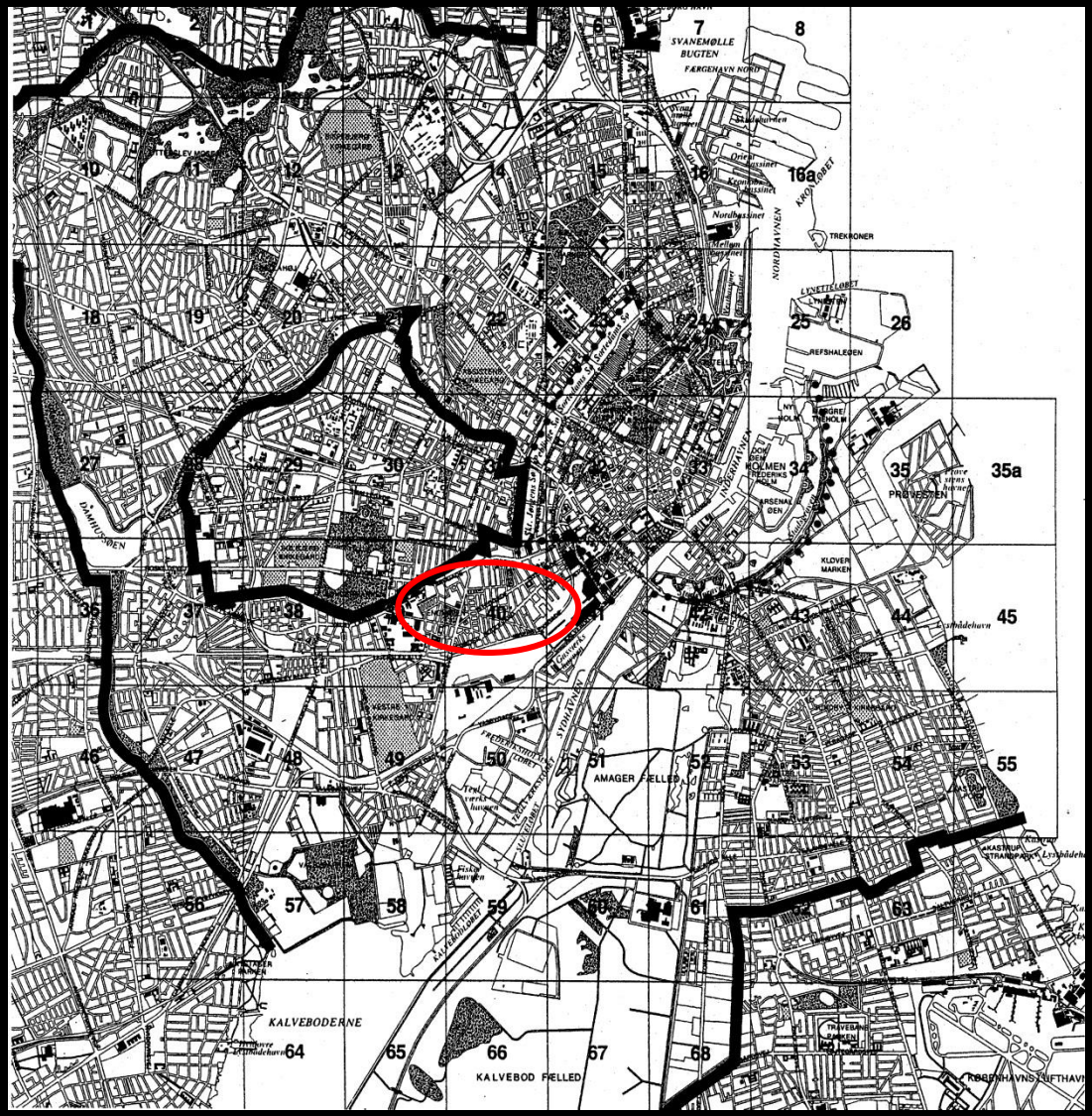
Kurt Kjærgaard Christensen
Architect
kkc@sbsby.dk

The Hedebygade Project –evaluation
Background and the demonstrationproject

- **3 year after the renovation**
- **Today**

Other current projects in the frame of sustaninable renovation and urban renewal/planning

Vesterbro – urban renewal



Vesterbro – urban renewal

Large scale urban renewal:

12.000 inhabitants.
8.000 housing units
Ave. size is 70 m².
10% w.u. wc
60% w.u. bath
65% w.u. ch

High density

Last half of the 1800th Century.

Few green areas - a housing area with mixed trade.

Mix of unemployed, students, elder people

15% "new Danish" or with another ethnic background.

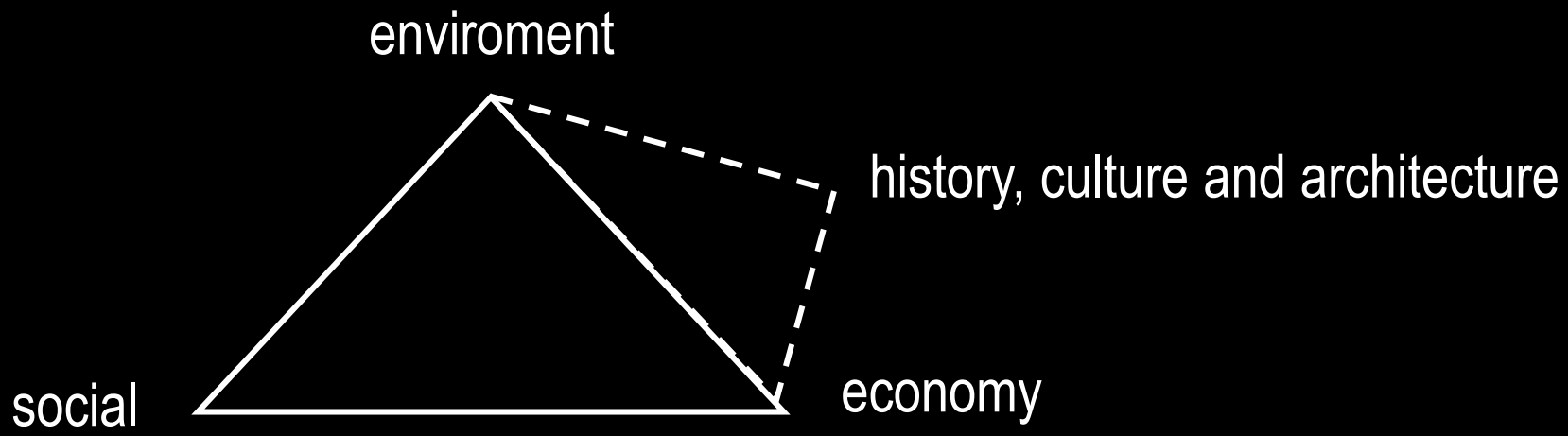







Vesterbro – urban renewal

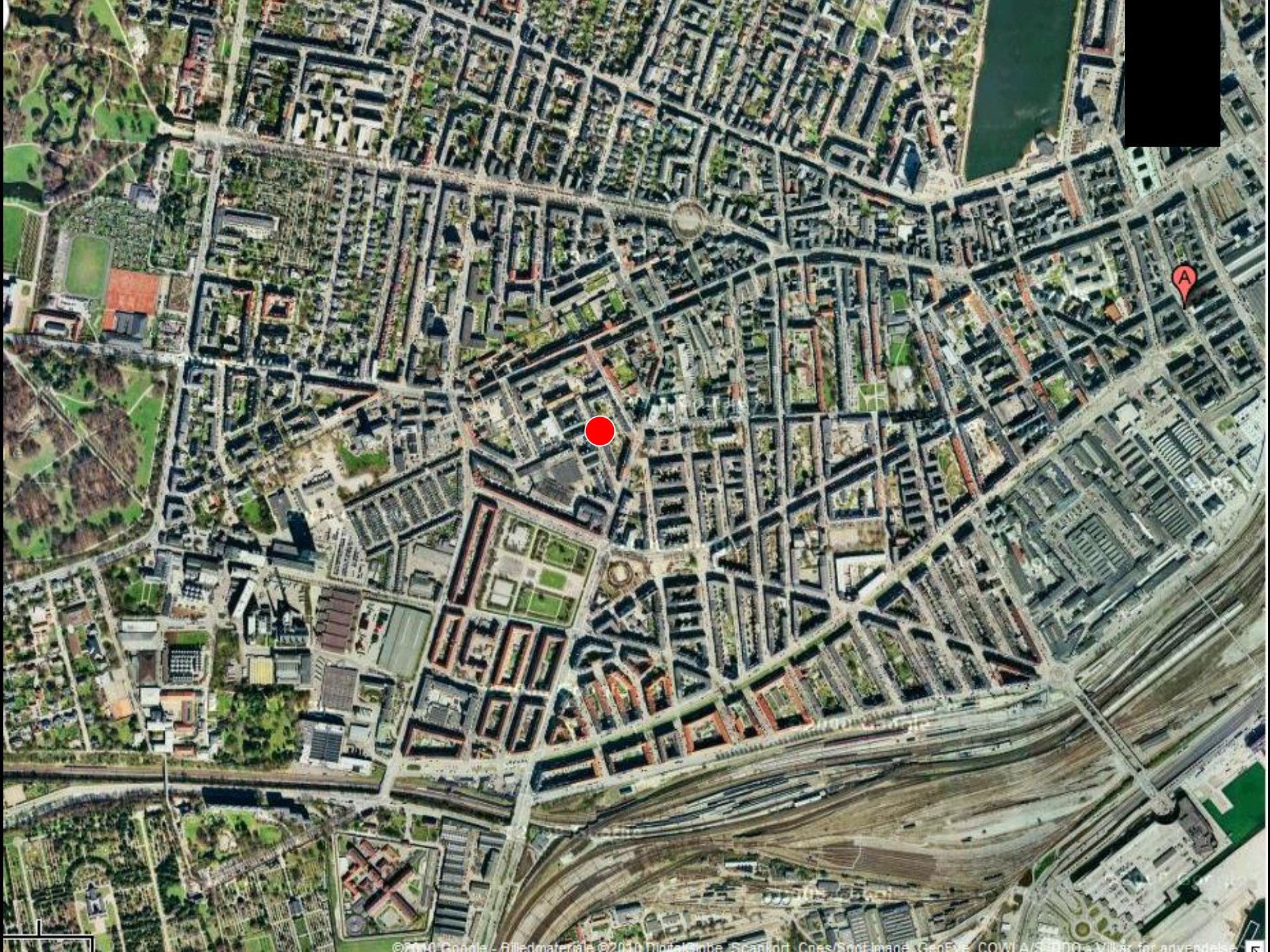
- Preservational urban renewal
- Social dimension
- Decentralisation and residents participation
- Urbanecology / sustainabilities/demonstration projects
- Add new facilities – and improve the function of the area
- ACTIONPLAN formed in 1989 – approved in 1991



Vesterbro – urban renewal

The intentions - actionsplan

- **to sustain this quarter's block and building structure - only few demolitions**
- **to establish common courtyard facilities**
- **to have simultaneous activities by forming open spaces, green plants, traffic reorganization, job creation, new entreprices, new cultcure faciliteties.**
- **to ensure quality of renewal - up to 40-50 years of durability**
- **to have the social dimension present - contact committees, work committees**
- **to ensure citizen participation to a great extent**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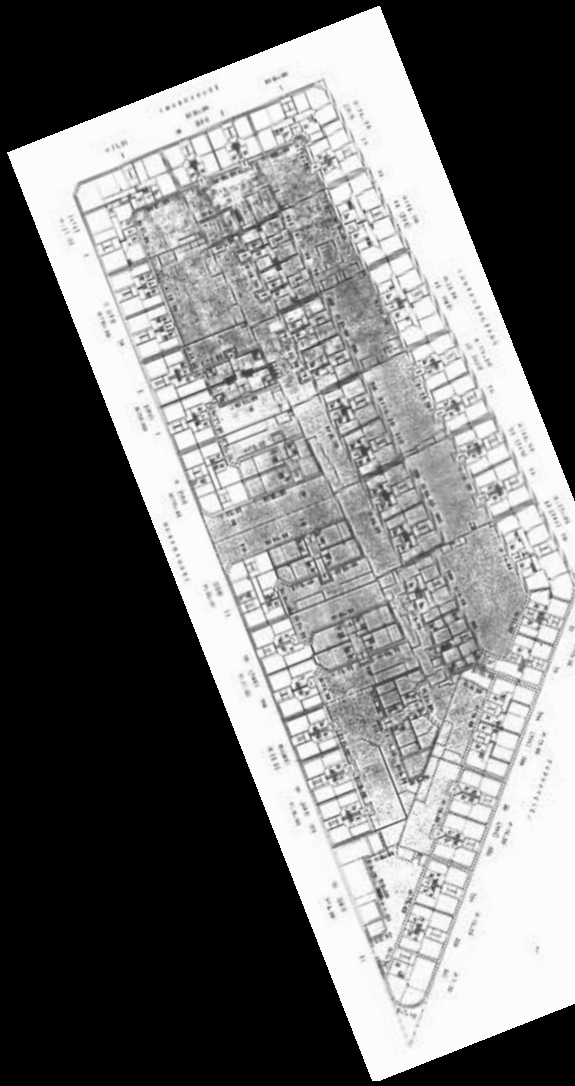
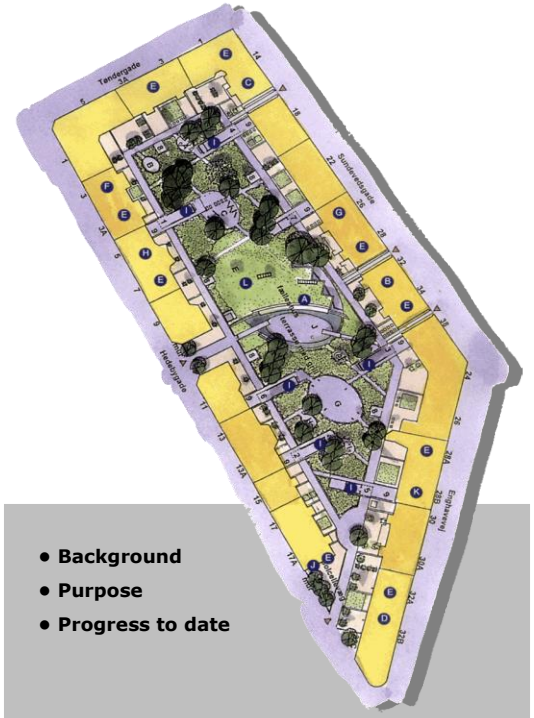
Hedebygade- Block

- **Blockstructure – as rest of Vesterbro, Copenhagen**
- **Erected from 1880 – 1890**
- **Workingclass flats**
- **Small flats – 95% 2 room - flats without bath**
- **Backyardbuildings with small buisness in the basement or 1st flour**
- **Number of flats approx 500**
- **Private rent to mix ownership**
- **First phase of urbanrenewal started in 1975 – demolishing of backyard-/ side buildings, refurbishing the climatefacade. Number of flats was reduced from 500 to 300**

Hedebygade Block





- **Background**
- **Purpose**
- **Progress to date**

The Hedebygade Project

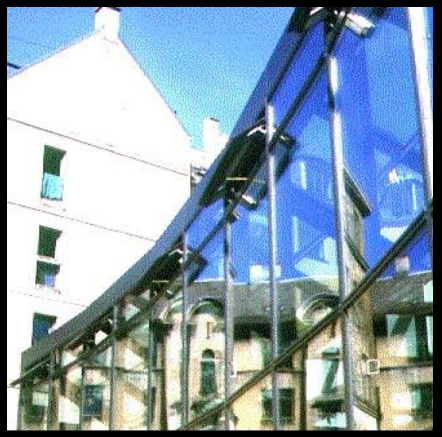
- A demonstration project on urban ecology
- Based on a Partnership between, tenants, the association of owners in Hedebygadeblock, the former Ministry of Housing and urban affairs, Municipality of Copenhagen and SBS was signed.

- **Background**
- **Purpose**
- **Progress**

Background

- Residents' interest in urban ecology/appointment of an urban ecology group with municipal representatives
- The Urban Ecology Group's mandate was to discuss urban ecology initiatives and financing
- Liaison with the Ministry of Environment and Energy, the Green Foundation (Environmental Protection Agency) and the Ministry of Housing and Urban Affairs, Projekt Renovering (Project Refurbishment).
- The Hedebygade block – sufficiently large and many potentials

- Background
- Purpose
- Progress



Purpose

- to set up a large-scale demonstration project in Copenhagen on ecological refurbishment
- to contribute to the advancement of urban ecology solutions in connection with refurbishment of early building stock
- to demonstrate the Danish resource base
- to promote the business economics potential of using urban ecology refurbishment solutions

- Background
- Purpose
- Progress

Progress

Urban renewal

- Planning from 1994 to 1996
- Implementation from 1997 to 2002
- 350 tenancies for 281
- Court yard redesign

Urban ecology

- Comprises 7 properties, community centre, yard redesign/environmental stations, end-wall project and consumption metering in a total of 12 projects

- High tech og low tech
- High arch og low arch

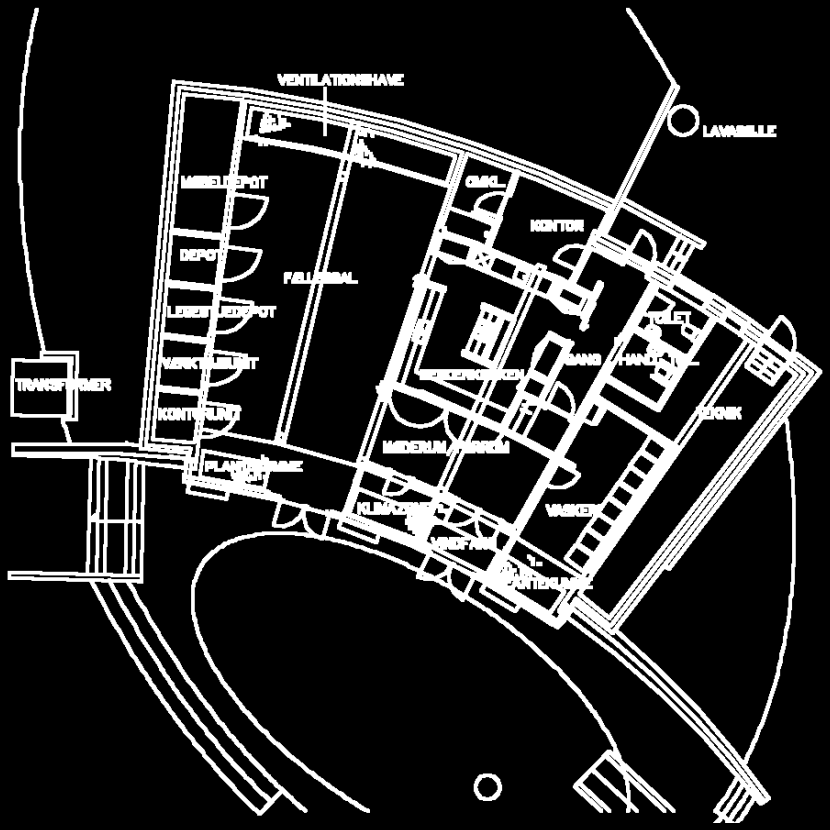
- Focus on ”Green lifestyle”

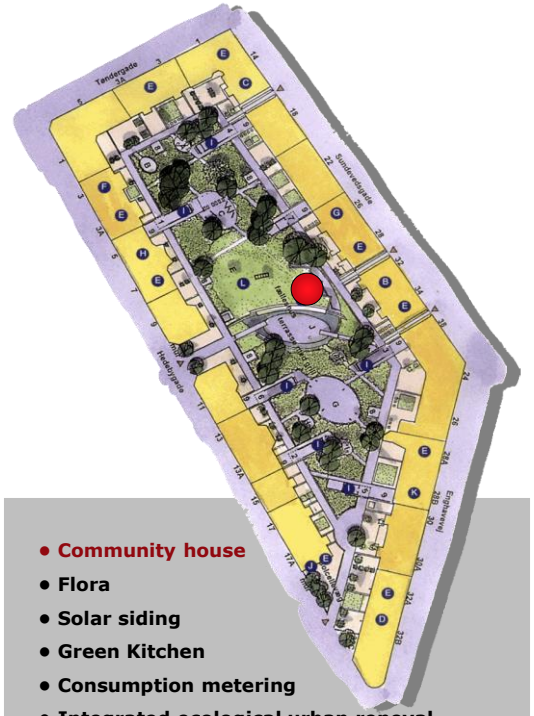
- Project ”a good start” – green acounts

- Evaluation:. 2004/2005

- **Community house**
- Flora
- Solar siding
- Green Kitchen
- Consumption metering
- Integrated ecological urban reneval
- Waste sorting throughout the block
- Gable projekt
- Solar energy in urban renewal
- Prism
- Flexible facades
- Communal grounds throughout the block

Community house

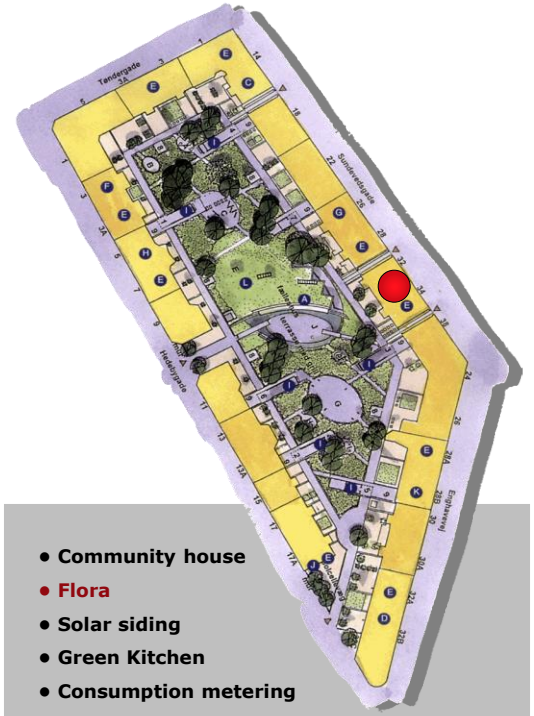




- **Community house**
- **Flora**
- **Solar siding**
- **Green Kitchen**
- **Consumption metering**
- **Integrated ecological urban reneval**
- **Waste sorting throughout the block**
- **Gable projekt**
- **Solar energy in urban renewal**
- **Prism**
- **Flexible facades**
- **Communal grounds throughout the block**

Turnkey Contractor:
Domus A/S Arkitekter

Flora -
32-34 Sundevedsgade



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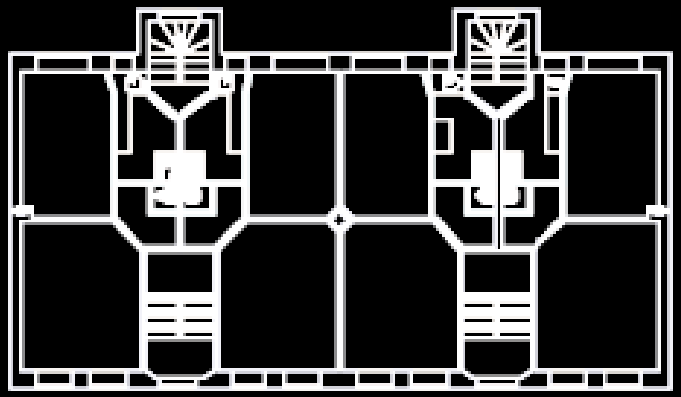

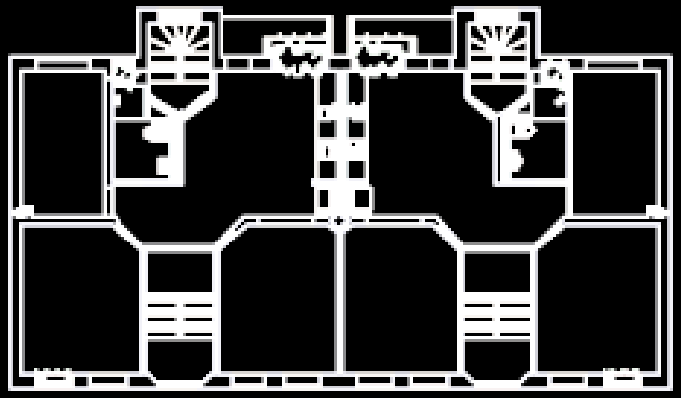

Turnkey Contractor:
C.F.Møller

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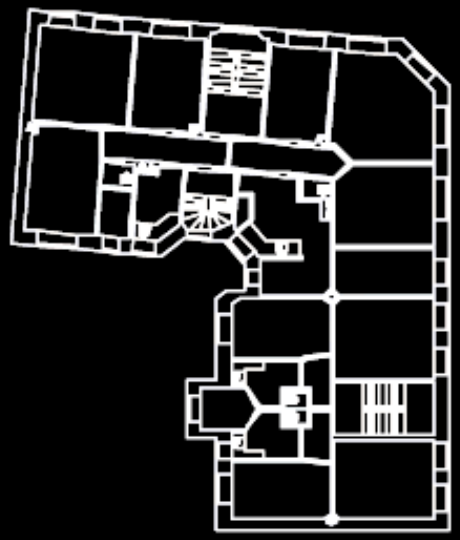
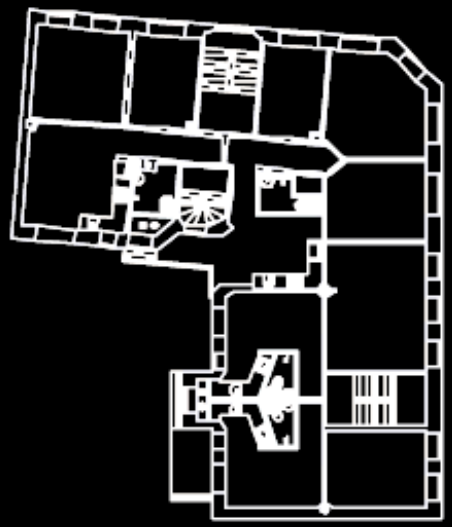
Solar siding – 14 Sundevedsgade/ 1 Tøndergade





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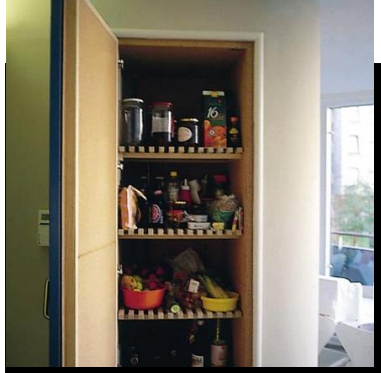
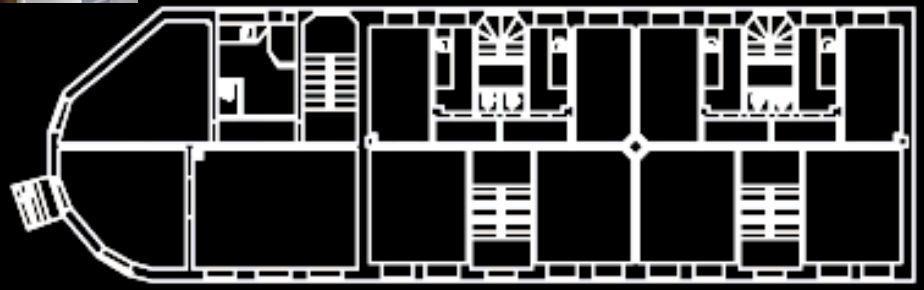
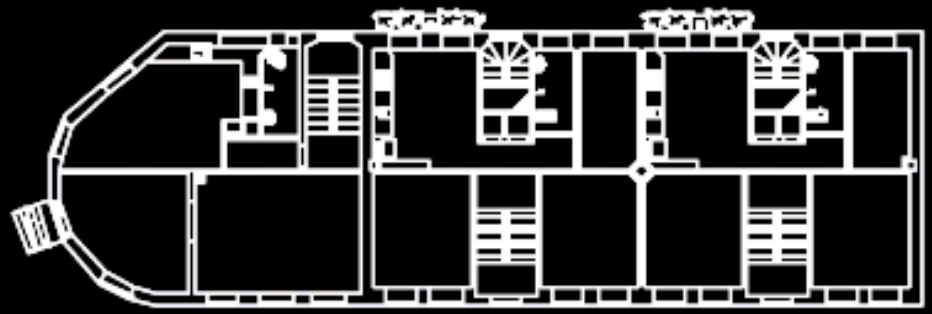


Green Kitchen
32A - 32B Enghavevej





Turnkey Contractor:
Byens Tegnestue

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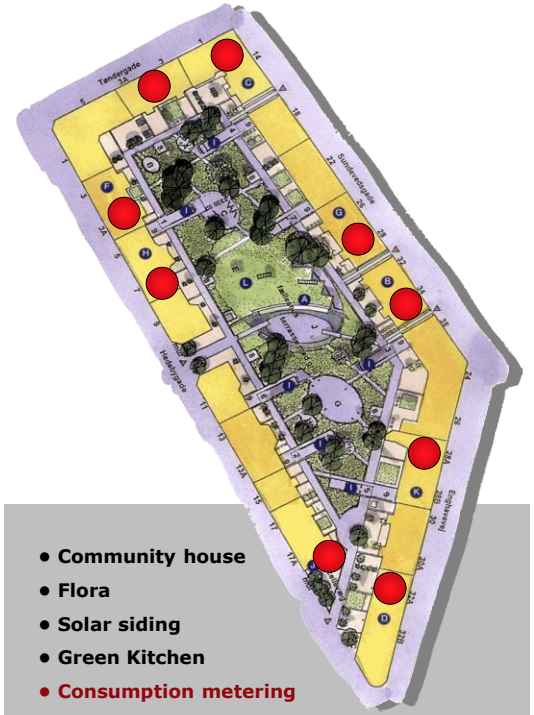

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Consumption metering

Turnkey Contractor:
Torben Wormsle/Rådgivende ingeniør

Integrated ecological urban renewal 3-3A Hedebygade

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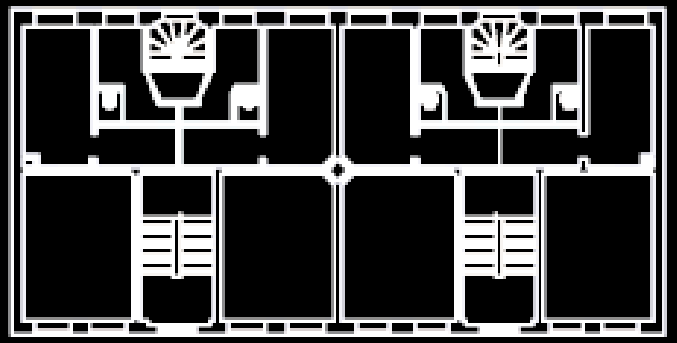

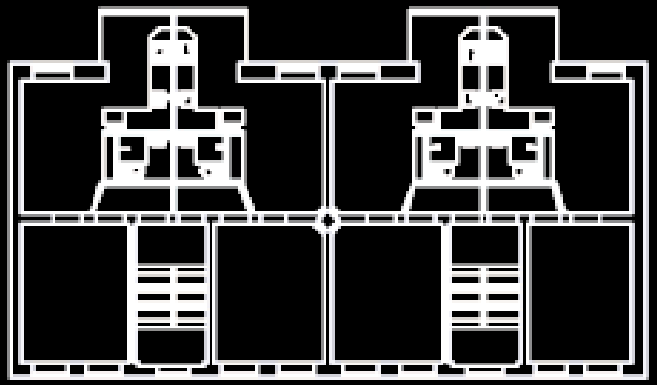

Turnkey Contracto
Erik K. Jørgensen

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Turnkey Contractor:
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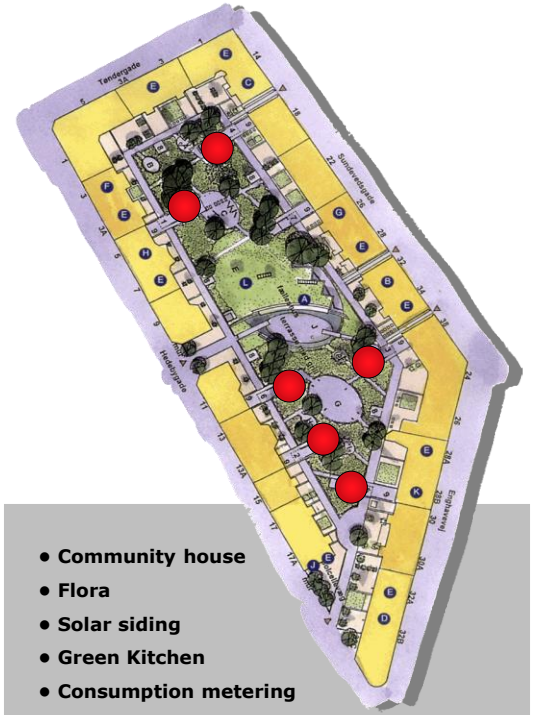

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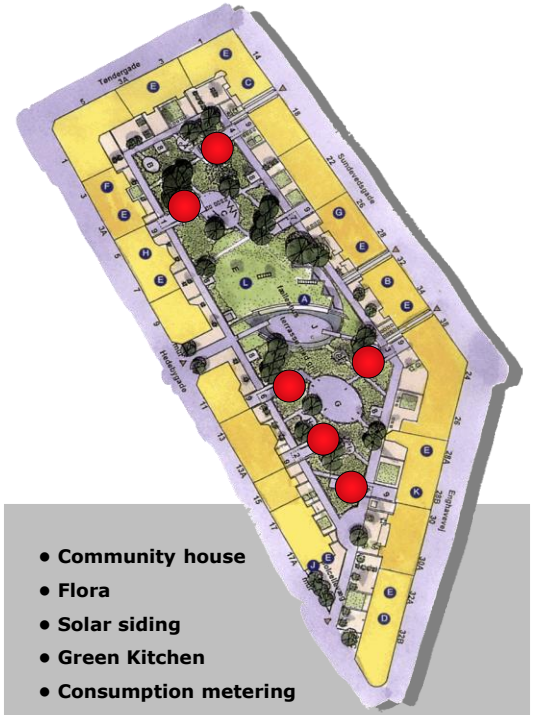
Waste sorting – throughout the block

Turnkey Contractor:
Domus A/S Arkitekt og R 98



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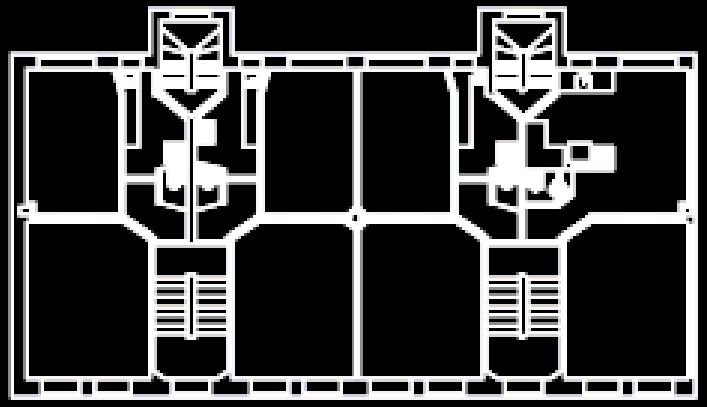
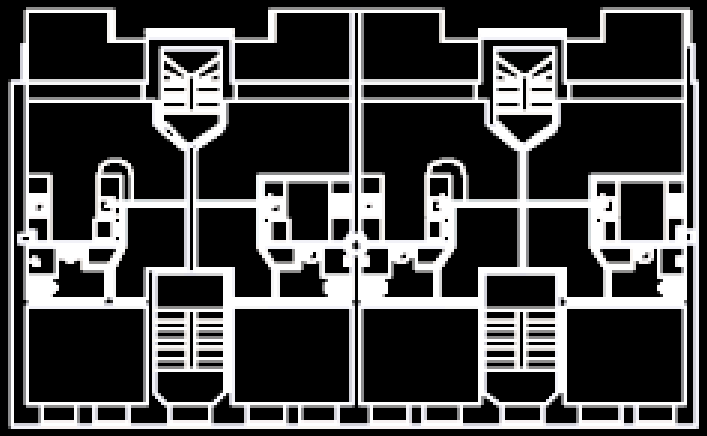
Solar energy in urban renewal – 26-28 Sundevedsgade





Turnkey Contractor
Erik K. Jørgensen

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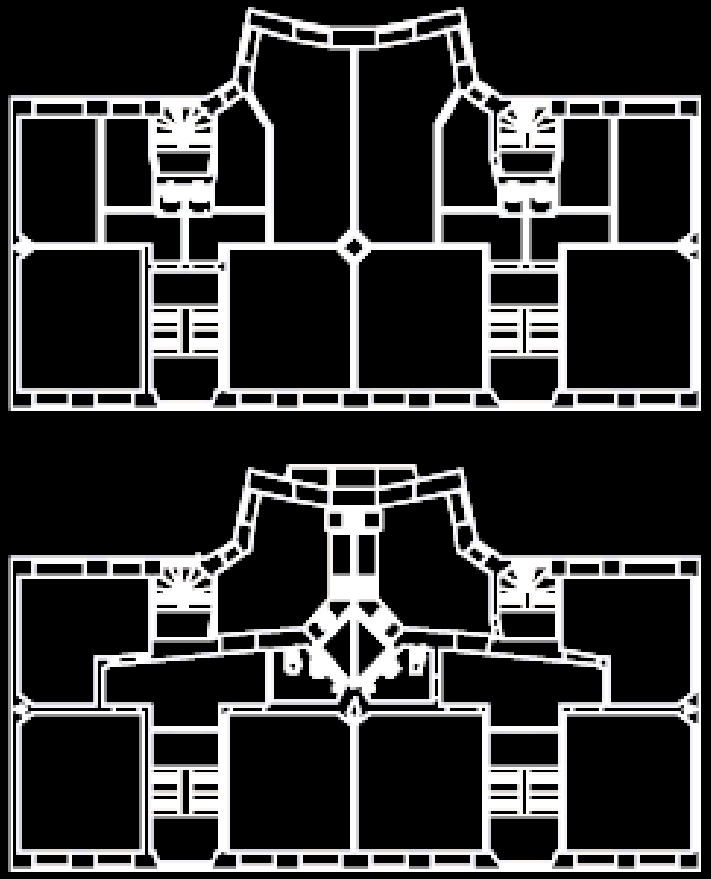
Prism
5-7 Hedebygade



Turnkey Contractor:
Per Holst Box 25 Arkitekter

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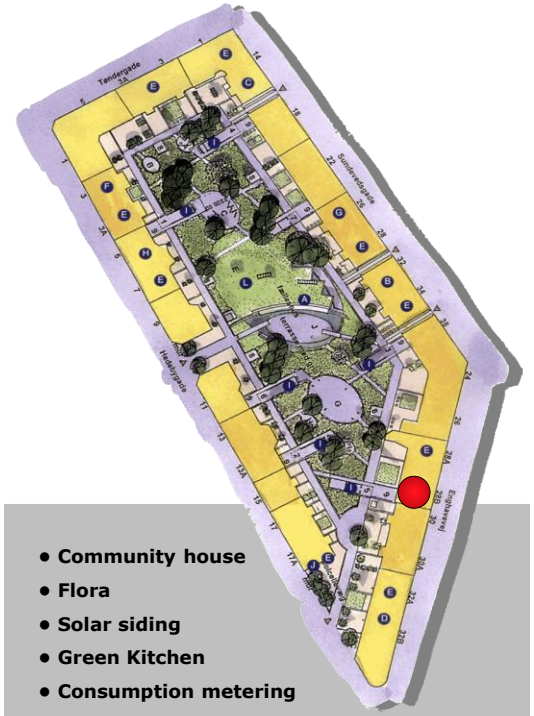
Turnkey Contractor:
Per Holst Box 25 Arkitekter

Flexible facades
28AB Enghavevej



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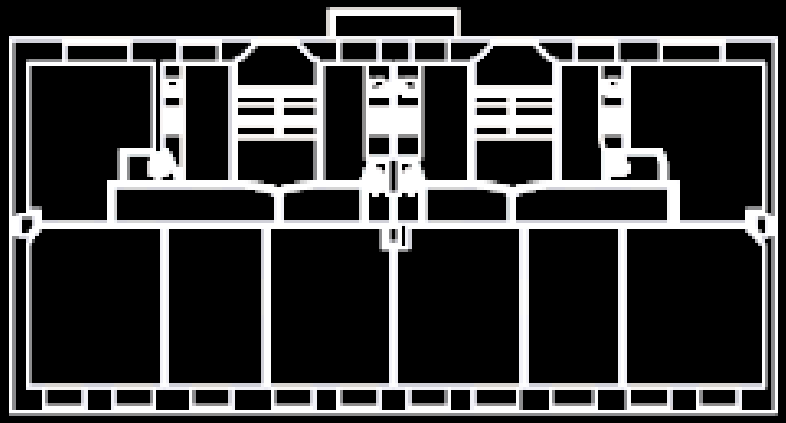

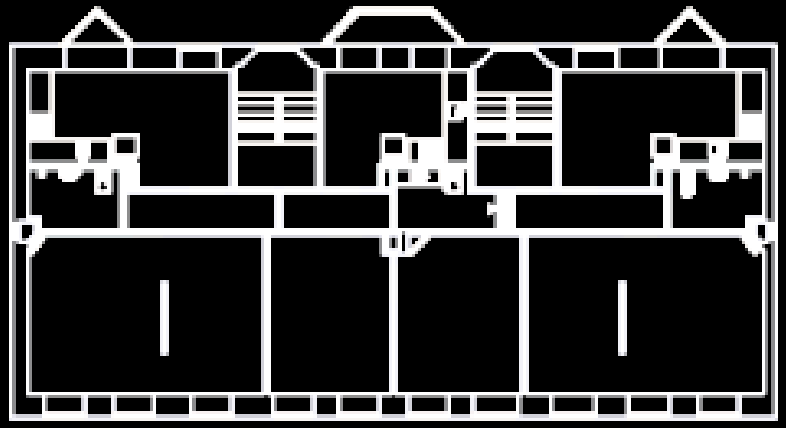

Turnkey Contractor
Tegnestuen Plan 1

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Turnkey Contractor:
Tegnestuen Plan 1

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Turnkey Contractor:
Domus A/S Arkitekter

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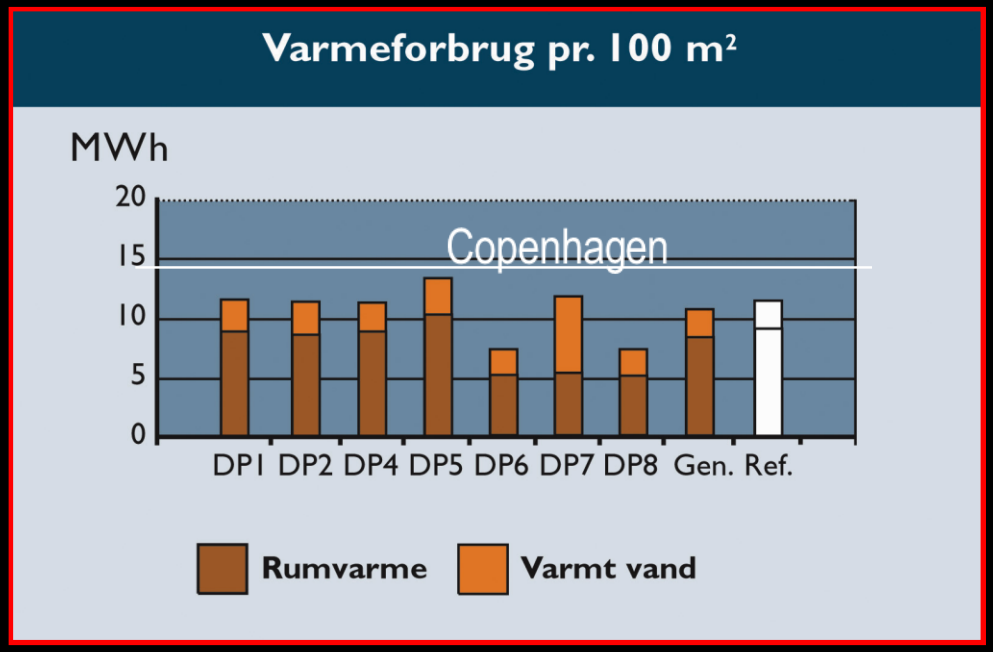
Turnkey Contractor:
Domus A/S Arkitekter

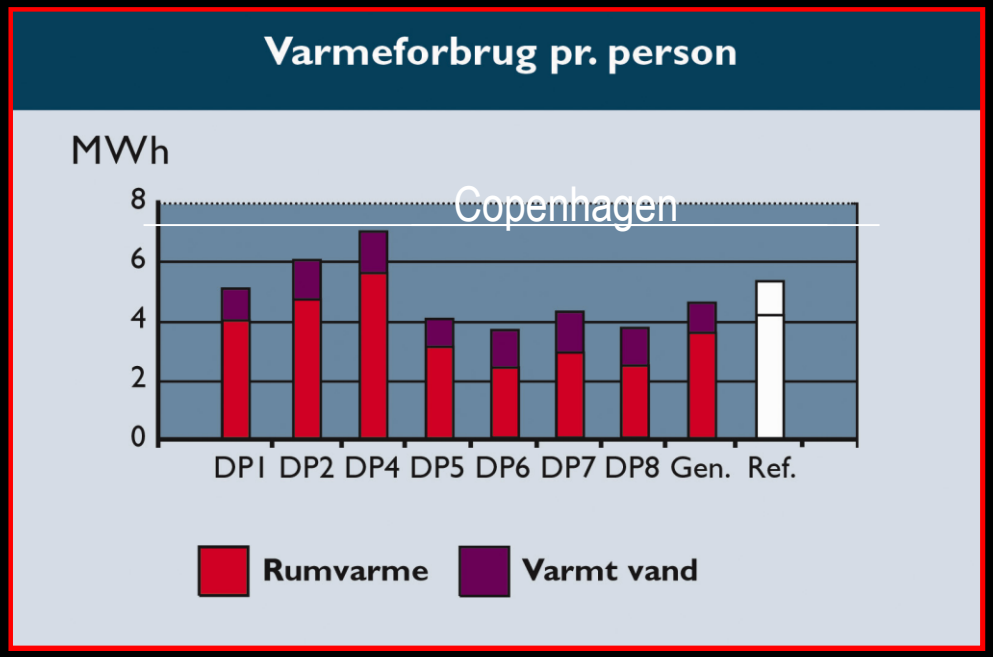
Result – consumption of energy

Heating consumption pr. 100 m2



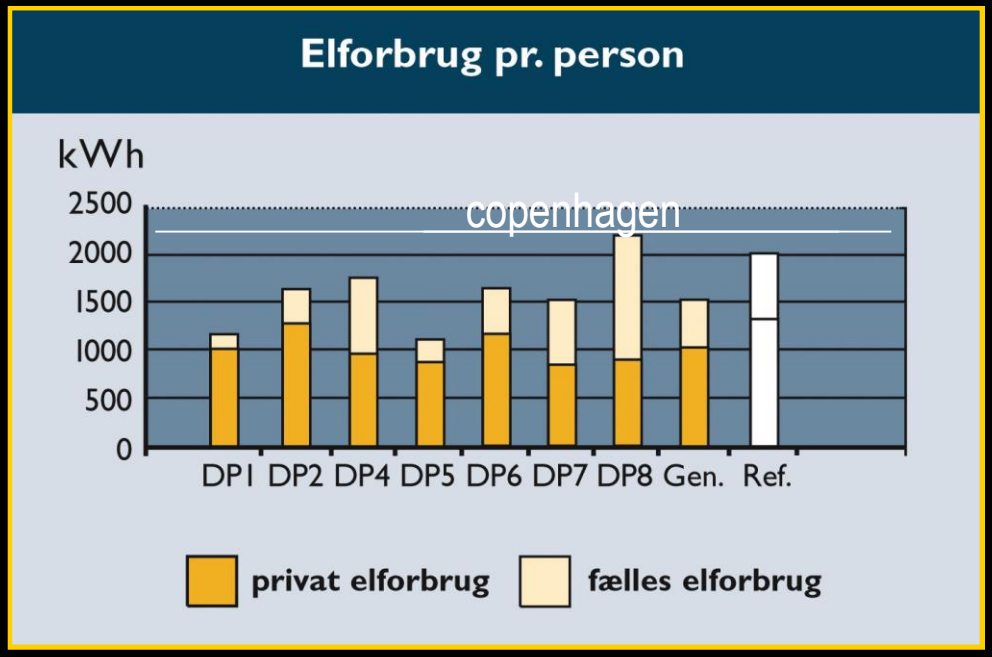
Result – consumption of energy

Heating consumption pr. person



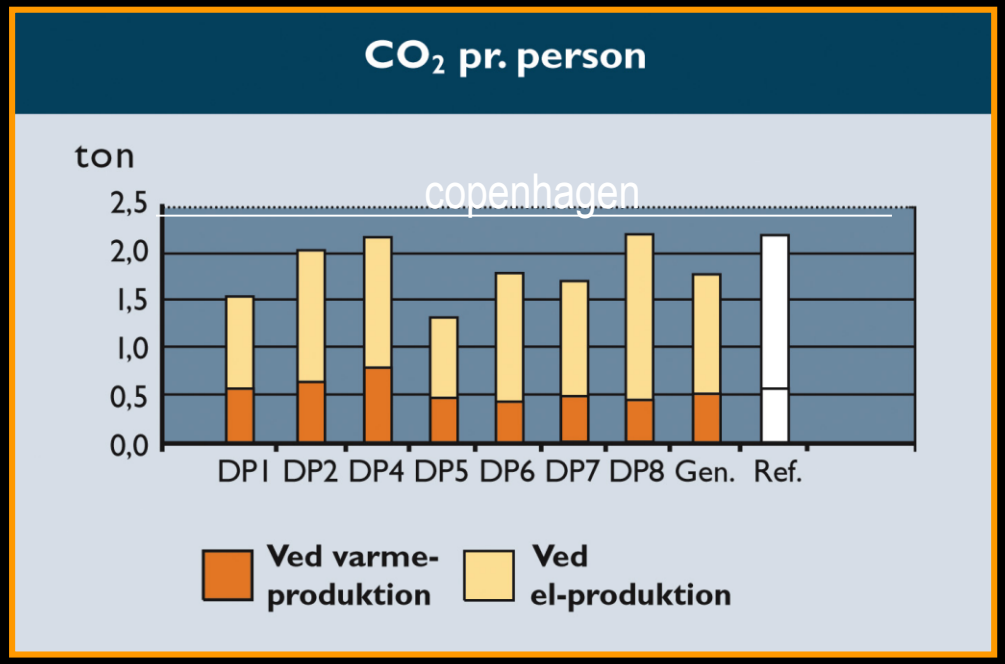
Result – condumption of energy

Electricity consumption pr. person



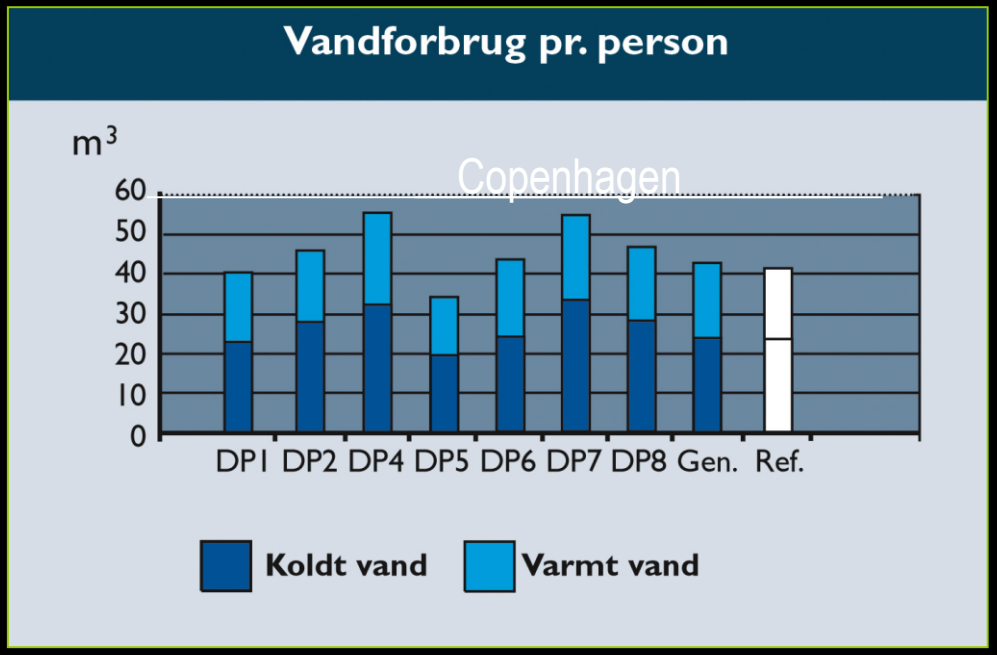
Result – consumption of energy

CO2 consumption pr. 100 m2

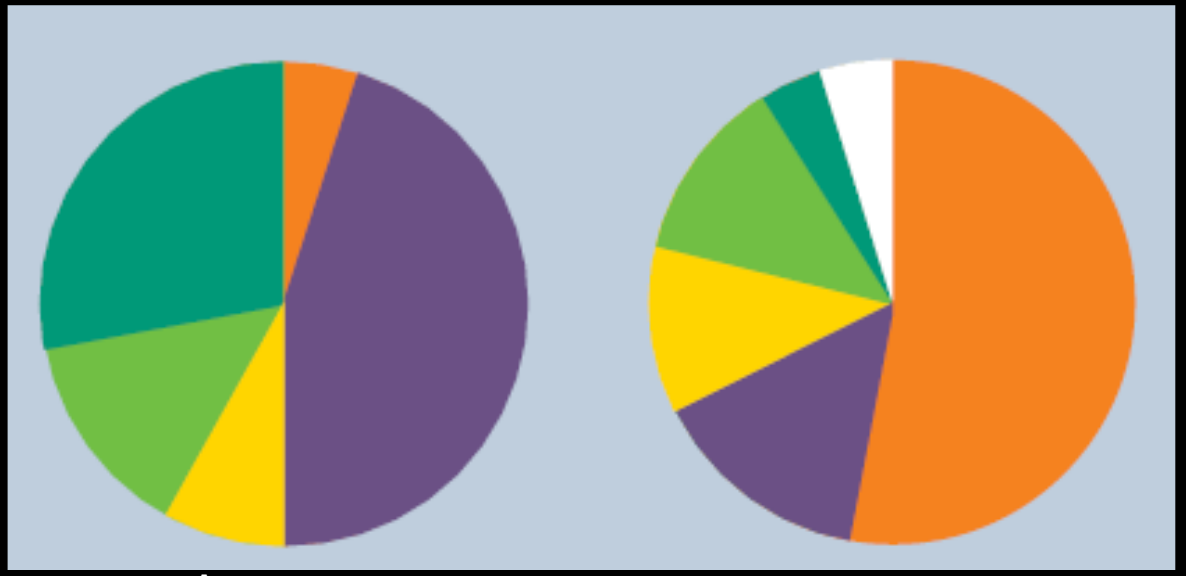


Result – consumption of energy

water consumption pr. person



Biofactor



Area use
Hedebygadekarré
en Biofactor 0.58

Court yards area
use on Vesterbro
Biofactor 0.39

- Build
- Pavement – fixed coating etc
- Water permeable
- Grass
- Plants
- Others


the
world habitat
awards
2004
This is to certify that
Twelve Urban Ecology Projects
in Hedebygade
Denmark
was selected as a finalist for the
World Habitat Award 2004
Building and Social Housing Foundation
ERHVERVS- OG BYGGESTYRELSEN
PROJEKT RENOVERING
Hedebygadekarréen
Tolv byøkologiske demonstrationsprojekter
i Hedebygadekarréen, Ydre Vesterbro, København
3.60

- Urban renewal has strengthened interest in urban ecology
- The actual urban ecological solutions did not excaitly have full lived up to the residents expectations -
- Residents express great satisfaction with the Common House in general and the individual facilities attached thereto.
- The majority of residents have declared themselves in part satisfied with the amount of information and cooperation with sbs renewal (the urban renewal company)
- The internal community and cooperation in Hedebygade- has become strengthened along the way.
- Many residents have felt they had difficulty by getting theirs opinions throughout the context with the urban renewal process

The future

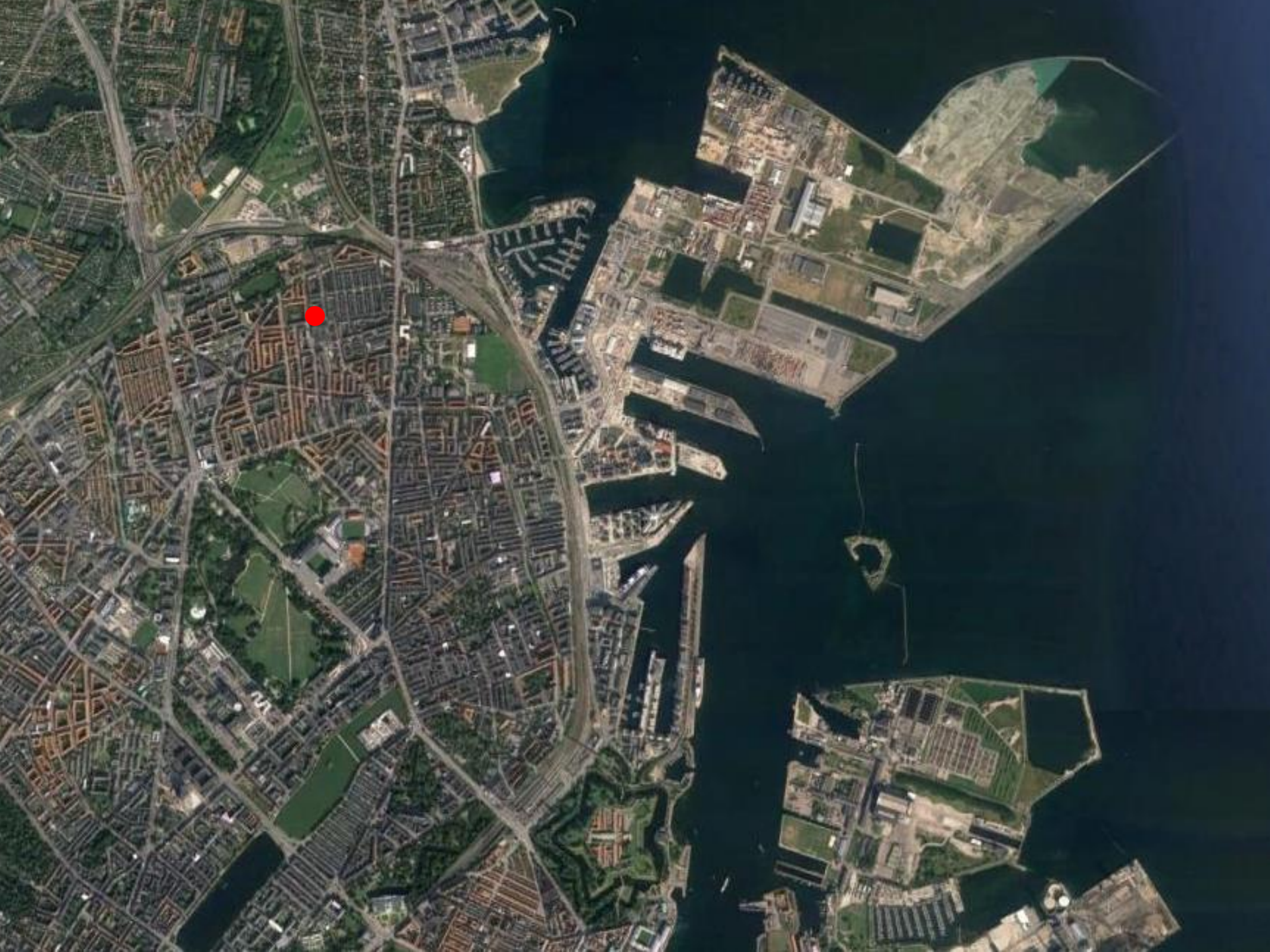
- Involvement of residents and users - communication
- User behaviours – management – guidelines
- Building Regulations 95 – average 15-20% saving
- Improved overall financial performance
- Gain of interest of ecology – companies involved in the project
- Inspiration – attractive
- Quality – solutions – High tech, low tech – maintaines
- Living comfort – les moving frequencies
- Design – adaptation still valid
- Efficency
- Document - evaluate - new instruments


CENTURION
mobii
christiania bikes


LEGO

Based on interviews – not a survey

- More green in the common spaces
- More green life style in the common-spaces
- Green life style in appartments – declining – maintaince
- More families – les moving frequences from 32 % to approx 17%
- Ecology/sustainabilities has become more mainstream and less hipe - need
- More bycycles –
- More waste handling
- Some solution – solar panels need to be maintained / replaced
- Common house – great succes



AIM: Climate – Block

- Improve housing quality (eg create attractive housing, light, housing size adapted needs, good architectural solutions, strengthen the community)

- Future new standard of proof block (eg energy renovations, green courtyards, rainwater use, waste management and hedging economical, sustainable operation)

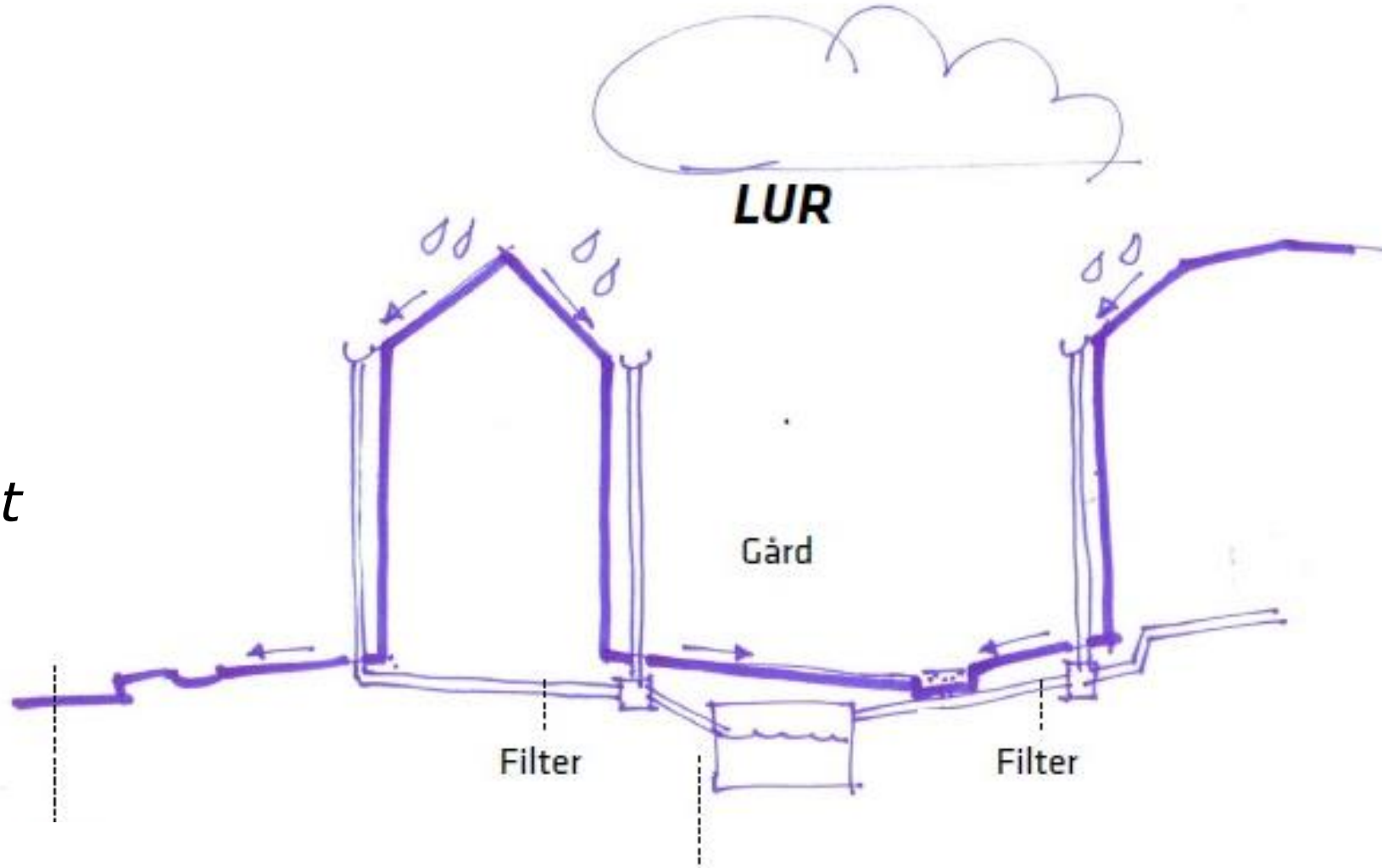
- Find new durable solutions which can be scaled and used in others properties in Copenhagen

Plan

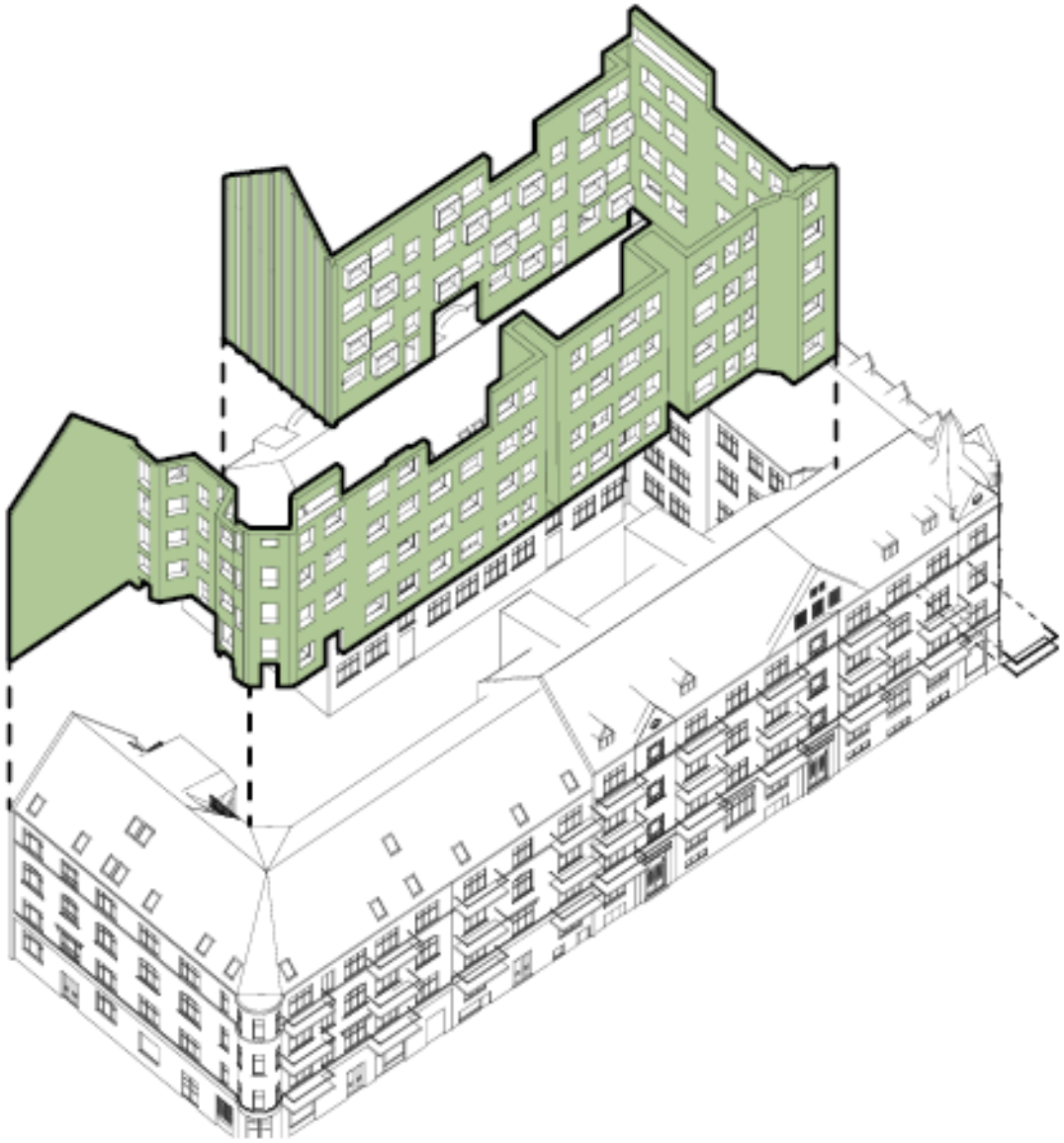
LAR

LUR

Street



REGNVAND
OPSAMLING & BRUG
FORSINKELSE & NEDSIVNING



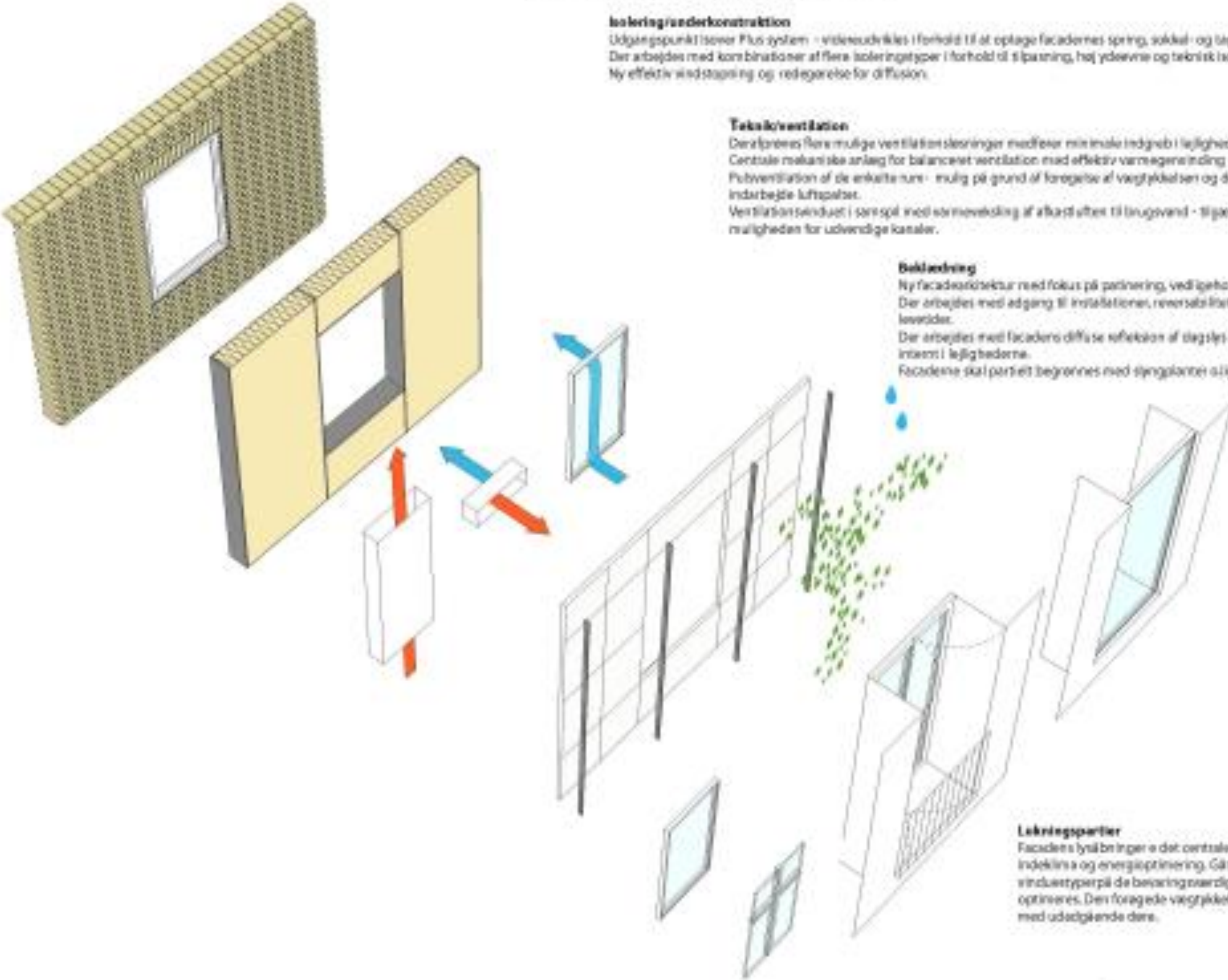
ISOLERINGSVÆGGEN SOM PLATFORM

Den eksisterende facade.
Vedligeholdelses efterslæb omfatter murværkets fuger, vinduer, sålbænke, tagfod samt udvendige el- og vvs installationer.
Utæthed vedr. lufttætheden (infiltration) og opfugtet murværk.

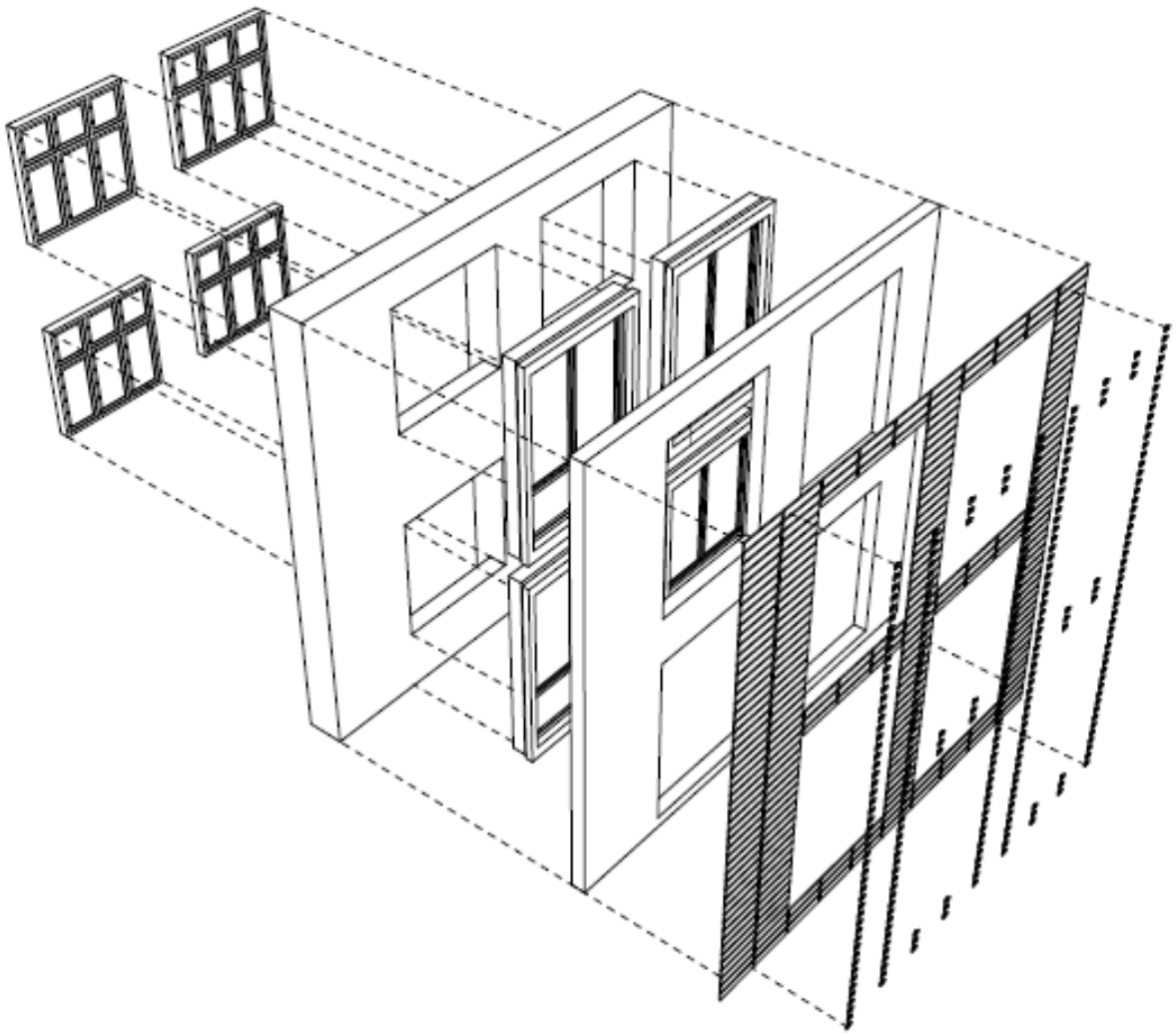
Isolering/underkonstruktion
Udgangspunkt Isover Plus system - videreudvikles i forhold til at optage facadernes spring, sokkel- og tagfodsdetaljer.
Der arbejdes med kombinationer af flere isoleringstyper i forhold til tilpasning, høj ydeevne og teknisk isolering.
Ny effektiv vindstopning og redegørelse for diffusion.

Teknik/ventilation
Der afprøves flere mulige ventilationsløsninger med færre minimale indgreb i lejlighederne, som muliggøres af konceptet.
Centrale mekaniske anlæg for balanceret ventilation med effektiv varmegenvinding - muliggjort af udvendig kanalføring
Pulsventilation af de enkelte rum - mulig på grund af forøgelse af vægtykkelsen og det arkitektoniske arbejde med at indarbejde luftspalter.
Ventilationsvinduet i samspil med varmeveksling af afkastluften til brugsvand - tilgængelig i forhold til de nye vinduer og muligheden for udvendige kanaler.

Beklædning
Ny facadearkitektur med fokus på patinering, vedligehold, slagstyrke, mv.
Der arbejdes med adgang til installationer, reversabilitet i montagen og symmetri i forhold til den samlede kon
levetider.
Der arbejdes med facadens diffuse refleksion af dagslys i forhold til effekten på dagslysniveauet på gårdens flad
internt i lejlighederne.
Facaderne skal partielt begrønnes med slyngplanter o.lign. Der indarbejdes drypvandingssystem.



Lukningspartier
Facadens lysåbninger er det centrale element i forhold til forøgelse af bo-kvalitet og forbedr
indeklima og energioptimering. Gårdfacadens nye arkitektur gør det muligt at introducere
vinduestyper på de bevaringsværdige bygninger hvor energi, opsprosning, åbnefunktion
optimeres. Den forøgede vægtykkelse åbner for en bla. Karnapper, vægnicher og franske al
med udadgående døre.

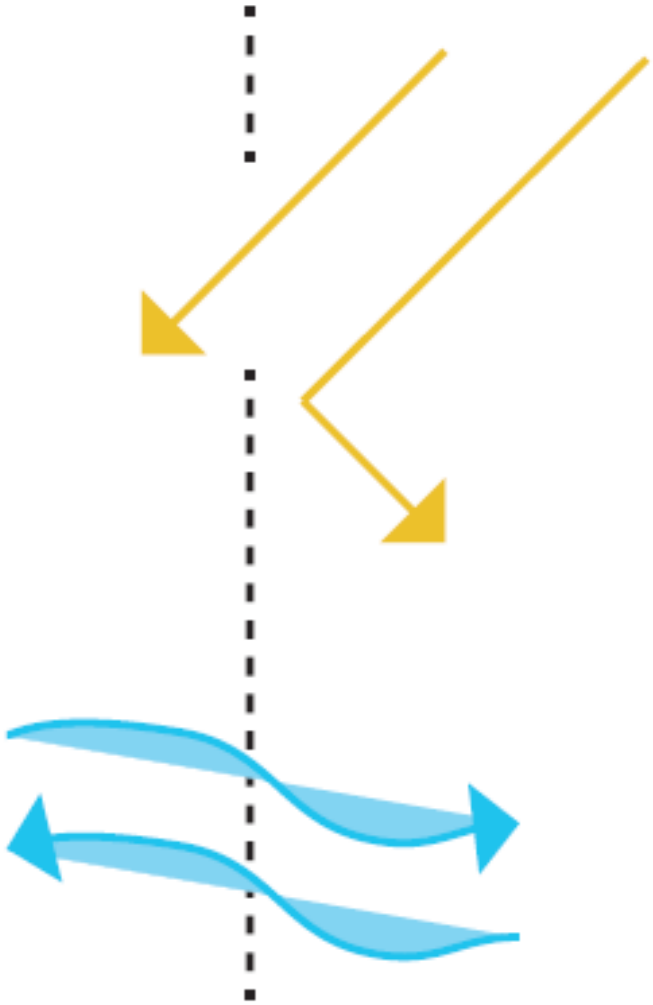


DAYLIGHT The light intake must be preserved and improved

AIR QUALITY The CO2 content in the air is reduced. Affects our health and concentration

FOG AND SKIMMEL The moisture content in the air is reduced. Affects our health and the health of the building Mold is prevented. Affects our health and the building's health

DRAW AND HEAT Cold bridges are disconnected, pull eliminated, the coldfall at windows mini




TÅSINGEGADE
REGNBEDE
REGNBEDE
REGNBEDE
BUNKER
BUNKER
OURØGADE
SOLSKRÆNTEN
TORVET
VANDDRÅBER
VANDVIPPER
PARASOLLER
REGNSKOVEN
BØLGEN
VENDEPLADS
LANGØGADE