick of world development. The World's Best News is a challenge to take the final crucial steps towards the 2015 targets.

Policies

C.F. Møller Architects supports the UN Declaration of Human Rights. C.F. Møller Architects supports all current legislation ensuring equal treatment in relation to human rights. C.F. Møller Architects has formulated a CSR policy, which can be seen at www.cfmoller.com.



BOLIG+

CONCEPT FOR A ZERO-ENERGY COLLECTIVE HOUSING, 100% RELYING ON RENEWABLES. THE SURFACE OF THE ROOF IS THE BUILDING'S POWER PLANT USING BOTH SOLAR CELLS, SOLAR HEATING AND A COMBINATION OF THE TWO.



LABOUR

Principles

3. Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;
4. the elimination of all forms of forced and compulsory labour;
5. the effective abolition of child labour; and
6. the elimination of discrimination in respect of employment and occupation.

The work in our offices

At our six branch offices, we comply with national laws and regulations governing health and safety, organisation, working conditions, working hours, salaries, child labour and forced labour.

We constantly monitor any problems in the health and safety of our employees, and develop new solutions to improve working conditions at our

offices. At least every three years, we conduct a workplace assessment (WPA) at our offices in Denmark. This means amongst other things that we evaluate the working environment and any stresses the employees may be exposed to – physical as well as psychological. The results are analysed and shared with the entire organisation at practice meetings, and plans of action are implemented to solve any problems.





All of our offices have designated employee safety representatives who work with the C.F. Møller management to improve any environmental problems at our own offices. The goals, plans and initiatives for this work are also included in the ISO 14001 system.

When we hire new employees at our offices, we first of all look at their

qualifications and experience, and then at their gender and nationality, and we also take into account the benefits it gives to the quality of work of having worked in many areas and cultures.

C.F. Møller Architects currently has employees from seventeen different countries, and the proportion of men to women is 55 % to 45 %.

We support numerous social events in our offices – study tours, inspirational visits to our architectural and construction sites, parties and lectures. Each year, we also support employee participation in the “Bike to Work” exercise campaign and the DHL exercise run. This helps to strengthen our community, and may even motivate more people to cycle and run on a daily basis.

Projects outside the EU

When we work in countries outside the EU, we strive in our projects to describe a number of rights and safety rules that must be taken into account. Special emphasis is placed on the safety of the work to be performed, and on ensuring that the work is performed in accordance with the labour rights proclaimed by the United Nations.

In co-operation with the Responsible Assets consultancy, we are now developing a number of tools for C.F. Møller Architects on the basis of our CSR

policy, to be used in our co-operation with international clients with a view to securing the principles of the Global Compact in our future contracts.

One example of these tools is a “Supplier’s Declaration” which we ask clients to sign, and which requires the individual construction project contractors and subcontractors to adhere to the principles of the Global Compact.

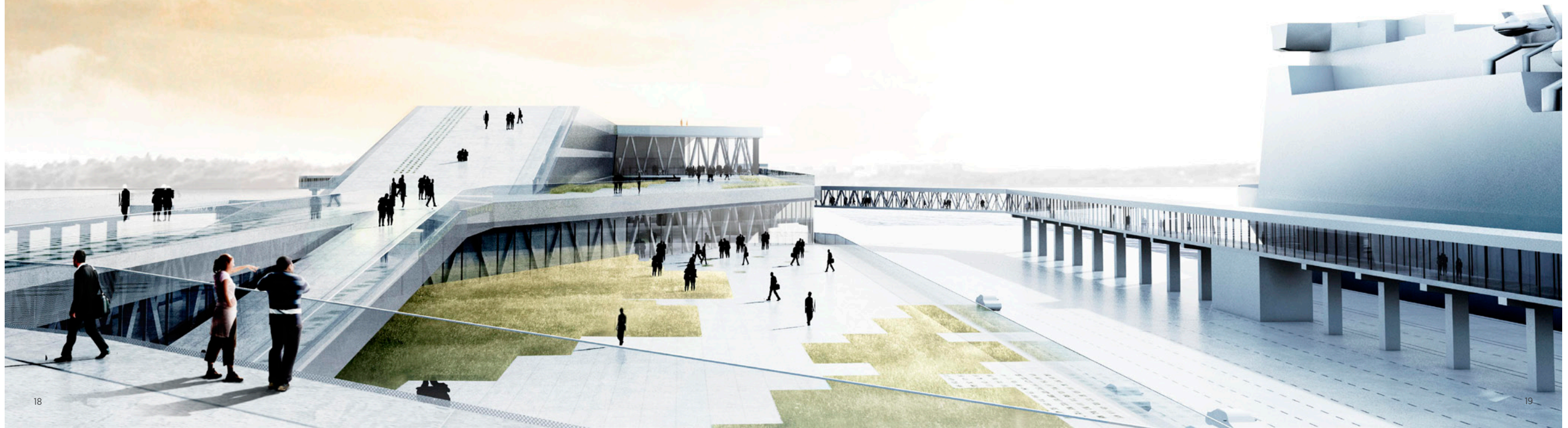
Once these tools have been tested and evaluated, we intend to continue the work of developing a more detailed Code of Conduct for C.F. Møller Architects.

Policies

C.F. Møller’s quality assurance system
C.F. Møller’s ISO 14001 system
We are working on developing a Supplier’s Declaration
We are working on developing a Code of Conduct

VÄRTATERMINALEN, STOCKHOLM

THE ENERGY CONSUMPTION IN THE FUTURE FERRY TERMINAL BUILDING IS EXPECTED TO BE LESS THAN 35 KWH PER SQUARE METER: SOLAR CELLS PROVIDE ELECTRICITY TO THE TERMINAL BUILDING. SEA WATER AND SOLAR ENERGY IS USED FOR BOTH HEATING AND COOLING. GREEN ROOFS TAKE CARE OF RAINWATER AND CONVERTS CARBON DIOXIDE INTO OXYGEN. WIND POWER IS USED FOR CHARGING CARS.



ENVIRONMENT

Principles

7. Businesses should support a precautionary approach to environmental challenges;
8. undertake initiatives to promote greater environmental responsibility; and
9. encourage the development and diffusion of environmentally friendly technologies.

C.F. Møller wishes to be a front runner in sustainability. The energy demands of the future towards the energy consumption, environmental impact and sustainability of buildings represent an architectural challenge for a practice that intends to be a pioneer in the field and at the same time deliver high architectural quality.

Environmental concerns can easily be combined with good architecture. In fact, this opens up new, attractive possibilities for innovation in form, spaces and materials which are very much to the benefit of the coming users and residents.

Environmentally-friendly project planning is a systematic working practice that ensures that the environmental impact of construction remains limited. The method makes it possible to incorporate environmental concerns in project planning on an equal footing with consideration of other factors, such as accessibility, time, quality and finances.

ISO-14001

C.F. Møller Architects is certified according to the international environmental management standard ISO 14001.

Environmental management is about:

- Analysing environmental matters
- Formulating environmental policy
- Stipulating environmental goals
- Compiling plans of action
- Evaluating environmental work

The certificate applies to our three offices in Denmark and our office in the UK. The certification documents our proactive efforts to minimise environmental impact, both in the operation of our own offices and in the buildings we design – in energy consumption and building materials lifecycles – and the ongoing development of new know-how in the organisation.

An annual survey, audit and evaluation is performed of the ISO 14001 environmental management system, and the results are used to develop new goals and strategies. The system is also evaluated annually by an independent auditor, the Danish Standards Association.



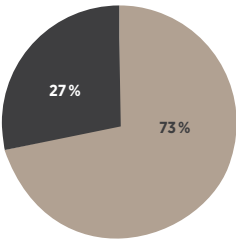
GREEN
BUILDING
COUNCIL
DENMARK



Environmental accounts for our projects

C.F. Møller Architects aims to carry out compulsory screening of the sustainability of all new projects as an integral part of the practice’s work to motivate each client to incorporate sustainable components in construction. In 2012, we environmentally screened 73% of the projects – an increase from 55% in 2011.

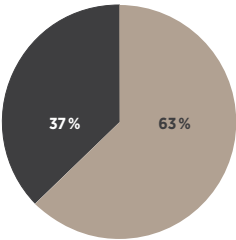
Sustainability screening



- Projects with sustainability efforts and -level beyond the minimum building code
- Conventional planning and design, and without specific sustainability initiatives

In 2012 we refined the methods used in our environmental accounts, because we now take more factors into account than previously. The statistics show that 63 % of our new projects in Denmark in 2012 incorporated sustainable solutions – either in the environmental screening of the projects, particularly high standards in energy consumption, or some form of certification.

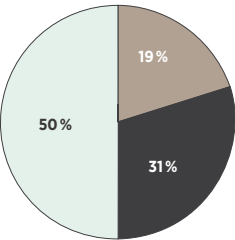
Sustainable solutions



- Sustainability screening of Projects
- Projects without sustainability screening

The results of our sustainability work have been broken down in the diagram below:

Results 2012



- Projects under Danish Building Class 2020
- Projects under Danish Low Energy Class 2015
- Projects within minimum energy standards

We have a strong focus on developing new expertise in eco-friendly construction and pooling our knowledge in an internal database which is available to all employees via our intranet.

BESTSELLER LOGISTICS CENTRE

48.000 M² LOGISTICS CENTRE WITH A STRONG FOCUS ON SUSTAINABILITY IN THE PLANNING, E.G. THE USE OF RECYCLED MATERIALS IN THE CONSTRUCTION PROCESS, LARGE-SCALE GREEN ROOFS, AND THE USE OF RENEWABLE ENERGY SUCH AS SOLAR ENERGY AND BIODIESEL FOR HEATING. THE SURROUNDING SITE FORMS A NATURAL AREA WITH OAK WOODS, WETLANDS AND MEADOWS WITH GRAZING COWS.

Sustainable solutions

In 2011 we produced a series of icons to illustrate the most important environmental initiatives we work with in our construction. The icons are used in our communication to show how each project integrates sustainable solutions.



Phase changing materials



Certified building



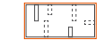
Daylight. Use of solar blinds minimizes direct sunlight.



Energy renovation



Low energy windows



Flexibility



Green Roof. Roof of a building that is covered with seeded soil and vegetation over a waterproofing membrane. Reduces the need for cooling and water run-off.



High insulation values



Ground cooling/heating. Central heating and/or cooling system extracting ground heat.



Energy efficient design and compactness.



LCA. Life Cycle Assessment.



LED. Energy efficient lighting concept.



Sustainable planning



Low energy standard - 2015



Low energy standard - 2020



Natural ventilation



Paper/flax insulation.



Passive solar design (PSD). Building design uses the sun's energy for heating/cooling.



Rainwater harvesting



Photovoltaic cell/solar heating



Noise Minimization



Healthy building



Vacuum insulation/thermal break



Ventilation with heat recovery.



Wind energy



High performance thermal insulation. Air tight envelope, eliminated thermal bridges.

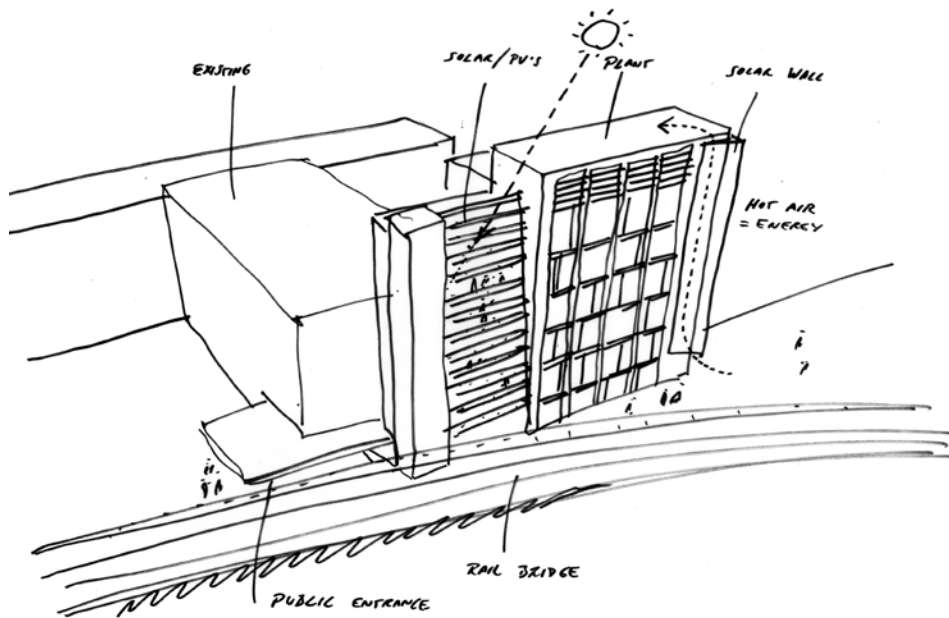


Prefabricated components

Environmental accounts for our offices

Each of the practice's branches has an environmental co-ordinator who records local results and helps to alter inappropriate behaviour in relation to resources. We constantly strive to minimise the practice's environmental

impact and reduce energy consumption, for example by cutting down on the consumption of electricity, water and heat, and by using less environmentally-harmful office supplies, less paper per employee, and fewer flights.



Nordic Built Charter

C.F. Møller Architects has been active in the development of the Nordic Built Charter, which acts as the fundamental value system for Nordic construction. The Nordic Built Charter is a Nordic initiative to promote the development of sustainable construction. It was initiated by the five Nordic ministers for trade and industry and adopted in October 2011. We signed the charter on 1 October 2012.

The Nordic Built Charter serves as fundamental value system for the Nordic construction industry, and expresses a commitment to creating a built environment that:

01. Is created for human beings and promotes quality of life
02. Pushes the boundaries of sustainability through our innovative thinking and knowledge
03. Combines urban life with the qualities of nature
04. Achieves zero emissions in the course of a lifecycle

05. Is functional, stylish and aesthetically attractive, and based on the best aspects of the Nordic design tradition
06. Is robust, flexible and timeless – built to last
07. Primarily utilises local resources and is designed for local conditions
08. Is built and maintained through partnerships based on transparent co-operation across borders and disciplines
09. Is scalable and can be used globally
10. Benefits people, business and the environment

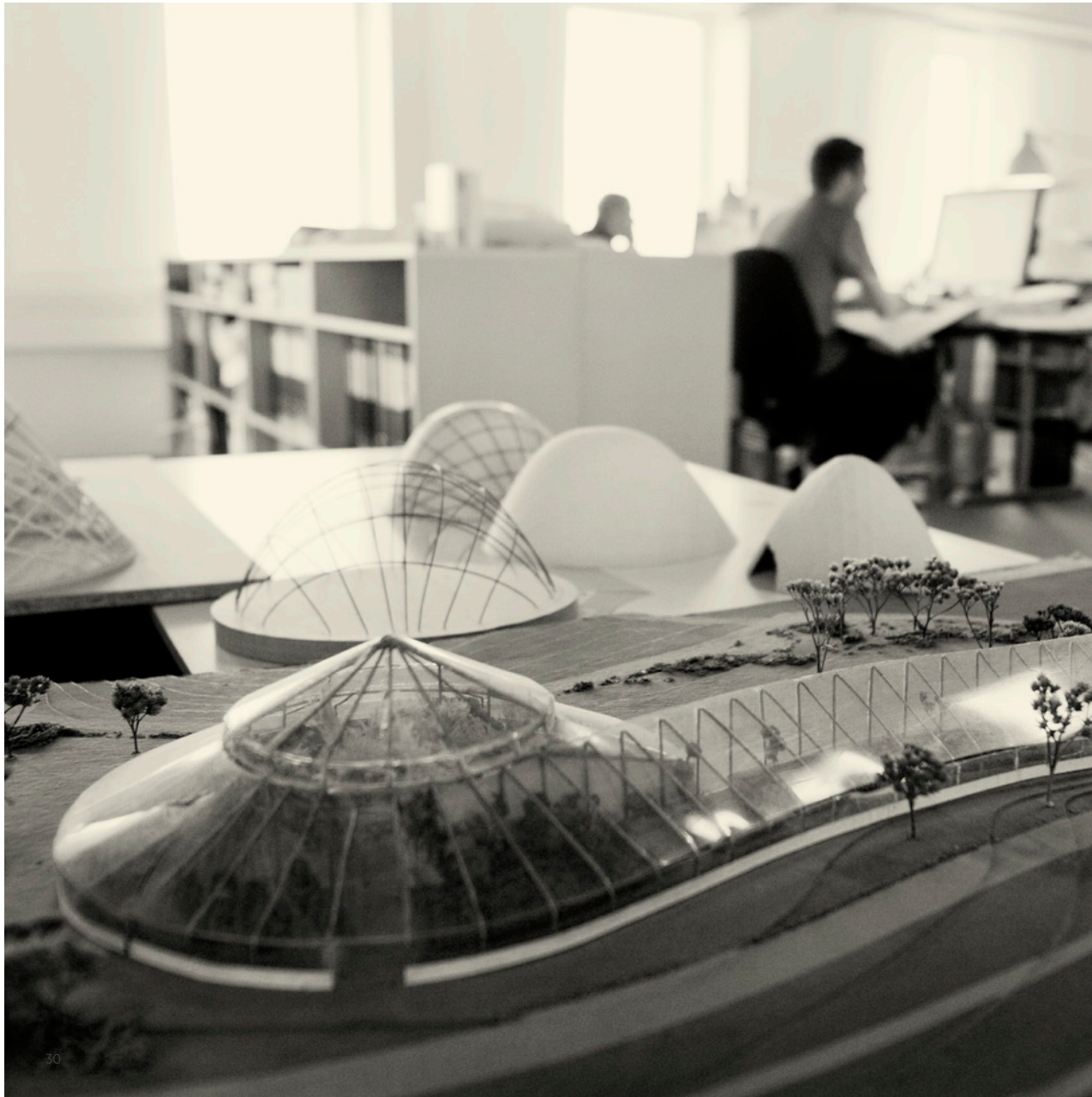
Policies

C.F. Møller's ISO 14001 environmental management system for products and company processes
Nordic Built Charter

VILLA ALSTRUP

VILLA ALSTRUP HAS EVERYTHING AN EXCLUSIVE VILLA SHOULD OFFER, BUT IT IS ALSO AN ENERGY-PLUS HOUSE, WHICH MEANS THAT IT PRODUCES MORE ELECTRICITY AND HEAT THAN IT USES.





ANTI-CORRUPTION

Principles

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

At C.F. Møller Architects, we are aware of and committed to our role as decision-makers in relation to the physical environment. As independent consultants, we choose methods, techniques and materials in dialogue with professional partners, but independently of the interests of the manufacturers. If we are ever asked to take part in corruption or bribery, we say no to the work and/or break off all co-operation.

As guidelines in this area, we use the tools developed by the Confederation of Danish Industries (DI) and the Danish Ministry of Foreign Affairs – the CSR compass – and share experiences with partners in the Nordic Global Compact network. When we engage in new countries that have a reputation for corruption, we seek le-

gal advice and sort out any problems in the contracts and/or negotiations to promote integrity and prevent corrupt behaviour.

Our response to corruption is a loud and clear “No”, and it has not yet been necessary to impose sanctions.

Policies

C.F. Møller Architects endorses the ethical standards and code of conduct laid down by FIDIC, the international organisation for consulting engineers (“Fédération Internationale Des Ingénieurs-Conseils”)

SUSTAINABLE HOSPITAL

How do you think sustainability into a complex university the size of a Danish provincial town with 100,000 admitted patients and 900,000 outpatient treatments each year?

The biggest hospital construction project in Danish history, the New University Hospital in Aarhus, will be built onto the existing Aarhus University Hospital, Skejby, to form a combined hospital complex of 375,000 m².

The project represents the future demands and expectations of a university hospital in Denmark, and the team behind the new hospital is working to make it as sustainable as possible - economically, socially and environmentally.

The large hospital complex will be organised like a town, with a hierarchy of neighbourhoods, streets and squares providing the basis for a diverse, dynamic and green urban

area as well as intuitive wayfinding by the users. The project is pioneering in the development of 'Healing Architecture' in the Danish health sector, including the use of Evidence Based Design.

The hospital has been designed to flexibly accommodate future requirements with regard to technology, forms of treatment and working practices, and it will also bring about a considerable qualitative lift in both the experiences of patients and the working conditions of the staff.





Evidence-based design

In recent years, a large number of studies have shown that aesthetics and the physical surroundings, such as daylight, good acoustics and the presence of nature, can have a significant effect on the healing process. This knowledge helps health sector planners and architects to find answers to practical questions of hospital organisation. It is called evidence-based design.

Evidence-based design has been used in the project to create healing environments that promote physical and mental well-being and healing processes, support the participation of relatives, help staff to be more efficient, and reduce stresses and loads. The design decisions have been based on the best available knowledge from research and project evaluations, and have been assessed in relation to the unique conditions of DNU.

A better working environment through user consultation

We have systematically incorporated working environment considerations into the planning and design of the hospital. The aim is to minimise loads and risks, and to promote health and safety, when the hospital is used. Through extensive user consultations with hospital staff, patients and relatives, we gathered knowledge about the working environment. The primary focus was on the design and organisation of the departments, functions and rooms.

An ambitious working environment policy also sets targets for working environment conditions on the actual DNU construction site.

Noise and acoustics

Noise and acoustics are regulated by the Danish building regulations; however, we have introduced further measures in areas not directly covered by the regulations, or where the requirements were sharper in relation to creating an optimum working environment and acoustically improved treatment, recuperation and relaxation environments.

The practice's initiatives have included stricter requirements towards acoustic regulation in wards, treatment rooms and public areas, and reduction of noise from hospital equipment in wards and treatment areas. This has for example been done by screening off or moving noisy medical equipment, and by selecting quieter call and alarm systems.

Future proofing and flexibility

The treatment options in the health service are in continuous rapid development, and the hospital service is subject to ongoing optimisation and streamlining. An important design goal has been to ensure that the New University Hospital in Aarhus can meet future demands for technology, therapies and techniques.

We have incorporated a number of solutions in the project to support this goal. For example, the building structures are typified, and generally utilisable. Extensions are possible throughout the building structure, the materials are sustainable and we use energy-optimised solutions. The hospital is also prepared to support for fully-automated goods transport systems and fully-digitalised ordering routines.



Energy efficiency

The hospital is designed to meet Danish building regulation BR2015 for low-energy class 1. We have also developed a system solution that reduces energy consumption in ongoing operations and utilises excess heat from lighting and medical equipment, etc., to meet the cooling demand.

The system consists of a combined heating and cooling plant with absorption cooling equipment, heat pumps and a free-cooling system, supplemented with conventional heating.

The hospital will use ventilation systems with so-called rotary heat exchangers for heat recovery (transfer of heat from the extracted air to the intake air). Rotary heat exchangers take up less space, are less expensive and provide a better indoor climate.

Sustainability score for DNU

The issue of how sustainable DNU can or should be is, besides being a question of ambitions towards sustainability, is also a question of economics. The construction budget for the project has been greatly reduced, but without altering the treatment capacity requirements or room sizes. This has resulted in reduced funds for specific sustainability purposes.

We have calculated the sustainability score for the project to be 45-50% on the basis of the BREEAM system. By comparison, NHS hospital buildings in several places in the UK must on the basis of this method achieve a score of 70%, “excellent”, to meet sustainability requirements.

But as sustainability is in many areas simply a visualisation of common sense, operational benefits and environmental concerns, sustainability can generally be secured by showing prudence and diligence in the planning and design, and does not therefore require extra construction expenses. ●

Facts about the New University Hospital in Aarhus

Client	Aarhus University Hospital, Central Denmark Region
Client consultant	NIRAS A/S
Engineer	Rambøll Danmark A/S, Alectia A/S, Søren Jensen Rådgivende Ingeniørfirma A/S
Architect	C.F. Møller Architects in collaboration with Cubo Arkitekter A/S
Landscape	Schönherr Landskab A/S
Other partners	Nosyko AS (N), Lohfert & Lohfert AS
Address	Skejby, Aarhus, Denmark
Size	216,000 m² newbuilding, 159,000 m² rebuilding = 375,000 m², 797 beds, 43 dialysis sites, 80 hotel beds
Plottage	approx. 970,000 m²
Year	2007-2019

Energy and environment, New University Hospital in Aarhus





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