

A NATION OF ARCHITECTURE
DENMARK
SETTINGS FOR LIFE AND GROWTH

DANISH ARCHITECTURAL POLICY 2007
THE GOVERNMENT

COVER: AROS

The Aros Art Museum in Århus is cut through by a large arched/curved spatial progression which connects the streets and squares on each side of the museum like a public pathway. At the same time, the museum's sculptural stairwell system shows up the museum's 10 floors.

Illustration: schmidt hammer lassen



1. THE METRO IN COPENHAGEN

A modern and hi-tech interpretation of the metropolitan transport system. KHR arkitekter AS has designed the stations so that glass pyramids guide daylight to the platforms 18 metres underground.

Illustration: Mette Marie Kallehauge

2. ÅRHUS CITY HALL

Symbol of early functionalism in Denmark. Arne Jacobsen, Erik Møller and the furniture designer Hans J. Wegner designed everything from the door handles to the tower clock.

Illustration: Realdania

3. STATE PRISON IN EAST JUTLAND

Friis & Moltke tones down the monumental prison architecture, and instead the buildings snugly adjust to the landscape and the surrounding farm buildings.

Illustration: Friis & Moltke

4. GLORUP MANOR HOUSE

Erected in the 1590s as a four-wing renaissance manor house. The gardens, in particular, bear witness to the architecture and landscape architecture of their period.

Illustration: Andreas Trier Mørch

CONTENTS

Foreword page 04

Architecture – settings for life and growth page 06

01. Greater architectural quality in public construction and development page 12

02. Promoting private demand for architectural quality page 16

03. Architectural quality and efficient construction must go hand in hand page 20

04. Innovative architecture must create healthy, accessible and sustainable buildings page 24

05. Greater architectural quality in subsidised housing page 28

06. High priority on architectural quality in planning page 32

07. Architectural heritage must be maintained and developed page 36

08. Better conditions for exports of Danish architecture page 40

09. Danish architecture must have a strong growth layer page 44

10. Danish architectural studies must be among the best in the world page 48

List of ministries, government agencies and relevant institutions page 52

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FORE WORD

Architecture constitutes a vital setting for life and growth in Denmark and, accordingly, for our welfare. With “A nation of architecture – Denmark”, the government aims to present a complete and comprehensive architectural policy. A policy in which government players contribute actively and concretely to the development of continued architectural quality. A policy that stimulates architectural quality in a broad sense – from single-family detached houses to national planning, from education to global marketing.

It is the government’s intention that the architectural policy will contribute to the development of architecture as a Danish stronghold and to create an increasing awareness and debate about the significance, conditions and possibilities of architecture in Denmark. The policy is intended as a contribution to a broad and lively discussion on how to retain and further develop architectural quality as a central conduit of culture – with local, national and global perspectives for growth and welfare in Denmark.

Danish architecture, and the values it represents, should also contribute actively to government efforts to promote Denmark, and Danish architectural firms still have the potential to develop their track record in a global market.

The government’s ambition is that the architectural policy should be seen in a long-term perspective. The architectural policy is not a static manifestation or set answers. It is a dynamic framework that is to contribute to directing focus onto the importance and value of architecture in Danish society – culturally and economically. This is a theme the government continuously wants to discuss.

The architectural policy is designed to be an inspiration for all those who work with architecture and building in the private as well as public sphere. It is to be an indicator showing how Denmark can use the potentials inherent in Danish architecture. And it is to be a clear international signal that the importance of high quality architecture is recognised in Denmark and plays a significant role in the development of the Danish welfare state.

This is the first time that Denmark adopts a comprehensive architectural policy. The policy has been prepared with the co-operation of several ministries: the ministries of Culture, Economic and Business Affairs, Social Affairs, Foreign Affairs, the Environment and Transport and Energy as well as the Danish University and Property Agency, the Danish Defence Estates and Infrastructure Organisation, and the Palaces and Property Agency.

The architectural policy commits the involved ministries and government institutions to work consciously and with focus to promote architectural quality along the guidelines indicated in the policy. Correspondingly, in the local and regional administrations the national architectural policy will be able to serve as inspiration in addressing the central aspects of architecture. This is particularly true for the urban and regional development that is to follow over the next few years as a result of the structural reform.

The architectural policy describes a series of specific target areas and initiatives aimed at fulfilling the government’s vision that architecture should play an active role in as a setting for the quality of life and growth in Denmark. Local governments as well as private projects will be able to find support for many specific activities in the visions in the national architectural policy. The national architectural policy, however, primarily describes a range of important central government initiatives.

The precondition for retaining and developing society’s architectural values over time is a determined focus by decision-makers, operators and users on their respective responsibility to safeguard architectural quality.

This architectural policy is designed to inspire the various parties to do just that.

The Government, May 2007



TORPEDO HALL

At the old naval grounds in Copenhagen, the Tegnestuen Vandkunsten architects transformed a 1950s production hall for minesweepers and torpedo boats into luxury flats.

Illustration: Jens Lindhe

ARCHITECTURE

– SETTINGS FOR LIFE AND GROWTH

SETTING FOR OUR LIVES

OUR LIVES UNFOLD IN ARCHITECTURE.

Wherever we are, our physical environment is the setting of our lives. Once it is planned and designed at its best in buildings, developments, cities, gardens, parks, landscapes and infrastructure, architecture gives us all an opportunity to be active, participate and enjoy.

In brief: increased quality of life.

This means that architecture adds value to individuals and to society. For this reason it is vital that the physical setting has a high architectural quality.

Architecture reflects the society and period it was created in. That is why architecture creates and constitutes an important part of our cultural heritage, our history and identity. This means that architecture and its qualities have relevance not only for contemporary society, but also for the future.

What we are building today is the cultural heritage of the future. The architecture contributes to the story of who we are and where we are headed.

Over the past centuries, Danish architecture has been successful in expressing and creating the setting for a democratic and functional society based on broadly accepted humanistic and social values.

To a major extent, contemporary architecture maintains these values. But globalisation also fosters an architecture that reflects a more international, resource-conscious and innovative welfare state.

SETTING FOR GROWTH

High architectural quality not only helps to create a good setting for our lives. Architecture is also strong business – even a business with a major potential for growth.

PRIMARILY SMALL FIRMS

The number of employees in DANSKE ARK member companies in January 2007 was 5,100. Of these, about 1,150 were owners and 4,000 employed staff.

As a rule, the architectural firms are small. Nearly half of the members of DANSKE ARK have no employees, while 100 companies have 10 or more employees. Ten companies employ more than 75. The largest architectural firms have 250-300 employees.

The trend is that many small firms are being established at the same time as the large companies are growing. Among other factors, growth is achieved through increasingly strong international activity. For the largest companies, exports constitute 40-60% of turnover.



THE URBAN GARDEN IN NØRRESUNDBY

The first part of a structural plan for Nørresundby waterfront, designed by SLA, is a garden of organic asphalt surfaces, mussel shells and small fountains located among residential blocks.

Illustration: SLA

Architecture is one of our characteristic cultural conduits. Our internationally acclaimed tradition in this area is an asset, and the industry is one of the creative sectors that we will increasingly be able to – and have to – live from in the future.

In architecture, culture and business meet as mutual prerequisites. Architecture is carried by creativity and artistic quality, but the business side decides what is being built. For this reason it is important that architecture is sound business. It is a decisive strength that the architecture and the architectural practices are cultural as well as business conduits. Danish architectural businesses constitute a competitive, dynamic and globally oriented sector with documented international experience and power of penetration. For Denmark it is an additional advantage that the architectural firms have close interaction with other knowledge sectors with an international potential. This particularly applies to the engineering and consultancy sector and a number of production companies.

In Denmark we have good access to knowledge development and highly qualified architectural labour. In turn, architecture has the potential for innovative contributions to both industrial and social development.

ARCHITECTURAL BEACONS

Denmark features many examples of world-class architecture. World-class architecture provides experiences, inspiration and identity.

It contributes to creating a picture of a city, a region, a country – by adding character and telling the story of an independent culture under development.

In the international competition for investment, labour and tourism, the architectural qualities of the metropolis also plays a role. People do not only travel to Bilbao to see the art of the city's acclaimed museum, but also to experience the museum's fantastic architecture. In fact, the architecture of the museum has helped to define the image of Bilbao. Another example is Jørn Utzon's famous opera house, which is the very symbol of Australia.

DKK 90 BILLION ANNUALLY FOR HOUSING INVESTMENT

In 2005, total housing investment – including renovation – amounted to close to DKK 90 billion. Of this, half went to new construction.

In 2005, new construction of 10 million square metres was initiated. Of these, close to 4 million square metres were housing construction. The number of housing units initiated in 2005 was close to 30,000 – of these some 8,000 were subsidised.



THE ROYAL LIBRARY

The sculptural, black granite building called the “Black Diamond” was designed by schmidt hammer lassen. The building is one of the most characteristic landmarks of the Copenhagen waterfront.

Illustration: schmidt hammer lassen

Tourists do not only travel to Denmark to see the Little Mermaid. In most Danish cities, urban life and architecture are subjects of increasing interest from the outside world. Denmark’s contemporary capital is a veritable laboratory of new construction, new forms of housing and new urban planning with highly qualified contributions by some of the best Danish and foreign architects.

For Denmark, more architectural beacons would be an advantage for the international competition for attention, and for the quality of life of the Danes. Architectural beacons can and should be created by the best Danish and foreign architects.

ARCHITECTURAL QUALITY

Already in ancient Greece and Rome, architecture was defined as the art of creating coherence between construction, function and beauty in a structure. Architectural quality is currently defined broadly. There is, however, widespread agreement that architectural quality is experienced when form, function and building techniques are thought together and implemented in a complete, artistic idea.

Architecture of a high quality relates to the surroundings as a co-player or as a challenger. The architecture stresses, strengthens and interprets the cultural character and uniqueness of the surroundings.

MAJOR INCREASE IN TURNOVER

The Danish Association of Architectural Firms (DANSKE ARK) has 675 member companies which are estimated to cover 95% of the turnover of the entire architectural sector.

The 2006 turnover of these firms was DKK 3.2 billion.

Total turnover of the firms grew by 20.4% from 2005 to 2006. For a few of the larger companies, the advance amounted to 30-40%.

Architectural quality is not created by accident, but only when the architect works consciously with design, planning and detailing, and when there is a scientific and artistic element.

Architectural quality is created in planning and construction and has to pass its test in use. A fundamental precondition for retaining and developing architectural values over time is that any work must be implemented on the basis of an understanding of the existing architectural qualities of the building and the location.

DENMARK AS A NATION OF ARCHITECTURE: VISIONS FOR DANISH ARCHITECTURE

Danish architecture is innovative; it is carried forward by new technology, new aesthetics and new processes. Modern architecture is seeking a new user-oriented and more sustainable approach. At the same time, the architecture rests on solid tradition and experience.

Danish architecture has a potential that makes it relevant to speak of Denmark as “a nation of architecture”.

The government wants to strengthen the foundation of Denmark as “a nation of architecture” with a national architectural policy aimed at placing architecture on the agenda.

THE DARWIN MUSEUM IN LONDON

C.F. Møller’s cocoon-shaped building will form the setting for the collection of millions of insects and plants – and thousands of annual visitors.

Illustration: C.F. Møller



The focal point of the government's architectural policy includes two clear visions for Danish architecture:

1. HIGH ARCHITECTURAL QUALITY TO CREATE GOOD SETTINGS FOR OUR LIVES

The life of Danes will be richer with inspiring architecture which makes buildings and the design and planning of the physical environment around the buildings functional and attractive. High architectural quality gives high quality of life because architecture creates an aesthetic and well-functioning setting for our lives.

2. GOOD DANISH ARCHITECTURE TO CREATE GROWTH AND PROSPERITY

Denmark becomes a richer nation if the architectural sector can utilise its potential for national and international growth – also as an engine in relation to innovation and demand in other sectors. If Danish wealth is to be retained and developed, Denmark should focus more on knowledge and innovation, and architecture is precisely one of the industries that can strengthen Denmark's position in the global economy.

The vision of the architectural policy is to create good settings for life and growth.

TEN TARGET AREAS

In order to promote the government's two visions for Danish architecture, the architectural policy focuses on ten target areas:

- 01.** *Greater architectural quality in public construction and development*
- 02.** *Promoting private demand for architectural quality*
- 03.** *Architectural quality and efficient construction must go hand in hand*
- 04.** *Innovative architecture must create healthy, accessible and sustainable buildings*
- 05.** *Greater architectural quality in subsidised housing*
- 06.** *High priority on architectural quality in planning*
- 07.** *The architectural heritage must be maintained and developed*
- 08.** *Better conditions for exports of Danish architecture*
- 09.** *Danish architecture must have a strong growth layer*
- 10.** *Danish architectural studies must be among the best in the world.*

The architectural policy describes challenges, goals and initiatives for each of the ten areas. In coming years, the government will work to realise the two visions through a series of initiatives within the ten target areas.

THE MARITIME YOUTH CENTRE

PLOT's building and its wave-shaped roof terrace form the physical setting for the lives of children and young people in East Amager.

Illustration: Mads Hilmer



EAST BRIDGE, THE GREAT BELT

The bridge was designed by Dissing & Weitzling. At 6.8 kilometres in length and 254 metres high it is Denmark's largest construction project. The bridge represents a fine encounter between shape and function.

Illustration: Sund og Bælt





01.

GREATER ARCHITECTURAL QUALITY IN PUBLIC CONSTRUCTION AND DEVELOPMENT

COVERINGS

The architectural firm NORD has designed this principle for light coverings to protect sports activities and outdoor events in the changeable Danish weather.

Illustration: NORD

CHALLENGES AND GOALS

PUBLIC CONSTRUCTION IS VISIBLE AND COMPREHENSIVE

In an historical perspective, public developers in Denmark have played a central role in the architectural quality of construction. Many public buildings and construction projects have a significant influence on their surroundings, and they are often visible and distinctive buildings citizens know and relate to. In practice, the buildings constitute the public face to the outside world. This is true irrespective of whether a local, regional or national government is responsible for the project.

For this reason it is vital that architectural quality is thoroughly deliberated, and that the visual and functional interaction with other buildings, roads and squares is optimal. In this way, public buildings can enrich and improve the surrounding environment.

LONG-TERM INVESTMENT PAYS

Construction is one of society's heaviest and longest-term investments. Cities and buildings exist for centuries. By thinking in the life cycle of a building – which means the costs of its total life – developers can optimise the value of investment in the building.

High architectural quality in public construction is sound investment. This is both true in the overall economy of development and maintenance, as well as in consideration of the building's long-term market value and customer and user satisfaction.

THE ARCHITECTURAL TRADITIONS OF THE DEFENCE FORCES

Throughout the centuries, the Danish defence forces have planned and implemented construction and building projects in co-operation with the best contemporary architects. It is, for instance, possible to admire a direct relationship between the architecture of Philip de Lange in the Naval Arsenal at Holmen and the regular and anonymous architectural style that later became synonymous with Danish tradition. This architecture became the source of inspiration for the Bedre Byggeskik movement (Better Architectural Design) and the simple classicism that dates back to the 1920s. The architect Professor Ivar Bentsen used the expression "barrack room style" as positive recognition of the simple, useful and wear-resistant form. It was highly recognised in the 1930s as a model for civilian developments in a Danish architectural style.

After World War II, the same tradition continued until the 1950s. At that time construction activity was so high that the trade lacked skilled construction workers. As a result, the Danish Defence Construction Service made a commitment to develop and use industrial production and construction methods. Against this backdrop, the Danish Defence Construction Service created a new architecture for the defence forces with the development of a large number of military barracks and other establishments until the mid-1970s. The defence forces planned their own projects and employed more than 100 architects.

ARTISTIC QUALITY IN GOVERNMENT BUILDINGS

In order to ensure artistic decoration of a high quality in government buildings, a circular on the artistic decoration of government buildings (CIR 9067 of February 17, 2004) stipulated that funds should be allocated for artistic decoration in connection with new constructions, conversions and extensions to government buildings. Pursuant to the circular, the allocated funds should correspond to 1.5% of the labour expenses excluding VAT. The decoration can be integrated into the architecture or works of art placed in the building. The building's suitability for artistic decoration should be discussed with the Danish Arts Foundation prior to the developer's approval of the project proposal.

KILDESKOVSHALLEN

An extension to this valuable, modernistic structure has been designed by entarsis. The extension has been nominated for one of the most distinguished architectural prizes, the Mies van der Rohe Award.

Illustration: entarsis



Public construction development should continue to place major priority on the long-term economic gains of high architectural quality – and not the short-term financial gains that can be achieved if the owner compromises on demands for architectural quality.

PUBLIC BUILDINGS AND PLANTS SHOW THE WAY

When public developers take the lead with new requirements and innovative solutions, private developers often follow suit.

If public developers focus on and demand quality in construction, this will help to promote the demand for and choice of architectural quality in a double sense – both through their own requirements and in the form of derived private demand.

The public developer can, for instance, create an awareness that architectural quality is also about reducing costs. It is good architectural quality if the costs of operating buildings and structures are reduced. This is also a responsible approach in relation to resource consumption.

65,000 PUBLIC BUILDINGS

Public authorities own 65,000 buildings with a total area of 47 million square metres – this means relatively large buildings. A third of them are used for teaching and research.

Similarly, the public developer can show architectural responsibility in relation to signal value, identity and cultural heritage.

QUALITY IN ALL TYPES OF CONSTRUCTION

The public developers must carry focus on architectural quality a step further – including an environment of architectural ambition. In a long-term perspective, this ambition contributes both to the general development of quality in architecture and to the specific quality in the public property portfolio. It is vital that determined and focused work with architectural policy is continued both at the national and local level.

Architectural quality is important, irrespective of whether the state builds or renovates a new domicile for a government agency, whether the region extends a hospital with a new wing, or whether the local authority modernises its public swimming facility.

Good architectural quality is also important when public developers build purification plants, motorways, bridges and other buildings and infrastructural plants. We also use and look at these types of construction.

INITIATIVES

The following initiatives are designed to promote architectural quality in public construction.

FORMULATED ARCHITECTURAL POLICY IN ALL DEVELOPING AGENCIES

The main government developers – the Palaces and Property Agency, the Danish University and Property Agency, and the Danish Defence Estates and Infrastructure Organisation – are determined and focused in their attention to architectural quality. In various ways they have formulated policies for their work, and are making efforts to make these principles known to users, citizens and players in the building industry.

ARCHITECTURAL POLICY FOR EDUCATIONAL AND RESEARCH DEVELOPMENT

Architectural policy is an integral part of the Danish University and Property Agency's mission, vision and main objectives.

The Agency's declared objective is to be a visionary and competent building administrator and to provide a functional, sustainable and aesthetic physical framework for Danish research and educational institutions.

This objective will be implemented in various areas. Existing structures will be maintained and modernised so that their architectural and functional properties are retained. New projects will be implemented as quality constructions with the inclusion of the most modern aspects of environmental and interior design. New development projects are normally implemented with a defined construction budget, and project competitions are arranged on this basis with evaluations architectural and functional criteria.

It is the declared objective of the Danish University and Property Agency to contribute to the development of building technology, building processes and architecture. This will be done by participating in development projects with others and through own projects and idea competitions.

THE ARCHITECTURAL MISSION OF THE DANISH DEFENCE FORCES

The Danish Defence Construction Service has a 300-year tradition for constructions of high technical and architectural quality. Many of the buildings that have been erected over the centuries still belong to the defence forces. Until recently, the Danish Defence



HELLERUP SCHOOL
The school is designed by Arkitema based on the principle of openness between spaces as well as people. The rooms are flexible with movable walls and furniture.
Illustration: David Trood

Construction Service was responsible for military architecture and construction. In future, this work will be continued by the Danish Defence Estates and Infrastructure Organisation (FBE). FBE was established on January 1, 2007 as a new authority under Defence Command Denmark. The authority is domiciled in Hjørring and has at its disposal five regional Construction Support Centres located throughout the country.

The new authority has already formulated an architectural mission showing that the defence forces will continue to consider architecture as an important element in maintaining quality in military buildings:

The architectural mission is the general lodestar for the FBE's use of architecture in the future. The architectural vision is a clarification of how we intend to realise the goal of the mission.

Mission: In future, the FBE will weigh architecture as an important element to maintain quality in military buildings.

Vision: The FBE aims to define the significance of architecture for the individual construction and renovation projects, and evaluate the architectural importance of the project on this basis.

The FBE aims to prepare comprehensive plans to ensure dialogue and coherence between existing and future military buildings. Through landscape architectural planning, the FBE aims to ensure the relationship between military buildings and the architectural landscape they are placed in. The FBE aims to erect buildings whose architecture permits general and varying applications. The FBE prefers a simple, useful and resistant form to minimise future maintenance. Through funds allocated to the arts, the FBE intends to make art an integrated facet of architecture.

ARCHITECTURAL QUALITY IN BUILDINGS FOR EDUCATION AND RESEARCH

The Danish University and Property Agency under the Ministry of Science, Technology and Innovation takes care of building and property management for the majority of the country's universities and institutions of artistic education and, as of January 1, 2007, for the country's upper secondary schools on behalf of the Ministry of Education. The Danish University and Property Agency continues the remit of the Danish National Research and Education Buildings and the former Building Directorate that was established as an independent unit under the Ministry of Education in 1974.

Since 1974, the agency has been in charge of projects totalling some DKK 16 billion, including DKK 5-6 billion since 1993. The Danish

University and Property Agency currently controls some 3 million square metres.

Over the years, architectural quality has been retained either by leaving the projects with the Royal Building Inspectors or through architectural competitions. However, since the adoption of the EU Procurement Directive in 1993, architectural competition has been used. Several of the agency's building projects have been honoured both nationally and internationally for their architectural quality. This included three new buildings at the University of Southern Denmark and at the IT University at Ørestaden which received a European architectural award.

NEW ARCHITECTURAL POLICY IN THE PALACES AND PROPERTY AGENCY

The Palaces and Property Agency architectural policy is made public as part of the government's architectural policy. Among other goals, the policy is designed to unite good and functional contemporary architecture with the development and use of older architecture. At the same time, the policy is intended to create a contemporary and dignified setting for activities connected with the buildings. This includes the best possible accessibility.

Overall, good architecture has a positive significance for the market and utility value of a building. Value is added to the property portfolio if function and architecture correspond to customer needs, the building's character and life, and any preservation value.

In its architectural choices, the Agency intends to contribute to the development of the market for planning and construction. This applies to areas such as industrialisation and rationalisation of the construction process in architectural solutions as well as standardised office design. The Palaces and Property Agency aims to be a recognised and innovative partner in construction and, through collaboration and networking with the best private partners, aims to achieve optimal architectural results in concepts, processes and specific building projects. The architectural policy of the Palaces and Property Agency is reproduced in its entirety at the back of this publication.

REQUIREMENTS FOR GOVERNMENT DEVELOPERS

Overall, the public developers are the country's largest. When public developers place high demands on price and quality, they may generally act as catalysts for improved and less expensive construction in Denmark. In the spring of 2007, the Ministry of Economics and Business Affairs launched a construction policy action plan aimed at creating more quality for money and more competition in public and subsidised construction. Through a range of concrete initiatives, the public developers are pledged to strive to get higher value for money in building projects in the form of documented higher quality and/or lower costs. This will provide better government construction and hopefully draw both private construction and construction in the remaining public sector in the same direction.

ARCHITECTURAL QUALITY IN GOVERNMENT TURNKEY CONTRACTS

In government developments, the contractor often provides the architect's service. The government developer expects architectural quality in competitive bidding for turnkey contracts to be a

significant sub-criterion that is balanced against other sub-criteria such as price requirements, operating load and functionality. This helps to ensure suitable consideration for architectural quality in government projects.

DIALOGUE ABOUT THE DEVELOPMENT OF ARCHITECTURAL POLICY

In order to ensure continuous dynamic debate on architectural policy, the Danish Architecture Centre (DAC) is to host an annual conference on architectural policy themes. The conference will feature the themes that are assessed to involve the greatest challenges for architectural policy. At the same time, the conference will contribute new knowledge and inspiration on how to use and further develop architectural policy. In connection with the conference the DAC may launch initiatives, projects, reports and knowledge-gathering relating to architectural policy.

The DAC has a co-ordinating role for the parties in architecture and construction with a view to creating networks and partnerships in order to implement and develop the architectural policy.

The DAC is to submit an annual report to relevant ministries with a status on the architectural policy and any needs for revision or focus areas. The DAC will disseminate the results of the architectural policy among the involved ministries and agencies.

NEW TOOL FOR LOCAL ARCHITECTURAL POLICY

Local councils are facing new architectural and urban planning challenges as a result of the structural reform. At the same time, interest in architecture and urban planning in the population is strongly on the increase. As a consequence, the DAC has launched a new project in co-operation with the National Association of Local Authorities in Denmark, the Architects' Association of Denmark, Building Heritage of Denmark, and Plan 09. The project will be a service in relation to the existing municipal efforts with architectural policy and is to offer consulting in the development of new local architectural policies. The intention is to develop a template for local architectural policy. The template should be easily adapted to the specific requirements of the individual local authority and will be supported by a catalogue of good examples of local architectural policies, best practice and inspirational pilot projects. In addition, local, professional consulting will be available in connection with the preparation and implementation of the local architectural policy – for instance in connection with user and citizen participation. The initiative is intended to promote the development of independent architectural policies in the 98 new local councils in Denmark.

As part of this project, the Ministry of Culture will present an annual architectural prize to work that promotes architectural quality in local communities.

"THE SPORTS ARCHITECTURE AWARD"

Sports facilities can be seen everywhere in Denmark. Buildings and outdoor facilities put their mark on local communities and constitute the framework of our recreational activities.

In order to focus attention on the importance of the architect in building form and function, a newly instigated award will honour architects who have enriched the world of sport and its settings with high architectural quality. The award winners are selected by a panel of experts.

FLINTHOLM STATION
KHR arkitekter AS designed the stations of the elevated railway. They consist of a glass and steel structure resting between the station's two tracks. The result is a light construction that does not dominate the landscape.
Illustration: KHR arkitekter AS





02.

PROMOTING PRIVATE DEMAND FOR ARCHITECTURAL QUALITY

M2 DETACHED SINGLE-FAMILY HOME

The M2 construction company has gathered several of Denmark's best architects in an attempt to redesign the conventional detached single-family house. This is Delta House by the CEBRA architects.

Illustration: Cebra

CHALLENGES AND GOAL

DEMAND DETERMINES QUALITY

Ninety-two percent of the building stock is privately owned, and it is important that these projects have an architectural quality that matches the architectural quality of public buildings.

Owners of single-family detached houses, for instance, should have an understanding of the architectural quality of their houses when extending or refurbishing. Otherwise, architectural quality risks being lost in disfiguring refurbishment or misguided modernisation.

Although the architecture of private development is to a large extent regulated by district plans, the architectural quality of general private construction is determined by demand. This is true for both private citizens and private companies.

Accordingly, private demand for architectural quality is a vital prerequisite if the full potential of Danish architecture is to be realised. It is important in unfolding both the cultural and business potential.

In addition, the welfare and health of the Danes is closely linked to the quality of their homes. The private housing projects that are currently being produced have too many faults and deficiencies. Each year it costs billions of Danish kroner to fix these problems – funds

that could have been spent on higher quality. It is vital that the number of faults and deficiencies in private housing construction is reduced and quality is strengthened. Such improvement requires good and strong legislation, which protects private home buyers and satisfies the demand for high quality housing.

In the spring of 2007, the Ministry of Economic and Business Affairs presented an action plan for a construction policy with the purpose of ensuring private and public developers high quality construction at a reasonable price – also in comparison with other countries.

Legislation alone, however, is not sufficient to ensure quality and innovation in private construction at a reasonable price. Sufficient private demand for high quality, and competition among companies in supplying the necessary quality, is also required.

KNOWLEDGE AND DEBATE – A PRECONDITION

If demand for quality is to be strengthened, a precondition is that citizens and companies have a chance to acquire knowledge about architecture and take part in the architecture debate. The intention is not to agree on what good architecture is, but to make sure that

SKRÆDDERGÅRDEN (TAILOR FARM)

Renovation by Architect and Social Educator Hanne Birk. The special features of residential farm buildings are preserved.

Illustration: Hanne Birk



CITY WALK IN FREDERIKSBERG

Public guided walk to the Capital's newly erected architecture.

Illustration: Lina Ahnoff



the public can relate to – and place demands on – architecture. Debate and involvement further quality.

There should be both general and specific communication about Danish architecture and its qualities. General should be understood as the broad communication of projects, styles and visions. Specific should be understood as specialised communication and debate regarding professional challenges and issues.

In larger developments, it is often appropriate to involve neighbours and other stakeholders in a process of dialogue. Dialogue is helped along if the process is prepared in such a way that involvement takes place at an early stage.

In relation to the communication of architectural qualities in a city or an area, a special target group is Danish and foreign tourists. By itself, high architectural quality is an attraction, but interest in architecture is supported if the tourist can also get information on the ideas and thoughts behind the architecture, the historic period, the architect etc.

THE MAJORITY IS PRIVATELY OWNED

Ninety-two percent of the building stock is privately owned.

ARCHITECTURAL GUIDELINES FOR SINGLE-FAMILY DETACHED HOUSES

The city of Aalborg has focused on the idea that extensions and refurbishing in areas with single-family detached houses should be carried out with respect for the architectural style and the special values of the individual type of house. The city administration has prepared style sheets for the 12 most typical styles from the period around the 1880s and until this time. In a simple and inspirational way the style sheets explain the characteristics of the style. They provide suggestions for suitable materials, colours and extension options for an owner who wants to make alterations to his home.

In the neighbourhood of Hasseris, the style sheets are worked into the local plans to ensure a harmonious expression in larger areas with single-family homes. This effort was awarded the Danish Urban Planning Award for 2006.



THE GREEN EMERALD

Friis & Moltke's residential complex in Vejle adjusts both to the landscape and the surrounding urban environment.

Illustration: Friis & Moltke

INITIATIVES

The following initiatives contribute to promoting private demand for high architectural quality:

NATIONWIDE ARCHITECTURAL COMMUNICATION AND DEBATE

As a national centre for architecture it is the job of the Danish Architecture Centre (DAC) to broadly communicate the cultural and economic value of architecture to Danish society. This is done through a range of activities such as exhibitions, education service, guided tours, seminars and debate meetings aimed at the general public. Similarly, the DAC has developed a broad communication interface through its website activities.

As part of the architectural policy, the DAC plans to develop and strengthen the general communication of architecture and the public debate on architecture. A significant element will be the implementation of exhibitions and debate meetings at a more nationwide level than has previously been the case. As an example, the DAC will co-operate with the ARoS art museum in Århus in order that major international architecture exhibitions can be held in Jutland. Similarly, the DAC will co-operate with various local players to present relevant exhibitions and various debate events around

the country. This could be in connection with citizen involvement in important development projects, co-operation with regional educational services on local project activities as well as lectures.

The joint financing of the DAC by the Ministry of Economic and Business Affairs, the Ministry of Culture and Realdania has been raised by 100% from 2005-2007 with a view to meeting these objectives.

NEW DANISH ARCHITECTURE PORTAL

In the next few years, the web activities of the DAC will be developed so that www.dac.dk offers a real portal for Danish architecture. In addition to news, information and network activities, the architecture portal will offer a well-structured introduction and access to the many relevant websites on architecture, which are operated by public and private hosts. This will provide an overview and easy access to a great amount of exciting and inspiring knowledge about

COMMUNICATING ARCHITECTURE

Class at the Kid Builders exhibition at the Danish Architecture Centre, 2007.
Illustration: Mette Marie Kallehauge



THE DANISH ARCHITECTURE CENTRE

Located in Gammel Dok Pakhus (Old Dock Warehouse) in Copenhagen Harbour. The building is named after Denmark's first dry dock, which was built in 1739.
Illustration: DAC



architecture in general. The portal will also be fully implemented in an English version. The initiative is designed to help place architecture on the Danish cultural agenda.

THE FUTURE OF THE SINGLE-FAMILY DETACHED HOUSE

With many more than one million single-family detached houses in Denmark, this form of housing is a central part of the history of the development of the Danish residential landscape. But the single-family detached house is undoubtedly also a significant part of the future of Danish housing culture. New working and family patterns, for instance, create an evolution in our housing needs. Studies show that, in the years to come, the Danish single-family detached houses will go through a series of alterations and refurbishing in order to meet the need for new forms of housing in step with population development.

In co-operation with selected players in the housing sector – such as Bolius, the homeowners' knowledge centre – the DAC will initiate knowledge creation and dissemination about the potential of the single-family detached house as a valuable future life setting. The DAC, in co-operation with Bolius, wants to implement a national exhibition on the single-family detached house and a collection of examples or an inspirational catalogue with good examples on the future use of this popular form of housing. The initiative seeks to increase knowledge of the history and future of the single-family detached house and, accordingly, as a help to create qualified demand for good functional and aesthetic projects.

FOCUS ON QUALITY AND FUNCTION IN THE NEW BUILDING REGULATIONS

The new BR07 building regulations are changing the framework for construction in Denmark. The previous, highly detailed and technical requirements for new buildings are being replaced by requirements on the functions and qualities of the project. This enables greater flexibility and more innovation in the design of the individual building project without lowering the requirements for quality, safety and functionality.

There will be a few general performance requirements regarding daylight, artificial lighting and views from the inside to the exterior surroundings in both housing and public developments. The performance requirements are designed to ensure sufficient sunlight in the building so that it appears light, but at the same time it should be shielded against direct light in order to avoid excessive heating and other nuisances.

The 1995 and 1998 building regulations that apply to commercial and multi-storey buildings and small houses respectively will be collated in 2007 into the BR07 common regulations. BR07 will apply to multi-storey buildings, all types of commercial and institutional construction, all-year residences, summer houses, etc.

03.

ARCHITECTURAL QUALITY AND EFFICIENT CONSTRUCTION MUST GO HAND IN HAND

DIGITAL TOOLS

Both planning tools and construction methods have expanded the limits for potential shapes in architecture and construction.

Illustration: 3XN Architects

CHALLENGES AND GOALS

INNOVATION IN ARCHITECTURE AND CONSTRUCTION ARE INTERRELATED

Innovation in architecture and innovation in construction are closely interrelated. New construction methods allow challenging and creative architecture to be realised, and requests for new architecture help to develop the implementation of construction.

Innovation in materials and building processes has given architecture more creative latitude. The development in concrete alone has continuously provided architecture with new creative possibilities. Transparent concrete, for instance, gives architects brand new, visual choices.

Similarly, architecture has pushed the limits for proper construction. The creative unfolding of architecture, for example, requires constant flexibility, and innovative architectural planning tools help develop the potential. Innovation in 3D planning tools has enabled projects that would otherwise have been difficult to implement due to major geometric complexity.

NEED FOR A MORE EFFICIENT CONSTRUCTION SECTOR

In several aspects, the construction sector is characterised by too many faults and deficiencies and too low efficiency. A 2004 analysis from the Danish Building Research Institute estimated that 10% of the sector's production costs were spent on the repair of faults and deficiencies. In 2004, this corresponded to DKK 12 billion annually.

According to a 2005 analysis from the Technical University of Denmark (DTU), nearly two thirds of these faults could be ascribed to poor communication and poor teamwork. The communication problems are partly due to the complexity and uniqueness of most building projects, and partly to the fact that often the various companies in a building project have never worked together before. This places major requirements on the quality and organisation of communication and teamwork.

Architects should already be attentive to these challenges in the planning phase. By ensuring an open dialogue about the project basis, many faults and deficiencies can be prevented. Furthermore, they should focus on project feasibility in order to avoid a conflict between what is possible on the drawing board and at the building site.

POSSIBLE TO RELEASE RESOURCES FOR QUALITY

In 2004 the Danish Building Research Institute estimated that 10% of the sector's production costs are spent repairing faults and deficiencies. This corresponded to an annual DKK 12 billion. The majority of faults and deficiencies are found in renovation where 11% of the product costs are used for the repair of faults and deficiencies, while the corresponding percentage in new construction of social housing is only five percent. If the level of faults and deficiencies in the other segments of the construction sector were reduced to the level of the social housing sector, this would mean that more than DKK 6 billion could be released for other purposes such as higher architectural quality. The analysis found that 70% of the faults and deficiencies were detected and repaired before the building was handed over.

A "Snublestene i byggeriet" (Stumbling stones in construction) study carried out by the Technical University of Denmark (DTU), found that nearly two thirds of all faults and deficiencies could be ascribed to poor communication and co-operation. According to the DTU, other significant reasons were bad planning, lack of co-ordination and/or insufficient project review. According to a 2005 study from the Chalmers University of Technology in Sweden, "carelessness" – including poor communication and poor co-operation – accounts for cost increases of 30-35% in building projects.



COMMUNITY CENTRE IN JEMTELANDSGADE

With little funding, Dorte Mandrup Architects converted an old factory building into a centre for residents and culture with a library and youth club.

Illustration: Jens Lindhe

DIGITALISATION INCREASES EFFICIENCY AND POTENTIAL INNOVATION

As central knowledge and innovation drivers in construction, Danish architects have a natural and crucial co-responsibility to make sure that the general construction sector both creates buildings of a high architectural quality and ensures high productivity and technical quality in construction.

In particular, architects play a central role in relation to the digitalisation of the sector. This is essential for the development of a more productive sector. This is where new digital tools can help to improve co-operation between the various elements of construction and create a better flow of data between the various parties. The result would be a more innovative construction sector with fewer faults and deficiencies.

DENMARK AS A PIONEER IN DIGITAL CONSTRUCTION

The internationally acclaimed Canadian-American architect Frank Gehry works with one of the world's most advanced planning tools in the form of the 3D Digital Projects platform. Gehry's digital software is developed in co-operation with software producers from the aircraft industry. The software is now used by several world-famous architects as well as archaeologists and architects working with renovation of buildings across the world. The software enables users to design, manage and estimate the costs of a construction project in one overall communication interface that is accessible to all involved parties. One benefit is that the parties can test the various options of the project and erect a result in the virtual world and thus avoid faulty communication.

In this way the involved parties can jointly visualise the project before breaking the first ground.

With Digital Construction, Denmark is a pioneer in the development of new digital production forms in architecture. This is the reason why Frank Gehry and his development team wanted the exhibition and communication of their new 3D design platforms to have its world premiere in Denmark. In co-operation with the National Agency for Enterprise and Construction and other relevant players, the DAC has taken the opportunity to raise a discussion on directions and solutions that the Danish construction sector should choose as the foundation for the sector's further development.



UNIVERSITY LIBRARY IN ABERDEEN

Inside schmidt hammer lassen's building in Scotland, a cube-shaped showcase with rare books forms the ground floor reading room.

Illustration: schmidt hammer lassen

INITIATIVES

The following initiatives contribute to promoting synergy between architectural quality and increased efficiency in construction:

DEMANDS FOR PUBLIC DIGITAL CONSTRUCTION

From 2007 all government development in Denmark must be implemented as digital construction with all data exchanged electronically among the parties in the building process. Once information handling is digitalised from the invitation to tender to delivery, the prerequisites are present to create good communication between the various parties in the project, high quality, reduction in the number of faults and efficient construction.

The Ministry of Economic and Business Affairs construction policy action plan, which was presented in the spring of 2007, contains an initiative aimed at strengthening the use of digital construction by public developers. The initiative is also under discussion with regional and local authorities. The social housing sector has initiated a development project for digital construction which is expected to be implemented by early 2009. This may result in the initiative being included in the Consolidation Act on Social Housing etc.

INTERNATIONAL OPEN STANDARDS

The parties of the construction sector do not only operate on the Danish market. Architects, in particular, have many international projects. The Ministry of Economic and Business construction policy action plan suggests that Denmark should enter into an international agreement with leading public developers, including central government developers in the United States. The arrangement is aimed at reaching agreement on common requirements for the application of independent exchange formats in government construction. The agreement is designed to help promote the application of international exchange formats on the international market. Independent exchange formats will enable the parties in the sector (architects, engineers and contractors) to exchange data even though they do not necessarily use the same software, and will help to make sure that Danish architects and other construction companies use state-of-the-art software.

DISSEMINATION OF KNOWLEDGE ABOUT DIGITAL CONSTRUCTION

The DAC continually works to create debate and knowledge-sharing about the digitalisation of the construction sector for the benefit of both the private and the public sector. Digital construction is a special focus area in 2007, and two larger exhibition projects and several workshops and seminars about digital construction are planned in 2007.

The DAC has established co-operation with foreign competence clusters in the area. Exhibitions and seminars are to present "Digital projects" which is one of the world's most advanced 3D planning tools. The tool is software created by architect Frank Gehry's technology division. The exhibition shows that digital construction will fundamentally change and renew the production conditions of architecture – including co-operation between the parties in the construction sector.

DIGITAL CONSTRUCTION AS A FOCUS AREA IN ARCHITECTURAL STUDIES

Digital construction will be designated a focus area at the schools of architecture. New educational initiatives will be established, including continuing education, specifically aimed at the growing need of Danish architects for digital competences in the future.

Through research and education, the schools of architecture have played a central role in the implementation of the newest digital tools in the profession. This is about visualisation and communication and, in recent years, with growing emphasis on the work with "intelligent electronic building models".

The education of architects must constantly adjust to labour market demand. That is why research and education must systematically equip graduates who want to work in the construction sector with the most recent knowledge and competence in 3D digital modelling and planning.

THE NEW PLAYHOUSE THEATRE AT COPENHAGEN HARBOUR

Lundgaard & Tranberg's structure is covered by copper, glass and solar cells and opens onto the waterfront opposite the Opera House on the other bank.

Illustration: Lundgaard & Tranberg



NEW OBLIGATION TO FOCUS ON WHOLE-LIFE COSTING

The Ministry of Economic and Business construction policy action plan suggests that, on a trial basis, government developers should be obliged to involve the annual operating load as a sub-criterion in invitations to tender of a certain size. This would mean that government developers and their suppliers have to consider whole-life costing and co-operation throughout the construction process.

KNOWLEDGE PILOTS IN THE CONSTRUCTION MATERIAL INDUSTRY

An active effort must be launched to make the construction material industry employ more architects, who can further innovation and the development of new quality products in companies.

The Ministry of Science, Technology and Innovation has launched an initiative termed Regional Knowledge Pilots. The initiative offers small and medium-sized companies a financial contribution for the employment of a highly qualified professional. The programme is also directed at qualified architects, architectural firms and the construction material industry. A part of the initiative is a focused information effort aimed at the construction sector. The programme is implemented as co-operation between the relevant organisations and institutions.



04.

INNOVATIVE ARCHITECTURE MUST CREATE HEALTHY, ACCESSIBLE AND SUSTAINABLE BUILDINGS

CHALLENGES AND GOALS

GOOD ARCHITECTURE – HEALTHY BUILDINGS

High quality architecture also focuses on aspects that are not immediately visible. Architectural quality comprises aspects of health, accessibility and sustainability.

Even though solutions may appear exciting and aesthetic, they should not be chosen if they are at the expense of health. A healthy indoor climate is created by choosing the right materials and constructions in order to avoid problems such as draught, unpleasant evaporation, damp and mould.

Unhealthy buildings result in major costs for society. Quality of life is reduced for users, and major expense is involved in renovating buildings. Many people fall sick as a result of unhealthy buildings, and this is expensive in the form of treatment and lost income. There are many reasons why architects have a major responsibility for ensuring health in architecture.

ACCESSIBILITY SHOULD BE PART OF THE DESIGN

Good architecture is about accessibility for all. It is vital for our welfare state that everyone can use and move around the building environment without outside assistance. This applies to the disabled, elderly and mobility-impaired as well as to parents with prams.

If accessibility is part of the original building design, this will typically provide the best and most impressive solutions for the project as a whole – in many cases without additional costs.

SUSTAINABLE CONSTRUCTION IS A NECESSITY

Both construction and completed buildings result in comprehensive environmental impacts. Energy consumption in buildings alone accounts for about 40% of Denmark's total energy consumption. Construction also consumes large amounts of natural resources and produces large amounts of waste – although in Denmark much of the waste is recycled. The production of construction materials also involves a wide range of chemicals that can impact both the environment and people.

Energy has become a central political theme in several industrialised countries. The debate is about the risk of greenhouse effect, the wish to improve supply security and the need to create a competitive energy production. As a result, it is vital for both environment and general wealth that the construction sector becomes sustainable.

SWAN-LABELLED CONSTRUCTION

The low energy detached single-family house of the future, designed by Valbæk Brørup Architects, has annual water, heating and electricity consumption of only DKK 5,000.

Illustration: Valbæk Brørup Architects

THE KITCHEN OF THE FUTURE

Designed by 3PART for the physically disabled and their relatives.

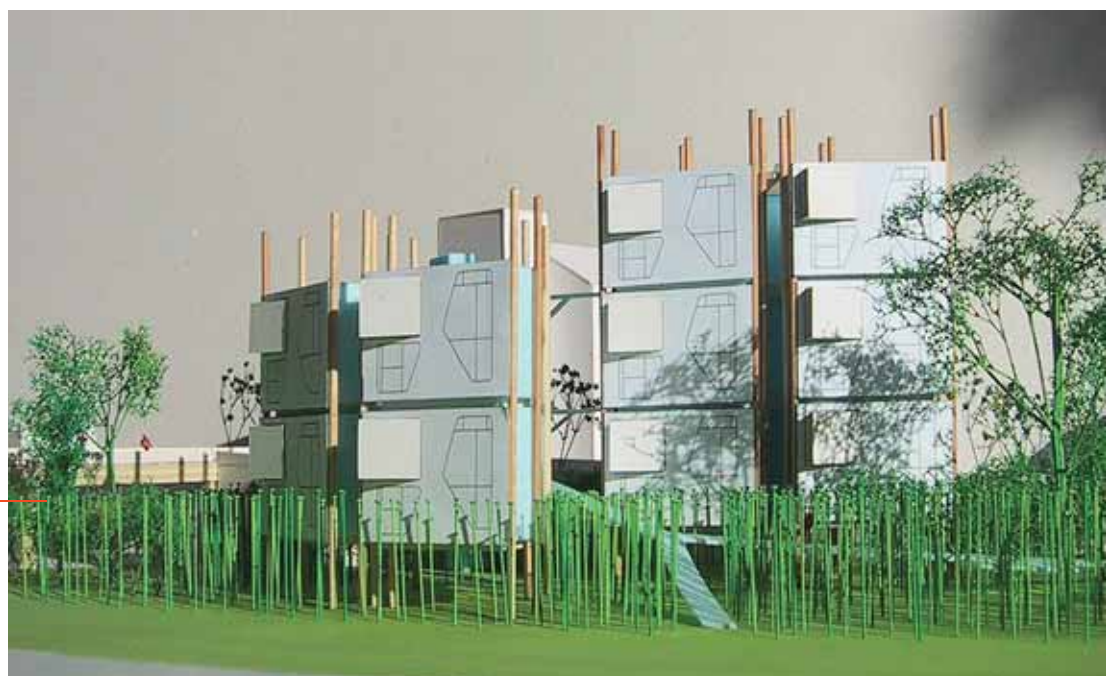
Illustration: Pressalit Care



BOASE

The housing project, designed by FORCE4, is focused on the use of contaminated building lots. The houses are elevated on poles and built in light, transparent materials. In this way they add light and air to the soil and flora.

Illustration: FORCE4



ENERGY CONSUMPTION MUST COME DOWN

The architecture of buildings is very important for their energy consumption. Through architecture we need to focus on the development of the low energy buildings of the future and good architectural solutions for the renovation of existing buildings. Existing buildings account for the lion's share of energy consumption. It is therefore important that the need for investment and research in this field is not overlooked.

Requirements on energy consumption in buildings are being continuously tightened, partly as a result of EU initiatives. Denmark is already out front. The new Danish energy regulations, for instance, are based on the principles of an EU directive and contain tough requirements that may give Danish architects and construction companies a competitive advantage on the international market.

Denmark should also be good at gathering inspiration from other European countries such as Germany, which has carried out major investment in the development of low energy constructions. In many ways, the experiences that Germany and other pioneering European countries have made can be transferred to the Danish construction and architectural scene.

Through Agenda 21 for example, the Danish Planning Act makes the way for efforts towards sustainable development. This may take place through local planning and considers issues such as the orientation of houses in relation to the sun and housing design, including the choice of materials. Architecture is an important element both in the inventive thinking of the design of the energy-efficient buildings of the future and in the integration of new technologies in the design, construction and organisation of the house.

INITIATIVES

The following initiatives contribute to promoting architecture with a focus on healthy, accessible and sustainable buildings:

NEW REQUIREMENTS TO REDUCE DAMP IN BUILDINGS

In 2007, the National Agency for Enterprise and Construction has issued the new BR07 building regulations. The new rules include requirements that the maximum humidity in building constructions and materials must be determined in the construction description. By reducing the humidity in materials and constructions, it is possible to avoid some of the nuisances connected with damp including mould and reduced durability.

NEW COLLECTION OF EXAMPLES AND RESEARCH PROJECTS ON ACCESSIBILITY

It is an architectural duty to provide access for the mobility impaired so that they can participate in the life of society on an equal footing with others. That is why accessibility should be part of general architectural practice.

The Danish Architecture Centre (DAC) focuses on access by preparing a collection of examples of good, functional and aesthetic solutions in order to bring accessibility into the architecture debate. The collection is targeted at architects, students of architecture and developers.

In order to further contribute to the capacity building and development of new knowledge on accessibility in future architecture, and to motivate students of architecture to concentrate on the subject, two new Ph.D. chairs focusing on architecture and accessibility will be advertised.

The Danish Foundation for Culture and Sport Facilities has accessibility in sports, cultural and recreational buildings as a focus area. The Foundation is continuously developing relevant requirements.

FUND FOR BETTER ACCESS IN EXISTING BUILDINGS

Accessibility in new buildings is provided through the accessibility rules of the building regulations. But looking at the existing building stock, access could be improved considerably in many places.

The political parties behind the 2007 agreement on earmarked funds have allocated DKK 30 million to an accessibility fund over a two-year period: DKK 20 million in 2007 and DKK 10 million in 2008. The accessibility fund is to be used for the co-financing of access improvements in existing public buildings with a service function directed at citizens.



TOUGHER ENERGY REQUIREMENTS FOR BUILDINGS

It is the government's goal that energy requirements in new buildings should be strengthened by a further 25-30% in 2010, with tightening continuing in 2015. As a consequence there is a need to develop better components and solutions that can significantly reduce the extra costs of low energy construction and energy-efficient renovations. In addition to reducing energy consumption, the effort is to focus on indoor climate.

With a view to reducing energy consumption in existing buildings, the energy provisions of the new building regulations include demands for energy improvements in larger renovations, roof replacement, windows on a facade, boilers etc. At the same time, the regulations introduce improved energy labelling for buildings and inspection schemes for boilers and ventilation systems.

The energy labels and inspections are to provide house owners with information on the energy standard of the building and possibilities for improvement. This knowledge can immediately be used by owners and, at the same time, by energy providers in connection with the implementation of their energy-saving obligations.

THE ARCHITECTURAL PROFESSION PLAYS AN ACTIVE ROLE

The architectural profession both can and must contribute to the future development of the energy area. The Bolig+ project is about developing a housing unit that produces the same amount of energy that is used when the light or the hot water tap is turned on. The intention is to launch the development project through an international project competition in 2007.

The project was initiated by the Architects' Association of Denmark and the Danish Society of Engineers, and has been developed in

ENERGY CONSUMPTION ON THE DECREASE

In 100 years, the energy requirement for heating a house has dropped from about 1,000 kWh/m² annually to an average consumption in the existing building stock of 140 kWh/m² per year. It is realistic that this is further halved in the next decade. A step on the way towards lower energy consumption in new buildings is the tightening of the energy

provisions by 25-30% in the building regulations that took effect in 2006. The new requirements are framework provisions that include all energy supplied for heating, cooling, hot water and ventilation. The framework for residential buildings is typically 80-90 kWh/m² depending on the size of the building.

ECO-HOUSE 99

The organic housing development, designed by the architectural firm Tegnestuen Vandkunsten, investigates the possibilities for energy savings through zone-divided interiors.

Illustration: Tegnestuen Vandkunsten

UTTERSLEV SCHOOL

The school was designed by KHR arkitekter AS with focus on new standards for flexibility, interior climate and sustainability. In 2006 it was the first new school in Copenhagen for more than 25 years.

Illustration: KHR arkitekter AS



co-operation with the Ecological Council, the Danish Association of Construction Clients, the Danish Construction Association, the Danish Technological Institute, the Danish Building Research Institute, the Danish Mechanical and Electrical Contractors' Association (Tekniq), the Building Materials Industry and others. The project is also supported by The Danish Electricity Saving Trust.

NEW POSSIBILITY TO FOCUS ON LOW ENERGY IN LOCAL PLANNING

The Minister for the Environment has presented a draft bill for an amendment to the Planning Act with focus on urban politics and low energy developments. The proposal enables local authorities to establish local planning provisions requiring new developments in an area to be erected as low energy buildings according to the definitions of the building regulations.

This is done by extending the act's current catalogue of issues that can be comprised by provisions in a local plan. The council can establish rules for the design of the development beforehand. This gives local authorities the option to combine low energy provisions with requirements on the architecture.

SWAN-LABELLED BUILDINGS

The Nordic Swan eco-label applied to buildings is an obvious way of meeting this challenge. A Swan-labelled house has limited impact on the environment, high quality and a sound indoor climate. Architecture and design are significant factors in the development of the swan-labelled house. Innovative solutions that are both aesthetic and functional can be developed through architecture. Eco-labelling Denmark in the Ministry of the Environment have

had a co-operation with "Fremtidens parcelhuse" (The single-family detached houses of the future) in the city of Køge. The project showed that it is possible to build an environmentally sound house of major architectural quality. At present, 18 companies can supply Swan-labelled houses and more are on their way. Altogether, 76 Swan-labelled homes have been planned in Køge. For a developer, a requirement for Swan-labelled houses is a convenient way of making environmental demands on new buildings since Eco-labelling Denmark monitors whether the requirements are met.

In Køge, the houses will meet the requirements of low energy class 2 which is 25% better than the standard energy requirements for newly-built houses. Some of the houses have solar cells or solar panels installed in order to meet the energy requirement. Many have also chosen to use eco-labelled paint and many have spent time finding less harmful construction products than they normally use.

HEATING FOR DKK 2,000 ANNUALLY

In Denmark, a small development – Rønnebækshave in Næstved – meets the requirements of low energy class 1. Another example of low energy houses is a 223 m² single-family detached house in Seest, erected in 2005 at DKK 11,000 per square metre which is at a par with other new residential construction. The home is heated by thermal heating with an annual heating bill of about DKK 2,000.

05.

GREATER ARCHITECTURAL QUALITY IN SUBSIDISED HOUSING

THE BLUE HOUSE

Friis & Moltke's development and demonstration project in Aalborg has tested new methods for future city renewal involving water saving and recycling.

Illustration: Friis & Moltke

CHALLENGES AND GOALS

SUBSIDISED HOUSING WITH A SOCIAL PERSPECTIVE

Over the years, subsidised housing – construction of social housing and renovation through urban renewal – has been significant in Denmark. The purpose of subsidised housing has primarily been to provide a sufficient number of modern and functional dwellings. The subsidies have only been linked to specific requirements on architectural design to a certain extent.

The housing and urban policy is designed to support social coherence, welfare and growth in society and ensure well-functioning cities and urban areas so that they are attractive to live and work in. The architectural element has not had similar weight, but the Consolidation Act on Social Housing etc and the Act on Urban Renewal and Urban Development contain provisions on necessary architectural considerations in new buildings as well as renovation.

Focus on the subsidised housing policy is designed to enhance the qualities of existing urban areas and the quality of new construction.

URBAN RENEWAL IN FIGURES

- Forty area renewal projects were initiated throughout the country 2004-2006.
- The 2007 budget has allocated DKK 250 million for urban renewal including DKK 50 million for area renewal.
- In 2004 a special fund of DKK 100 million was earmarked for a targeted trial project involving urban renewal of problem areas in larger cities. The project will run from 2004-2011.
- Each year trial and development projects are initiated with support from urban renewal funds. For 2006, an amount of DKK 10 million was set aside for this purpose.

ARCHITECTURE CARRIES GREATER WEIGHT

Social housing has gone through a major development over the years. The 1960s, '70s and '80s saw comprehensive construction with an often uniform and architecturally inferior design. In the last ten to fifteen years the projects have become more focused and individual. Quality, architecture and variation carry more weight.

Government subsidised urban renewal has gone through a development from large-scale slum clearance of poorly maintained multi-storey housing blocks to a preserving urban renewal policy that was developed in the 1980s and '90s. Nowadays, building

THE WOOL-SPINNING MILL IN THISTED

As part of an urban renewal effort, Thisted Council chose to thin out the densely-built yards of a former wool-spinning mill and erect youth dwellings and independent dwellings for the elderly and disabled in the existing commercial property. The preserved parts of the buildings were thoroughly restored and the architectural expression retained and strengthened. Since the area is close to the city's shopping district, the elderly and disabled citizens were integrated into city life – and at the same time Thisted avoided depopulation of its inner city.



YOUTH RECREATIONAL AREA

The socially deprived Vollsmose housing area is given new life in the form of multi-sport area, “girl’s room” and climbing wall. The recreational area was built by the LAND+ architects in co-operation with young people in the neighbourhood.

Illustration: LAND+

renewals ensure restoration and upgrading of privately owned and owner-partnership homes as well as rented dwellings built before 1950, while area renewals aim to initiate a positive development in urban areas with social problems. The subsidies can be used to renew streets, roads and squares and initiate social and cultural activities.

In the existing housing stock, there is a close connection between urban renewal and planning laws. According to legislation, local councils may place certain requirements on architecture as a condition for support. Higher subsidies are also given to buildings that are worthy of preservation and also to protected buildings in order to preserve architectural heritage and the original expressions of the properties.

URBAN QUARTERS ATTRACTIVE

In towns and cities alike, attractive quarters contribute to economic development and prevent stagnation. An attractive urban environment is of major importance when people choose a place to live. It is also vital when innovative companies select a location for their domicile.

For this reason it is important for individual local councils to exert influence on the design of the townscape, architecture and common urban spaces in order to create the greatest possible interaction between local forces and private investors – and thus achieve the largest possible effect of public subsidies.

Overall, individual public authorities and developers or owners are responsible for leaving their mark on the design of the townscape, architecture and the common urban spaces.

VEJLEPARKEN
DOMUS architects has partnered with various artists to create new architectural quality in a housing area in Ishøj. The renovation work is one of the largest of its kind in Denmark.
Illustration: DOMUS





THE PRISM

Recreational and cultural centre designed by Dorte Mandrup Architects in one of Copenhagen's deprived areas. The centre is suspended between existing buildings and the design idea is a green indoor landscape.

Illustration: Torben Eskerod

CITY RENEWAL

Renewing Søndre Boulevard

The development of a recreational space with room for people and sports activities through speed limits for cars and an extension of the central reservation.

Illustration: SLA



CITY RENEWAL

General objectives for city renewal, as here at Vesterbro in Copenhagen, have included the reorganisation and improvement of both traffic and cultural and social conditions. This is SLA's renovation of Søndre Boulevard in Copenhagen.

Illustration: SLA

INITIATIVES

The following initiatives contribute to promoting architectural quality in subsidised housing:

FUNDING FOR TRIAL AND DEVELOPMENT PROJECTS

It is essential to continuously ensure and enhance the quality, efficiency and productivity of the subsidised renewal of our cities and houses. In relation to the Danish Urban Renewal Act, funds have been allocated to so-called trial and development projects. Each year, the Ministry of Social Affairs initiates new projects dealing with topical issues of a political or technical nature. This could be the optimisation of renovation processes to ensure aesthetic, technical, functional and architectural initiatives; contemporary adaptation of user needs in connection with accessibility; energy

renovations and improvements to the indoor climate, as well as citizen participation and attachment strategies.

The funds are also used for information about urban renewal to various target groups. Through the focused development effort, the Ministry of Social Affairs contributes to increasing the social, architectural and visual qualities of the urban areas and the Ministry contributes to creating discussion and knowledge about the development of the country's urban areas and houses.

INTERNATIONAL EXPERIENCE TO DENMARK

Innovative thinking and experience-gathering must be strengthened in order to consolidate the architectural effort in vulnerable residential areas. One initiative is a project concerning 'the architecture of the residential area – on spatial efforts in deprived residential areas'. On the basis of experiences from abroad, the project is designed to initiate debate and innovative thinking on physical initiatives in vulnerable housing areas in Denmark.

The project has been created by the Architects' Association of Denmark (AA) and is implemented by AA in co-operation with the ministries of Social Affairs and Refugees, Immigration and Integration, and Realdania. The project is intended to provide decision-makers and government officials with new perspectives and ideas in order to reverse the development of mono-functional and isolated housing areas.

SOCIAL HOUSING IN FIGURES

- An annual amount of DKK 2.4 billion is earmarked until 2012 for renovation and the upgrade of social housing – including architectural elements.
- At least DKK 150 million of the DKK 2.4 billion is to be used to improve access to the dwellings.
- From 2007-2010, DKK 20 million will be allocated for innovation in social housing sector.



SUCCESSFUL URBAN RENEWAL AT HALMTORVET

For a decade, urban renewal of the inner part of the Vesterbro area in Copenhagen was the largest urban renewal project in Denmark. In addition to conventional block renewal, the city emphasised neighbourhood-oriented initiatives such as the conversion of the meat market “Den Brune Kødbj” for cultural and recreational purposes and the transformation of Halmthorvet into a new urban space. Vesterbro was originally developed as a classic working class area and involved all the obvious challenges of urban renewal before the renewal work started.

Encircled by newly renovated buildings and attractive new infill buildings, Halmthorvet now appears as a successful architectural statement in a renewed Vesterbro.

STRONG HISTORIC IDENTITY IN NYBORG

Nyborg was one of the first smaller cities in the country to implement urban renewal on a larger scale and over a longer sequence of years. Urban renewal funds were spread across the entire city centre in order to help the most needy buildings and areas. The scattered urban renewal has had a spill-over effect and privately financed upgrading is currently taking place on a major scale. Through the urban renewal, the centre of Nyborg has maintained its strong historic identity and has a great number of protected houses and buildings worthy of preservation. In the area around Skippergade, traditional upgrading is supplemented by improvements to the open areas in the form of a comprehensive system of paths which are connected to other blocks in the city centre.

The project is also intended to strengthen the knowledge and competences of architects and urban planners in the holistic, interdisciplinary and process-oriented approach to spatial improvements, changes and new building in vulnerable areas. The project will be initiated as research on foreign experiences with holistic spatial efforts. Debate meetings and a publication are to inspire innovative thoughts about the development of attractive neighbourhoods with mixed uses – neighbourhoods that appeal to a diverse population, provide space for different activities and have good connections with surrounding urban areas.

MORE EDUCATION IN URBAN RENEWAL

The schools of architecture will offer their students qualifications in modern and innovative urban renewal. The School of Architecture in Aarhus is to establish a special graduate course.

The course is to give the students expertise in building damage, citizen participation and local attachment as well as knowledge about special crafts and technical solutions in relation to the older building stock. The project is supported by the Ministry of Social Affairs.

06.

HIGH PRIORITY ON ARCHITECTURAL QUALITY IN PLANNING

THE FINGER PLAN

Denmark's first urban development plan from 1947, designed by Steen Eiler Rasmussen and Peter Bredsdorff, had major influence on the development of the metropolitan region. The plan has governed and ensured urban growth, industry, transport corridors, water supply and the environment.

Illustration: Dansk Byplanlaboratorium

CHALLENGES AND GOALS

PLANNING CREATES THE SETTING

Planning is architecture on a large scale. This is where the premises for landscapes and townscapes are designed and created, and this is where the settings for public and private buildings and recreational areas are defined. This means that the planning framework is a natural and decisive condition for the architectural quality that citizens experience in their everyday life.

Good planning is about people. People have to live and work in surroundings and buildings created on the basis of planning. Planning is designed to create coherence and context so that architecture does not unfold in a void. High architectural quality has poor conditions if planning does not define the function of a new area and the interaction between city, nature and infrastructure.

The new municipal structure has placed further focus on the role of planning. The structural reform has meant a new division of labour in planning between local authorities, the new regions and the state. The local authorities can use the planning instruments to create coherence and a new structure for the development of their area. This means the development of urban areas, the use of open land and the relationship between urban and rural areas.

STRENGTHENED DIALOGUE ABOUT PLANNING

The National Planning Report for 2006 is the government's vision for Denmark's spatial development. To a large degree, the realisation of this vision is dependent on dialogue and the new co-operation between local authorities, regions and the government.

The National Planning Report presents five indicators for spatial planning across the country. They are general, political signals designed to form a common model for physical planning in Denmark. The indicators say, among other things, that there must be a difference between built-up and rural areas. This means that the architectural quality of the marked boundary where the city meets the open land must be maintained, as in Ribe's border towards the marsh. The indicators also suggest that planning must be based on a respect for the identity of cities, nature, the environment and landscape.

Some local councils work with architectural policy and design manuals as tools to promote the quality of local architecture. There are various experiences with the use of these tools, but not a great deal of experience exchange or evaluation.

AMAGER STRANDPARK

The entire Amager Strand coastline is preserved as a beach and recreational area. It was implemented as a result of a proposal by a group of local people. Designed by Haslov & Kjærsgaard Architects.

Illustration: Katharina Havig Solnørdal



This means that dialogue should be strengthened on using planning as a tool to secure quality in the built-up environment and in our landscapes. The planning tool exists and local councils use it, but how efficiently it is used remains an issue.

CLEAR SIGNAL TO LOCAL AND REGIONAL AUTHORITIES

Planning should create coherence and context so that architecture does not unfold in a void. Superior architectural quality has poor conditions if planning does not define the function of a new area and the interaction between city, nature and infrastructure.

With the adoption of Finger Plan 07, the government has sent a clear signal to local and regional authorities to use urban planning to establish proper settings for sustainable development.

Finger Plan 07 defines the framework of architecture, landscape, recreational areas and infrastructure in the Greater Copenhagen area. The “canonisation” of the original 1947 Finger Plan is a recognition that urban planning can create an urban structure – architecture which is both visionary and of superior quality.



INITIATIVES

The following initiatives contribute to promoting architectural quality in planning.

NEW PARTNERSHIP IN PLANNING

With the partnership project Plan09, Realdania and the Ministry of the Environment represented by the Danish Forest and Nature Agency, are targeting innovation in planning processes and solutions in the new municipalities following the municipal reform. Plan09 is a three-year project that will be implemented in the period 2006-2009 with a total resource allocation of DKK 50 million.

The vision is to develop a planning culture that is focused on valuable urban environments and developments as well as attractive landscapes as the setting for “a good life”. The planning will be based on political ownership and commitment and be characterised by professional and innovative planning environments.

The planning culture will be developed through local model projects with focus on innovation in planning strategies and municipal planning and through networks, knowledge sharing and debate. The total resource allocation is at DKK 50 million. Realdania is to finance 50% and the Ministry of the Environment represented by the Danish Forest and Nature Agency, and the local authorities are to finance 25% each. A project secretariat has been established at the Danish Forest and Nature Agency.

The model projects are designed to create new knowledge or experiences and have a demonstration or communication value in relation to the new challenges for local authorities.

CONSULTING ON PORTS AND NEW NEIGHBOURHOODS

It is vital for life in the cities of the future that the opportunity for physical activity in the local community is given high planning priority. It is also important to grasp the opportunity adapt recreational and other cultural activities in former industrial buildings and areas with a view to revitalising existing neighbourhood areas. At the same time, the dwindling importance of the original industrial uses of many ports and harbours open up the possibility of creating new urban areas – often close to the city centre – where the proximity to water and large spatial areas are challenged by the cultural and recreational dimension in urban planning. Against this backdrop and for those local authorities who are either planning brand new urban quarters or the establishment of urban quarters in ports or other industrial areas, the Danish Foundation for Culture and Sport Facilities has designated consultancy for local authorities as a future focus area.

THE ROADS AND URBAN STRUCTURES OF THE FUTURE

Planning for roads of the future should consider current and future requirements. To cater for this requirement, the Danish Road Directorate has initiated a research project entitled the City, the Road and the Landscape, with a financial contribution from



SLOTSBRYGGEN AT NYKØBING FALSTER

The general plan for the new urban quarter at the harbour is designed by Holscher Architects and includes social housing, luxury flats, promenades and berths for yachts in the canals.

Illustration: Holscher Architects

Realдания. The objective of the project is to analyse the urban and landscape development resulting from the major investment in motorway construction in Denmark since the 1960s into perspective.

In the National Planning Report 2006, the city region in eastern Jutland is mentioned as a new functional metropolis in Denmark. The cities along the transport corridor of eastern Jutland are increasingly growing together, and urban development tends to grow along the motorway rather than in a more conventional way such as the one found in a classic city with balanced development. The government has initiated a dialogue project, and through this the ministries of the Environment and Transport and Energy as well as the respective local and regional authorities are discussing the future development of the urban region.

Using the Finger Plan for Greater Copenhagen as a model, the project aims at studying whether new structures exist for such urban development. This could mean that a city region with a clear urban structure, a clear infrastructure and successful interaction with the surrounding landscape could be created within a period of 20-30 years.



GENERAL PLAN FOR ØRESTAD

The three areas at Ørestad are characterised by high, dense urban developments in contrast to the flat common that is occasionally drawn into the urban spaces. The master plan was designed by AARKI

Illustration: AARKI

NEW GUIDELINES FOR LANDSCAPE PLANNING

The Ministry of the Environment is to publish new guidelines for the landscape in municipal planning. The publication describes a new method – the landscape grading method – which gives local authorities new tools with which to consider landscape interests in municipal planning.

At the same time, the local authorities will have an opportunity to build up landscape competence in their administration. Similarly, the interaction between the National Cultural Heritage Agency and the Ministry of the Environment will be co-ordinated. The idea is to ensure that in their planning, local authorities place enough emphasis on valuable urban environments and cultural environments in the open country.

WIND TURBINES AS LANDMARKS

In March 2007, the government approved the report submitted by the Committee on Land-based Wind Energy Planning. The report indicates how to establish large wind turbines in the future and how this will affect the Danish landscape. The report will be included in the government's long-term energy initiative which involves more focus on renewable energy.

The report states that a balance must be found between landscape concerns and climate policy/supply considerations. This balance should be based on a model that suggests that wind turbines should be concentrated in the areas of the country that are best suited for large wind turbines.

Wind turbines add a modern, technical landscape element to the countryside that changes the visual understanding of the terrain through their appearance and relation to the surroundings. For this reason it is vital that turbine design and the structure of their location patterns are thought into the landscape architecture. This is particularly important when several turbines are established together.

As part of this work, an architectural competition will be initiated with a view to illustrating how groups of large wind turbines can be established and be part of the designated landscapes. The idea is to show how they can contribute to creating national landmarks and at the same underline features in the landscape, tell a story and be a local attraction.

07.

ARCHITECTURAL HERITAGE MUST BE MAINTAINED AND DEVELOPED

OUR LADY'S CHURCH

Copenhagen's classicist cathedral was designed by C.F. Hansen and decorated by the sculptor Bertel Thorvaldsen. In 1979, the church was restored by the architect Vilhelm Wohlert and returned to its original appearance.

Illustration: Denmark's Art Library

CHALLENGES AND GOALS

BUILDINGS WITH CULTURAL HERITAGE

Danish architecture has a history of more than 1,000 years. All over the country, interesting buildings and structures maintain elements of the Danish heritage, telling the story of a certain period or a certain tradition.

In some periods, Danish architecture has had the status of an international pioneer. In other periods, the national heritage has placed itself in the wake of leading foreign styles. The architecture, however, has always appeared as a significant, tangible indicator of the country's cultural and economic development.

Eighty percent of the building work in Denmark in coming years will be conversions or extensions of existing buildings. For this reason, it is natural that the government's heritage policy is an important element in architectural policy and vice versa.

NEED FOR KNOWLEDGE ON THE HISTORY OF BUILDINGS

Focus on preserving architectural heritage is essential for architectural quality. The many conversions and extensions constitute a risk that architectural heritage loses its original architectural expression and thereby its value as a witness to cultural and architectural history. In addition, buildings – with or without historic value – deteriorate if they are not regularly maintained.

In order to contribute to the development of the debate on Danish architecture and cultural heritage, the National Cultural Heritage Agency hosts an annual seminar for professionals in co-operation with the schools of architecture.



KINGOHUSENE

This residential development by Jørn Utzon was built from different modules enabling the developers to compose a variety of structures.

Illustration: Andreas Trier Mørch

RESTORATION OF KOLDINGHUS

The precondition for architect Johannes Exner's highly successful restoration of Koldinghus was his ability to read the history of the ruin throughout the building's life and, against this backdrop, restore the ruin as a new building of superior architectural quality. Johannes Exner's work on Koldinghus took place between 1972 and 1992.

300,000 BUILDINGS WORTH PRESERVING

Denmark has about 300,000 buildings worthy of preservation. Of these, about 9,000 are listed buildings with architectural or historic value of international and national significance. They are under the remit of the National Cultural Heritage Agency. The remaining many thousands of buildings of regional or local preservation significance are the responsibility of the local authorities.

The 9,000 listed buildings distributed across 3,500 properties are the result of the work of the protection authorities since the first law on building protection was adopted in 1918.

KOLDINGHUS

Illustration: Friis Fotografi

According to the National Cultural Heritage Agency, the many applications for conversions and extensions of listed buildings reflect the fact that many architects currently lack the necessary knowledge to be able to read the history of a building.

DISTINCTION BETWEEN MODERNISATION AND RESTORATION

The architectural qualities of our old buildings must be protected at the same time as we provide space for new qualities and meet new needs. It is necessary to distinguish between the need for modernisation and restoration in caring for our cultural heritage.

It is therefore a good idea to strengthen architectural studies in restoration and the analysis of existing architecture. It is also important to strengthen basic knowledge by developing a national archive for architecture with literature, photos, models and drawings.



INITIATIVES

The following initiatives contribute to promoting the maintenance and development of architectural quality in our cultural heritage.

NEW FUNDS FOR THE RESTORATION OF MANOR HOUSES

The manor houses contain major architectural and historical values, and their maintenance and restoration is a large and expensive task. For the next four years, DKK 6 million has been earmarked each year for manor house restoration. In addition to existing support, the new fund will help to place further focus on the cultural heritage of manors.

REVIEW OF BUILDING PRESERVATION

The Minister for Cultural Affairs has established a committee for the review of the culture of building preservation in Denmark. The task of the committee is to throw light on the issues of listed buildings and buildings that are worth preserving, with due consideration to a variety of issues such as social and technical aspects, administration, communication, citizens and the future.

In particular it seems that there is a potential in making an extra effort to support the new local authorities in their efforts to preserve cultural building heritage. The committee will also study the possibility of making the administration of listed buildings more flexible as well as clarifying the qualities that make them worth protecting to owners of listed buildings.

ATLAS FOR MUNICIPAL CULTURAL HERITAGE

So far, the government has been in charge of the country's listed buildings, but as of the new Planning Act in 2007, local authorities are the main caretakers of the general cultural heritage in Denmark. The job of securing buildings worthy of preservation, as well as significant quarters and urban environments, rests with the local councils.

DANES APPRECIATE THEIR CULTURAL HERITAGE

Danes are happy to live and move about in cultural heritage environments. In 2005, the National Cultural Heritage Agency and the Realdania Foundation carried out a survey on population and business attitudes to cultural heritage. The findings indicate that cultural heritage should be a resource in municipal planning. The survey shows, for example, that 82% would like a home with a cultural heritage value and 46% believe that cultural heritage has major importance in the choice of a place to live.

Correspondingly, it appears that cultural heritage also plays a role in relation to commercial and industrial development: 55% of businesses believe that cultural heritage helps to create a good environment for the company, 53% would like a building with cultural heritage significance, and 28% indicate that cultural heritage has major importance for the location of their business.

In order to support local work and public knowledge of the preservation complex, the National Cultural Heritage Agency has published 78 atlases of significant architecture and environments in local areas and cultural environments in Denmark since 1990. In 2005, the National Cultural Heritage Agency has further developed the older atlases to become more general cultural heritage atlases with buildings, cities and elements of harmony in the cultural landscape. The reason is the growing attention to the fact that cultural heritage does not only comprise the individual building, but the complex of many different elements.

NEW PROJECT WITH "CULTURAL HERITAGE COUNCILS"

Cultural heritage may play a decisive role in local work with architectural quality and planning. How can local authorities use cultural heritage as a lever for the development of the built environment and to attract more citizens, more businesses and more tourists?

BELLA VISTA
Arne Jacobsen's residential development from 1937 is one of the most distinguished examples of modernistic architecture in Denmark
Illustration: Helga Theilgaard



CHRISTIANSFELD
Entirely planned 18th century development. The town is working together with Realdania on a preservation and restoration project in the historic town centre.
 Illustration: Andreas Trier Mørch



The National Cultural Heritage Agency and Realdania will study this issue in a project on Cultural Heritage Councils in co-operation with the councils of Haderslev, Hjørring, Hvidovre and Aalborg.

The goal is to make cultural and architectural heritage an asset that adds value to the local areas. This heritage will be fundamental in creating identity in the local areas and adding extra value in local residential and commercial developments in the years to come. The idea is that cultural heritage is to be a strategic element in the new municipal plans.

DATABASE ON LISTED BUILDINGS AND BUILDINGS WORTH PRESERVING (FBB)

In 2006, the National Cultural Heritage Agency opened a newly developed database on listed buildings and buildings worth preserving in Denmark. The database already comprises data on more than 400,000 buildings across the country, and FBB is openly accessible through the Internet.

Data regarding listed buildings is maintained by the National Cultural Heritage Agency, while local authorities are responsible for maintaining data regarding buildings worthy of preservation. In addition, there is a photo database with photos of some 470,000 buildings across the country. Many of these photographs are found in the FBB database.

CULTURAL HERITAGE UNITED WITH INNOVATIVE ARCHITECTURE

Obsolete harbours and industrial buildings also contribute to cultural heritage and are important to identify and preserve for the future. This is where cultural history can be united with innovative architecture in new attractive environments for residential as well as commercial uses.

The National Cultural Heritage Agency is implementing a project on the cultural heritage of industrial society. The purpose is to identify the most significant industrial memorials in order to preserve and develop them into assets for the future. The agency will appoint 25 national industrial memorials as well as collect and publish 200 industrial memorials of regional importance. The cultural heritage of industrial society is a major challenge for architects. Even though not all old industrial buildings can be converted into assets, the reuse of abandoned industrial plants offers many perspectives.

A special focus area of the Danish Foundation for Culture and Sport Facilities strategy for 2007-2009 is the use of existing buildings which have special qualities for sport, culture and recreational purposes due to their location, history or technical construction.

THE DANISH NATIONAL ART LIBRARY'S COLLECTION OF ARCHITECTURAL DRAWINGS

The Danish National Art Library is the main library for architecture, art and art history. It is the official library for the schools of the Royal Danish Academy of Fine Arts and art history institutes of Denmark's universities. Furthermore, it is an architectural museum, archive and study collection for practising architects, public authorities as well as Danish and foreign architectural scholars.

The Library's collection of architectural drawings is among the oldest and most comprehensive in Europe. It was established as a special collection under the Library in 1846 and continually receives drawings from architectural firms and architects. The collection contains about 300,000 drawings and 100,000 photographs. It has received drawings from most influential Danish architects since 1850. The majority can be looked up in the so-called ARBI base and ordered for study in the library's study hall. This collection of drawings is part of the cultural heritage, and considerations for its digitalisation form part of the committee remit on digitalisation of the cultural heritage under the Ministry of Culture. The committee will present its recommendations to the government on overall efforts to digitalise cultural heritage.

INCREASED FOCUS ON ARCHITECTURAL STUDIES

It is vital that the architectural study programmes consider the need for competences aimed at assuming architectural challenges in the discipline of restoration. Accordingly, educational focus on required competences in the architectural labour market must also consider restoration and the professional challenges of the future uses of architectural heritage.

EXPERIMENT WITH "ARCHITECT'S TESTAMENT"

Our needs for the use of specific buildings changes over time and the need arises to be able to convert buildings. For cultural heritage this is a vulnerable process, and that is why a new experiment entitled "Architect's Testament" has been launched.

The experiment is aimed at having architects of potential future cultural heritage buildings describe which changes and extensions they would find reasonable. Some day in the future it will then be easier to convert the building in the spirit of the original architect. The Danish Foundation for Culture and Sport Facilities is behind the experiment in dialogue with the National Cultural Heritage Agency.

08.

BETTER CONDITIONS FOR EXPORTS OF DANISH ARCHITECTURE

THE DANISH EMBASSY IN BERLIN

In the master plan for the joint Nordic embassy compound, 3XN added the Danish embassy building.

Illustration: Finn Christoffersen

CHALLENGES AND GOALS

A DANISH STRENGTH WITH A POTENTIAL

Denmark will increasingly have to live off knowledge, concepts, service and design. Architecture may thus play a significant role as a strong Danish knowledge and culture sector.

Despite the fact that the international promotion of Danish architecture has been modest, Danish architecture enjoys international respect.

Denmark has a strong tradition in architecture, and Danish architectural firms have a great deal of international experience. Several of the largest Danish architectural firms already retrieve more than half of their revenue abroad. At the same time we have access to a large, well-educated pool of architect talent.

Overall, this means that architecture is a special Danish position of strength, with unused export potential that we should be able to further develop through focused efforts.

BROAD FIELD OF EXPERIENCE AND POSSIBILITIES

Danish potential does not only involve know-how from the implementation of world-renowned prestige buildings. Denmark also has many years of experience in urban renewal and urban planning, and it seems obvious to export these skills. These involve renovation

methods and logistics, energy efficiency improvement and sustainability as well as energy and maintenance planning in relation to the EU directive on energy labelling.

Denmark is internationally acclaimed and respected for its democratic processes and ways of involving stakeholders in the planning and implementation of new architecture. User and citizen participation are also seen as potential exports and models for preserving and supporting cultural heritage are similarly obvious fields of interest.

Danish architecture should be sold internationally for the benefit not only of the architectural sector, but also that of related sectors such as engineering consultancy, construction and sub-contractors.

MANY GAINS FROM INCREASED EXPORTS

Increasing exports of Danish architecture will work both as export income and as a branding of Danish quality and outlook on life. Increased Danish exports of architecture will undoubtedly have substantial derived effects in the form of increased exports of other Danish construction consultancy services, Danish construction materials and Danish designs such as windows, insulation, thermostats, pumps, furniture and lighting. In the longer term,

THE ARCHITECTURAL BIENNALE IN VENICE

The Architectural Biennale in Venice is the world's most prestigious and most important architectural exhibition in terms of global development trends both in the architectural debate and in architecture. The Danish contribution to the international Architectural Biennale in Venice is organised with the Ministry of Culture as the primary principal and source of finance. The DAC holds the post of commissioner and acts as the developing, executive and responsible party that invites curators and exhibiting architectural firms. In addition, the DAC is to procure the necessary financial resources for the official Danish contribution. This is based in the Danish Pavilion in Venice and owned by the Ministry of Culture. The DAC seeks to find broad financial backing for participation in co-operation with the Danish Arts Foundation as well as private foundations and the exhibiting firms.

DANISH ARCHITECTURE ABROAD

DANSKE ARK estimates that the 2006 export revenue of association member companies rose to DKK 200 million out of a total revenue of DKK 3.1 billion. In addition, the organisation estimates that foreign subsidiaries, partners and others contribute with a further DKK 75 million.

Exports constitute 40-60% of revenue in the largest Danish architectural firms.

Danish architecture wins an increasing number of competitions abroad ahead of significant international names. In 2005-2006 alone, Danish architectural firms received prizes in more than 50 competitions or prize events.

increased exports of architecture will also strengthen Denmark's "brand" and contribute to marketing Denmark and Danish products in general.

At the same time, increasing exports will ensure strong international interaction between Danish and international architects and thus provide an important contribution to the development of Danish architecture.

Progress in the exports of Danish architectural services, however, is not a goal in itself. Export and internationalisation should also be seen as a conduit. A means to create dynamism in Danish architecture and among Danish architects. A means to improve our use and development of the architectural knowledge and resources that we possess.

If the potential is to be strengthened, Danish architecture needs a higher degree of international exposure. The intention is to strengthen the chances of Danish architectural firms to win market shares in the global market. In this way, we can increase knowledge of Danish culture, improve the opportunities for small and medium-sized architectural practices and the growth layer, and improve the employment environment of Danish architects.

THE FOREIGN MINISTRY IN RIYADH

One of the chief works of Henning Larsen Architects in Saudi Arabia unites Arabic and Nordic architectural ideals.

Illustration: Richard Bryant



INITIATIVES

The following initiatives contribute to providing better conditions for Danish architectural exports.

TRAVELLING EXHIBITION

In order to market Danish architecture and design, the Danish Architecture Centre (DAC) and the Danish Design Centre are organising a joint, international travelling exhibition for 2007-2010. The exhibition will present Danish design and architecture in a global perspective.

The exhibition is designed to show that the following elements are among the fundamental factors in Danish design and architecture: new technology and new materials, a user-oriented approach and values such as sustainability, co-existence, responsibility and commitment with a global perspective. At the same time, the travelling exhibition should work as a platform for the international promotion of Danish architectural firms.

INCREASED FOCUS ON DANISH ARCHITECTURE IN THE TRADE COUNCIL

In order to assist small and medium-sized architectural firms, the Ministry of Culture and the DAC, in co-operation with the Trade Council of Denmark, are working to describe the special conditions that architectural firms face in their internationalisation process. This is done through close dialogue with the DAC and other players in the area. This will enable the Trade Council and the relevant Danish representations abroad to identify market trends and specific invitations to tender for architectural projects. It will also work as a platform for the analysis of the most interesting markets now and in future.

It is estimated that there is a major export potential, and if Danish architects show interest, the Trade Council of Denmark will increase its focus on helping the construction sector, including Danish architects, to enter the markets where the potential and interest are the greatest. This can, for instance, be done through dialogue between consultants and the architectural sector. In particularly interesting markets, traineeships could be a possibility for Danish architectural students.

The Ministry of Foreign Affairs, represented by the Trade Council of Denmark, is to assist in the joint promotion campaign on the focus markets for Danish architectural practices. Specific campaigns must be co-ordinated through an external co-ordinator such as the DAC, the Danish Association of Architectural Firms (DANSKE ARK) or some other co-ordinator.

EXPORT PREPARATION CONSULTANT FOR ARCHITECTURE

The Ministry of Foreign Affairs, represented by the Trade Council of Denmark, has attached an export preparation consultant with focus on architecture and construction to the BornCreative programme.

The job of the export consultant is to prepare Danish small and medium-sized architectural firms with less than 50 employees and revenues of less than DKK 50 million to establish themselves on the global market. The firms receive 25 hours of free assistance to prepare an internationalisation plan. The Trade Council of Denmark, the DAC and DANSKE ARK are co-operating in the new initiative.

CAMPAIGNS ON INTERESTING MARKETS IN CHINA AND THE UNITED STATES

Denmark is particularly interested in the Chinese and American markets, and there are special initiatives for these markets. The DAC is in charge of the development of relations and methods following the Architectural Biennale in Beijing in September 2006. The goal is to create co-operation between young Chinese and Danish architectural firms. A strategy will also be prepared for networks and the exposure of Danish architectural competences in New York/North America.

The Consulate General in New York and the DAC are co-operating with The American Institute of Architects (AIA) which is to hold its annual convention in Denmark in 2008. The board of the AIA has requested help to establish the programme for the convention and this offers a unique chance to profile Danish architecture and design to 120-150 leading American architects.

NEW FOCUS AREA AT EMBASSIES

A partnership with selected Danish embassies is intended to assess the need for an increased focus on architecture as a Danish export product in a cultural as well as commercial sense. Through their local knowledge and networks in the host country, Danish representations abroad have special prerequisites for picking up and furthering interest in Danish architecture. The representations should be able to act on requests about Danish architecture and to use contacts proactively.

The other partners are the DAC, which is to provide professional assistance, and the Danish Arts Agency as the operator of the international cultural work of the ministries of Foreign Affairs and Cultural Affairs. The work of the representations includes co-ordination of exhibitions, lectures, articles, competitions, journalist trips and contacts. The representations can provide an understanding of Danish architecture by communicating knowledge of cultural and social context as well as background and the beacons of Danish architecture. Furthermore, architecture is included in the efforts of the diplomatic representations through the government's plan for promoting Denmark abroad and through public diplomacy.

ARCHITECTURE AS PART OF DANISH DEVELOPMENT AID

Danish development aid includes both buildings and building complexes and, accordingly, architecture. Although the architectural service is not the primary target of development aid, architectural quality should be considered whenever appropriate.

Danish architects are employed to the extent it is relevant and in agreement with the principles for aid as well as international procurement rules and international development aid principles. In future, it is an obvious advantage to use the knowledge and services of Danish architects in the implementation of Danish development aid.



MAGIC MOUNTAIN
Magic Mountain, designed by COBE, was part of the Danish contribution to the Architectural Biennale in Venice in 2006. The project offers an architectural proposal for an environmental, cultural, social and economic solution to the future Chinese city.
 Illustration: COBE

THE SYDNEY OPERA HOUSE

Jørn Utzon's chief work is an important contribution to world architecture. It is a landmark for Sydney and a global icon.
Illustration: Scanpix



In 2006, the architectural committee of the Danish Arts Foundation initiated co-operation with MS Danish Association for International Co-operation. The immediate projects involve support for a development plan for a training centre in Arusha in Tanzania and support for a range of “democratic greenhouses” which are planned for 2007 in Uganda. Both projects are based on international reciprocity and will provide concrete evidence that Danish architects are capable of designing attractive settings for education and democracy in the Third World.



NEW UNIVERSITY IN STOCKHOLM

Christensen & Co Architects won the first prize with their proposal for the new building and campus park which is intended to connect two major university buildings.
Illustration: Christensen & Co Architects

NEW INTERNATIONAL COMMUNICATION AND CULTURAL EXCHANGE

Danish Edge has been established in order to provide full attention to Danish architecture, design and crafts. Danish Edge is an English-language portal and newsletter produced as a co-operative effort by the DAC, the Danish Design Centre and Danish Crafts.

The portal is intended to be “the first choice” when international target groups want information about innovation and interdisciplinary integration in the field.

ARCHITECTURE AS PART OF INTERNATIONAL CULTURAL EXCHANGE

The ministries of Cultural Affairs and Foreign Affairs are co-operating partners in international cultural exchange. The Arts Agency is the co-ordinator for this co-operation. Architecture will be included on equal terms with the other arts in the rolling action plan for international cultural activities that the Arts Agency is preparing for the two ministries.

ARCHITECTS ON POSITIVE LIST FOR JOB CARDS

The ability to employ foreign specialists is an important condition for strengthening the competitiveness of Danish architectural firms in the global marketplace. The employment of foreign architects may add important new knowledge as well as professional and business networks to Danish architectural firms. This also includes specific knowledge about the function of foreign markets. This is why it is essential for the international competitiveness and development of Danish architectural firms that they have easy and flexible access to the employment of qualified foreigners.

As a result, the architectural profession has been appointed to the positive list of employment areas in which foreigners have immediate access to work and residence permits under the so-called job card programme.

BIENNALE AND INTERNATIONAL EXHIBITIONS AS SHOWCASES FOR DANISH ARCHITECTURE

Denmark is increasingly making itself known. Not just through competitions and award events, but international publications and participation in international exhibitions are also on the increase. Denmark takes part in the international biannual Architectural Biennale in Venice. At the two most recent biennales, Denmark received awards from the international jury and has been able to use the biennale as a significant showcase for Danish architecture and Danish building competences. There will be high priority on qualified Danish participation in future as well.

In the next few years, the DAC will build up an international profile with a view to implementing export promotion campaigns for Danish consulting services in co-operation with the Trade Council of Denmark and Danish companies. As a result, the DAC has assumed the role of screener and “benchmarker” of relevant international architectural biennales and exhibitions in an initiative that will be carried out in close co-operation with the official Danish representations. The DAC also works closely with the Danish Arts Agency and the Ministry of Foreign Affairs on programming in connection with official Danish visits abroad, including the supply of architectural exhibitions and export promotion.

09.

DANISH ARCHITECTURE MUST HAVE A STRONG GROWTH LAYER

CHALLENGES AND GOALS

NEED FOR CONTINUAL DEVELOPMENT AND INNOVATION

Architecture needs to be persistently challenged. Tradition and experience are central values. But Danish architecture must continue to develop if we want to create the dynamism and innovation necessary for the traditional qualities to be relevant in the future society that architecture is created for.

For dynamism and innovation to flourish in Danish architecture, new generations of architects must also have the opportunity to contribute with their talent, new knowledge and novel ideas. This mainly takes place through the talent development that the large Danish architectural firms contribute to through their recruiting from the two schools of architecture.

It is, however, essential that the growth layer is exposed nationally and internationally, and that access to the architectural sector does not present a structural barrier for talented and enterprising architects who want to start their own practice.

COMPETITIONS OFTEN THE BEGINNING

The successful Danish architectural practices that currently represent Danish architecture both at home and abroad were all established after their founders won architectural competitions. This means that competitions are vital in fulfilling future prospects and innovation for the growth layer in Danish architecture.



CO-EVOLUTION WON THE GOLDEN LION IN VENICE

The official Danish contribution to the Architectural Biennale in Venice in 2007 was developed as part of an effort to promote the growth layer. The Danish contribution, "CO-Evolution", presents four specific proposals for sustainable construction and sustainable urban planning in China. The project was prepared by curator Henrik Valeur and four young architectural firms – Cebra, Transform, Effekt and Cobe – in close co-operation with four leading Chinese universities.

In November 2006, the project was awarded the world's finest architectural exhibition prize, The Golden Lion, for best national exhibition contribution among 50 countries. The exhibition illustrates the significance of exchanging ideas, knowledge and experience across national borders. The project shows the results of combining Danish traditions for humanistic and sustainable architecture and planning with local Chinese insight, technical competence and engineering science.

THE SAME PARLIAMENT IN SWEDEN

The winning proposal of Danish architectural firm aart for the Sami Parliament focuses on preservation and development of the Sami cultural heritage.

Illustration: aart a/s



BAKKEGÅRD SCHOOL

CEBRA and Søren Robert Lund Architects collaborated on the design of this school in Gentofte north of Copenhagen. The sports facilities are underground and the school yard is placed on the roof of the building.

Illustration: Adam Mørk

An obstacle for the growth layer is clearly if only a few newly-established architectural firms are invited to take part in closed competitions, and if open competitions are seldom organised for specific building projects.

Statistics from the Architects' Association of Denmark (AA) show that the number of closed competitions has grown in the past decade while the number of open competitions has not. There has been a minor decline in the number of open competitions in the past five years.

There may be many reasons for this. One could be habitual thinking on the part of developers in their choice of participants and form of competition. Another could be the idea that open competitions require inappropriately high resources for involved parties; and finally a conception that there is considerable uncertainty in relation to the winning project and architect.

PREPARATION OF CLOSED COMPETITION

Open competitions may require an unnecessarily high level of resources. The question is how to make sure that closed competitions consider, or at least do not ignore, the growth layer.

When the circle of participants for a closed competition is to be chosen, it is vital that the applied criteria provide for equal treat-

ment. This, however, does not prevent the developer from considering whether the requirements and criteria would also allow smaller companies to participate.

Public authorities can make a difference here by helping more young architectural firms gain access to the project market. This can be done through competitions and by generally contributing to placing increased focus on the talented architectural firms in the growth layer.

MANY ARCHITECTS IN DENMARK

Denmark is one of the countries with most architects per capita. The following figures show, overall, how many architects have graduated from the two Danish schools of architecture:

Cand. arch. (master): 8,480 (6,442 were in the labour force in 2004)
Ph.D.: 64 (58 were in the labour force in 2004)
Bachelor: 282

INITIATIVES

The following initiatives contribute to strengthening the growth layer in Danish architecture.

NEW WILD CARD SCHEME

Similarly to the world of sports, it is important that young and untried talents, who have not yet found their way into the official rankings, are given an opportunity to participate in competitions where they can be measured against the elite and prove their value in practice. Co-operating with the Danish Competition Agency and relevant parties, the Danish Architecture Centre (DAC) plans to launch an information campaign and prepare a series of specific procedures and guidelines aimed at promoting a competition environment which considers access to the market for architectural services for the growth layer. The effort is to be targeted at government developers and their architectural competitions. The guidelines will describe how to establish objective requirements so that these do not cut off younger firms.

In co-operation with other relevant players, the DAC and the AA plan to prepare instructions to help disseminate these guidelines both to government developers and other interested parties. As part of this effort, a Wild Card list will be produced and maintained for the advance invitation of growth layer companies. The Wild Card list will be based on objective criteria and be open for all who meet the criteria.

EUROPAN – COMPETITION TARGETING THE GROWTH LAYER

In order to promote the access of the growth layer to the market for architectural services, a showcase is needed to extol the qualities of the young architectural firms. For the first time, Denmark is taking part in EUROPAN – an inter-European partnership focusing on the development and discussion of new ideas in architecture and urban planning. EUROPAN addresses European architects under the age of 40.

EUROPAN 9 was launched at the end of January 2007, and the winning project will be announced in January 2008. Denmark is participating with three building lots in Herning, Vejle and Ørestad. EUROPAN is a unique opportunity to professionalise the growth layer in Danish architecture. For young architects, EUROPAN is a first class platform for national and particularly international exposure. At the same time, EUROPAN can contribute to creating a breakthrough for young architectural firms. Through EUROPAN they can have their projects implemented and thereby be helped along to further their qualifications.



COLLECTION OF PROJECTS FROM YOUNG ARCHITECTURAL FIRMS

As part of the architectural policy, a project collection will place focus on successful planning processes that had young architectural practices at the helm, or on successful partnerships between young and older firms.

The goal is to expose young architectural firms and give them access to closed competitions. At the same time, the idea is to expose new forms of co-operation between young architectural firms and project companies. The experiences of the Danish Foundation for Culture and Sport Facilities are included in these efforts. The DAC will organise and disseminate the collection to public and private developers.

TRAVEL GRANTS FOR YOUNG ARCHITECTS

Travel grants aimed at motivating and supporting an international and business-oriented professionalisation are available to newly graduated and young architects. The travel must have a well-founded professional purpose. The grants are allocated to individuals or project groups who help to increase knowledge of the Danish architectural marketing.

The travel grants have special focus on China and New York and are part of the implementation of the design fund under the remit of the Ministry of Cultural Affairs.

DIALOGUE WITH THE GROWTH LAYER

The Danish Foundation for Culture and Sport Facilities is dedicated in its efforts to create dialogue with the growth layer.

In large projects that are subject to EU and national guidelines, the Foundation has chosen to work out participation criteria at the prequalification stage so that younger architectural firms and companies with less than three years of annual accounts are not excluded. Since the

implementation of a major building project requires considerable experience, the Foundation has chosen to make extra consultancy available should the competition be won by a less experienced architectural firm.

In smaller projects, the Foundation often invites younger, less experienced architectural firms to take part in mini-competitions. The participants communicate directly with the developer, and the project description mini-

mises the amount of unpaid work necessary. Every participant receives a direct response and is introduced to the Foundation's circle of developers.

Thirdly, in smaller development projects, the Foundation invites 1-3 younger architectural practices to a joint dialogue on a given project. Competent proposals are published and the architectural practices are given access to a large circle of developers.

VM HOUSES

The young Danish architectural firm PLOT has created light and view for all flats in the residential complex shaped as the letters V and M.

Illustration: PLOT + BIG+JDS



BYBRO AT BERGEN

European competition (EUROPAN) won by the young Danish architectural firm Transform for the design of a new town centre in Åsane, Bergen.

Illustration: Transform

MANY WANT TO BE SELF-EMPLOYED

According to a 2006 survey of new graduates from the Aarhus School of Architecture, 25% wanted to be self-employed. Twelve percent of the architects, who graduated between 1995 and 2000, currently have their own operation.

GROWTH IN THE SECTOR

The Danish Association of Architectural Firms (DANSKE ARK) has 675 member companies. They are estimated to cover nearly 95% of revenue in the architectural sector.

The 2006 revenue of these firms was DKK 3.1 billion.

Total revenue in the firms grew by 20.4% from 2005 to 2006. This is higher than the 16% revenue advance in the construction sector, which was the Danish sector to record the greatest progress among large sectors in 2006. The growth of some of the larger architectural firms was at 30-40%.

Number of employees in early January 2007: about 5,100, of whom about 1,150 are owners and 4,000 employees.

As a rule, Danish architectural firms are very small. Nearly half of the members of DANSKE ARK are one-man operations, while 100 firms have 10 or

more employees. Ten companies employ more than 75 people. The largest architectural firms have 250-300 employees.

The trend is that many new small firms are being established at the same time as large firms are getting larger. Growth is achieved through increasingly strong international business. For the largest practices, exports constitute 40-60% of revenue.

The growth in the number of architectural firms is reflected in the number of members of DANSKE ARK. Since January 1, 2006, the association has accepted 9-10 new member companies every month. Two thirds are newly established. If one adds the firms that are not members of DANSKE ARK, it is estimated that 8-10 entrepreneurs have or will have established a business in the architectural sector every month in 2006 and 2007.

Source: DANSKE ARK



10.

DANISH ARCHITECTURAL STUDIES MUST BE AMONG THE BEST IN THE WORLD

PORT OF ÅRHUS

Architectural students working with a giant model at the Port of Århus on the occasion of the School's 40th anniversary.

Illustration: Aage Lund Jensen

CHALLENGES AND GOALS

SPECIAL DANISH FEATURES IN ARCHITECTURAL STUDIES

The Danish method of architectural education is an important element in an explanation of why Denmark has a position of strength in architecture.

Danish architectural studies constitute an independent higher study programme. Unlike many other countries, architecture is regarded as an artistic education and not part of an engineering programme or a unit within a technical university.

Correspondingly, the Danish schools of architecture are not simply regarded as educational institutions – but as cultural institu-

tions with a more general and deeper responsibility in their area of education.

It is a quality and special feature of Danish architects and Danish architecture that the foundation of the institutions is artistic – and a feature we should protect.

But it is also a corresponding and natural challenge for the schools that they provide the necessary attachment to the architectural sector and other educational and research institutions. This connection is necessary if the institutions are to develop the architectural

MASTER OF ARCHITECTURE (CAND.ARCH.)

The master programme in architecture (cand.arch.) is provided by the School of Architecture at the Royal Academy of Fine Arts in Copenhagen and the Aarhus School of Architecture. The programme consists of a three-year bachelor and a two-year master degree. In addition, the schools offer a two-year researcher degree (Ph.D.) and continuing education at the diploma and master level.

Annual admission: 350 students
Number of active students 2006: 1,639.

The architectural studies provide the following areas of specialisation: architecture, restoration, urban and landscape planning, and graphic and industrial design.

The School of Architecture at the Royal Academy of Fine Arts also accommodates the School of Architecture Library, which is the national library for architecture and physical planning and a public research library.

ESBJERG BEACH PROMENADE

European competition for architects under the age of 40 was won by two young architects and three architectural students. Afterwards they formed the architectural firm Spektrum.

Illustration: Spektrum



profession and the Danish construction sector, and continue to train architects with high professional qualifications and a high employment potential.

INTERNATIONALISATION AND QUALITY DEVELOPMENT

Demands on the schools must be kept and strengthened so that they can continue to supply education, research and artistic exhibition of the highest international standard – and so that the schools remain among the most sought-after architectural study programmes in the world.

The architectural studies must be internationalised and their quality developed in coordination with the labour market in which Danish architects are trained to operate. This is to take place concurrently with Denmark having access to the highest international quality in architectural education and research.

Education and knowledge development at the two schools of architecture should take place in interaction with the professional sector, and the sector should be involved in the quality development of the activities of the two schools.

WORKSHOP

Workshop on Culture Night at the School of Architecture in Copenhagen.

Illustration: School of Architecture.

MASTER IN STRATEGIC URBAN PLANNING

The School of Architecture at the Royal Academy of Fine Arts offers a master programme with focus on the strategic planning of urban change processes based on the spatial qualities of the city. The idea is that the problems and requirements of urban planning have changed. Globalisation, de-industrialisation and new cultural and social patterns have made a new strategic approach necessary. The master programme aims to qualify students to prepare urban strategies as consultants for public and private clients.





INITIATIVES

The following initiatives contribute to ensuring that Danish architectural studies are among the best in the world.

WORLD CLASS ACCREDITATION AND BENCHMARKING

In order to ensure and document that Danish architectural studies measure up to the best in the world, the programmes must be benchmarked and their quality assured according to international standards. By 2010 at the latest, the programmes will be accredited according to international standards.

Accreditation will direct attention to the development of quality, and encourage fast action if it turns out that there are places in Denmark where the programmes lack quality.

ADVISORY BOARDS TO ENSURE PROFESSIONAL ATTACHMENT

The schools of architecture must establish and maintain a close and mutually obliging dialogue with the architectural profession. To provide the best conditions for the continual development of education and research in interaction with the sector, the two schools will establish advisory boards with close relations to school management.

POLAR STATION

Integrated elements such as an indoor running track and an energy production plant illustrate the future-oriented and pioneering perspectives of the project. Prepared by the architectural firm MAPT.

Illustration: MAPT

Board members are to offer advice to the rector and the Minister on school development. Board members should represent leading architectural firms and include international architects. The advisory board will comment on developments in the school's annual report.

GREATER INTERNATIONAL PERSPECTIVE

The Danish education of architects should be internationally competitive and attractive. For this reason it is vital that the schools enter into strategic collaborations with leading international schools of architecture and promote increasing international exchange of students, teachers and scholars.

One way is to increase the supply of English-language programmes that can attract foreign scholars, teachers, exchange and paying students.

RESEARCH IN IT AND ARCHITECTURE

The Centre for IT and Architecture (CITA) is a creative research environment for new digital design and production tools at the School of Architecture in Copenhagen. CITA's research contributes with new knowledge to architectural studies as well as the transfer of new technology across disciplines and industries. The field of research is interdisciplinary and works as a link between research and practice in the development of creative models that provide direct and practical experience in the application and development of digital

tools. CITA co-operates with a broad range of European and American universities, private and public test and research centres, schools of architecture and design, industrial companies as well as engineering and architectural firms. A special element in CITA's research and teaching environment is the Rapid Prototyping technology. In 2006, the Danish Agency for Science, Technology and Innovation granted CITA an international Ph.D. chair for studies in interactive textiles and architecture.

GRADUATES PRIMARILY GET PRIVATE SECTOR JOBS

According to a 2006 survey from the Aarhus School of Architecture, 68% of the graduates in the period 1995-2005 had their first job in a private architectural practice.

COMMUNICATION TO THE GENERAL PUBLIC

The schools of architecture in Copenhagen and Århus carry out a range of national and international activities in which they communicate knowledge and cultural activities to the general public. Throughout the year, they organise architectural exhibitions, international lectures, conferences and other activities that are open to general audiences.



AARHUS SCHOOL OF ARCHITECTURE

Students at Aarhus School of Architecture participate in a workshop conducted by the American architect Michael Sorkin.

Illustration Aage Lund Jensen

MORE RESEARCH IN CO-OPERATION WITH THE ARCHITECTURAL SECTOR

The continual development of new knowledge in the architectural field is an all-decisive precondition for the quality development of both the education and the profession. This knowledge development can advantageously take place in partnerships between the schools and architectural firms.

The schools of architecture will provide for this by establishing business Ph.D.s in co-operation with relevant partners and by increasing external research financing.

DEVELOPMENT OF CONTINUING EDUCATION

Continuing education of the architectural profession is necessary if there is to be continual knowledge dissemination and competence adjustment to match the requirements of the architectural sector. Co-operating with the sector, the schools of architecture must develop and adapt training courses to cater for the requirements of the labour market.

Continuing training courses should be co-ordinated, prepared and offered jointly by the two schools of architecture.

INCREASED FOCUS ON PROFESSIONAL DEVELOPMENT AREAS

Education and research at the two schools of architecture must be tuned and adjusted in accordance with the needs of the sector. They should also consider relevant or strategically important development areas in the architectural profession. Such areas could be planning, sustainability, industrialised construction, digitalisation, landscape architecture and restoration. The dialogue with the professional sector about these focus areas is vital in this context.

The initiatives are part of a new agreement for studies under the Ministry of Culture and will be pursued in result contracts between the Ministry and the schools of architecture for 2007-2010.

CENTRE FOR INDUSTRIAL ARCHITECTURE (CINARK)

The Centre for Industrial Architecture at the School of Architecture in Copenhagen seeks to establish co-operation with the parties in the construction sector. CINARK is focused on education and research in industrial architecture. Research subjects include the unfolding of the architectural design process in industrial practice, building systems, mass customisation in architecture, and the architectural potential in different construction materials, construction technologies, and identity and value creation in modern industrial commercial building.

CINARK research also covers industrial architecture as a lever for a sustainable development, affordable housing, the significance of new digital technologies in the architectural design process, and a reintroduction of the ornament in industrialised construction. CINARK has established international research co-operation with several European and North American universities, NCC Sweden and the French governmental agency PUCA (Plan-Urbanisme-Construction-Aménagement).

LIST OF MINISTRIES, GOVERNMENT AGENCIES AND RELEVANT INSTITUTIONS

Aarhus School of Architecture | www.aarch.dk
 Danish Architecture Centre | www.dac.dk
 Danish Arts Agency | www.kunststyrelsen.dk
 Danish Defence Estates and Infrastructure Organisation | www.fbt.dk
 Danish Energy Authority | www.ens.dk
 Danish Forest and Nature Agency | www.skovognatur.dk
 Danish Foundation for Culture and Sport Facilities | www.loa-fonden.dk
 Danish Road Directorate | www.vejdirektoratet.dk
 Danish University and Property Agency | www.ubst.dk
 Ministry of Culture | www.kum.dk

Ministry of Economic and Business Affairs | www.oem.dk
 Ministry of Foreign Affairs | www.um.dk
 Ministry of Social Affairs | www.social.dk
 Ministry of the Environment | www.mim.dk
 Ministry of Transport and Energy | www.trm.dk
 National Agency for Enterprise and Construction | www.ebst.dk
 National Cultural Heritage Agency | www.kulturarv.dk
 Palaces and Property Agency | www.ses.dk
 School of Architecture at the Royal Academy of Fine Arts | www.karch.dk
 Trade Council of Denmark | www.eksportraadet.dk

DANISH ARCHITECTURE CENTRE

The Danish Architecture Centre is an information and development centre for architecture and construction. It is the DAC's mission to initiate partnerships that develop and disseminate Danish architecture and construction with a view to creating cultural and commercial value for professionals and users of architecture.

Activities are aimed at both professionals and the general public. The objective of the DAC is implemented through exhibitions, meeting and conference activities, education service, web activities and other information activities.

The ministries of Culture and Economic and Business Affairs and RealDania have increased the DAC's grant from three times DKK 2.1 million annually in 2005 to DKK 12.4 million annually from 2007.

The intention is to intensify the efforts of the DAC to promote the dissemination and development of Danish architecture both at the national and international level. This means that the DAC works as principal operator in the co-ordination and implementation of the new inter-ministerial architectural policy.

DANISH ARTS FOUNDATION

The main task of the Committee for Architecture under the Danish Arts Foundation is the allocation of three-year working scholarships, working and travelling bursaries, prizes and project grants to architects as well as other grants aimed at maintaining and promoting architectural production.

The Committee for Architecture receives an annual allocation of DKK 7.5 million. In 2005 the Committee received 141 applications, of which 55 were granted. In the first six months of 2006, the Committee received 106 applications, of which 35 were granted.

The decisive criterion for Danish Arts Foundation grants is the quality of artistic production and artistic talent. The Danish Arts Agency takes care of the administrative functions of the Committee for Architecture as well as for the board and council of representatives of the Danish Arts Foundation.

DANISH FOUNDATION FOR CULTURE AND SPORT FACILITIES

The Danish Foundation for Culture and Sport Facilities develops and supports construction in the field of sport, culture and leisure. The support is aimed at innovative projects, architectural quality and user involvement. Results of the Foundation's work include water culture centres in Copenhagen and elsewhere, inner-city commons such as DGI-Huset in Århus and Prismen in Copenhagen, mobile skating rinks, cultural centres and association buildings and – not least – the renovation of many sports facilities that require updating in view of current sporting needs. The support is aimed at all corners of sport, culture and leisure, and in addition to proper buildings, support is also granted to activities connected with outdoor areas, urban

spaces and landscapes. The Foundation places special demands on the development of architectural quality in subsidised construction developed by local councils, associations or independent institutions.

On the basis of more than ten years of experience, consultancy has become a central part of Foundation activities. Seen from a local perspective, building projects in the field of sport, culture and leisure only occur at several years' intervals and the individual council or local developer has limited experience in this area. In such cases, the total knowledge of the Foundation is accessible in the form of inspirational databases, statistics and direct project consultancy. Co-operation with relevant research institutions helps to strengthen this competence.

The Danish Foundation for Culture and Sport Facilities is strongly focused on the development of architectural quality and is experimenting with new forms of competition and procurement. In partnerships between developers and other parties in a construction project, this provides architects with an opportunity to develop and implement aesthetic, functional and interesting sports and culture facilities. The new initiatives unite the creative and executive forces with the content knowledge of the developer as early in the project as possible. Several of the Foundation's initiatives are aimed at trying to include the growth layer in Danish architecture.

The Danish Foundation for Culture and Sport Facilities was established in 1994 and receives annual funding of about DKK 80 million from the pools and lottery funds of the national gaming company Danske Spil.

NATIONAL CULTURAL HERITAGE AGENCY

The objective of the National Cultural Heritage Agency is to protect and highlight the importance of cultural heritage in buildings, prehistoric monuments and museums and to make this heritage relevant to citizens. In the area of architecture, the Agency manages the Consolidated Listed Buildings and Preservation of Buildings and Urban Environments Act. The Agency prepares theme reviews in the form of reviews of the works of a single architect or reviews of a theme such as agricultural buildings with a view to listing the best examples. In addition, the Agency receives listing proposals from Landsforeningen for Byggnings- og Landskabskultur (the national society for building and landscape culture) and private citizens. Listing proposals are presented to the Historic Buildings Council which is the Minister's advisory body.

The restoration, renovation and conversion of listed buildings require permission from the National Cultural Heritage Agency. The Agency has a staff of experienced restoration architects in charge of this field.

The National Cultural Heritage Agency hosts a biannual restoration seminar. About 350 architects usually attend to discuss topics related to restoration.



1. THE UNIVERSITY OF ÅRHUS

Denmark's first university campus was inaugurated in 1928. Designed by Kay Fisker, P. Stegmann and C.F. Møller and the landscape architect C.Th. Sørensen.

Illustration: Realdania

2. EGÅ GYMNASIUM

CUBO Architects designed the school building whose centre and centre of gravity is a large circular room with a partly integrated sports facility.

Illustration: CUBO Architects

3. IT UNIVERSITY IN COPENHAGEN

The building has been developed around a central and open atrium in which meeting and group rooms extend into space like drawers of different sizes. Henning Larsen Architects.

Illustration: Adam Mørk



With “A Nation of Architecture – Denmark” we have, for the first time, a comprehensive architectural policy for Denmark.

It is the government’s intention that the architectural policy will contribute to the development of architecture as a Danish stronghold and to create an increasing awareness and debate about the significance, conditions and possibilities of architecture in Denmark.

The policy has been prepared with the co-operation of several ministries: the ministries of Culture, Economic and Business Affairs, Social Affairs, Foreign Affairs, the Environment and Transport and Energy as well as the Danish University and Property Agency, the Danish Defence Estates and Infrastructure Organisation, and the Palaces and Property Agency.

The architectural policy can be downloaded electronically from the website of the Ministry of Culture: www.kum.dk