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CLIMATE PLAN

– Sustainable city and green innovation

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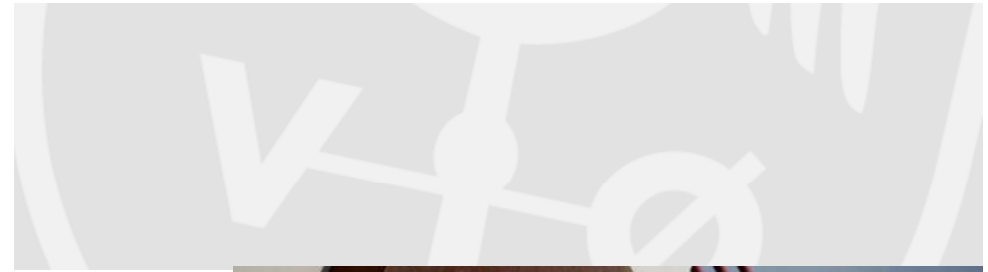
Albertslund – a young city

One of several small municipalities west of Copenhagen with 30,000 residents.

Part of the building boom of the 1960s, a new and modern city. Planned by the experimental principles of urban and traffic planning of that time.

Industrialised building, rapid construction using new materials.





Albertslund – a young city of many qualities

Located close to green areas, close to metropolis, close to commuter train.

City centre and cultural scene.

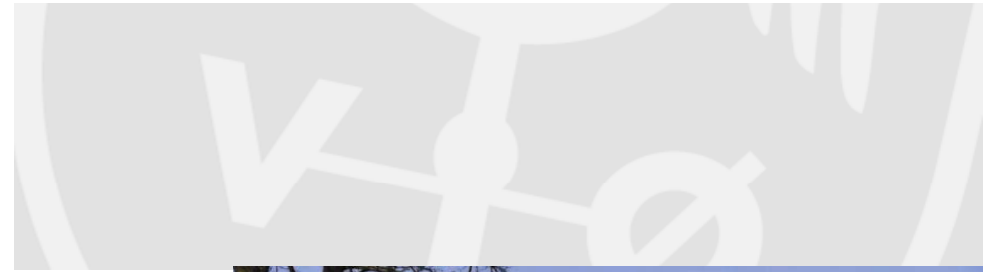
Division of roads and paths between 'hard' and 'soft' road-users.

Key issues

with focus and development: children, culture, environment.

Anchorage of environment work.





New ambitious Climate Plan

Background:

1. Increase in consumption of electricity and heating as well as CO2 emissions
2. Climate debate is topic of the day
3. Serious urban challenges

Climate focus in Albertslund:

1. Holistic approach
2. Sustainable development





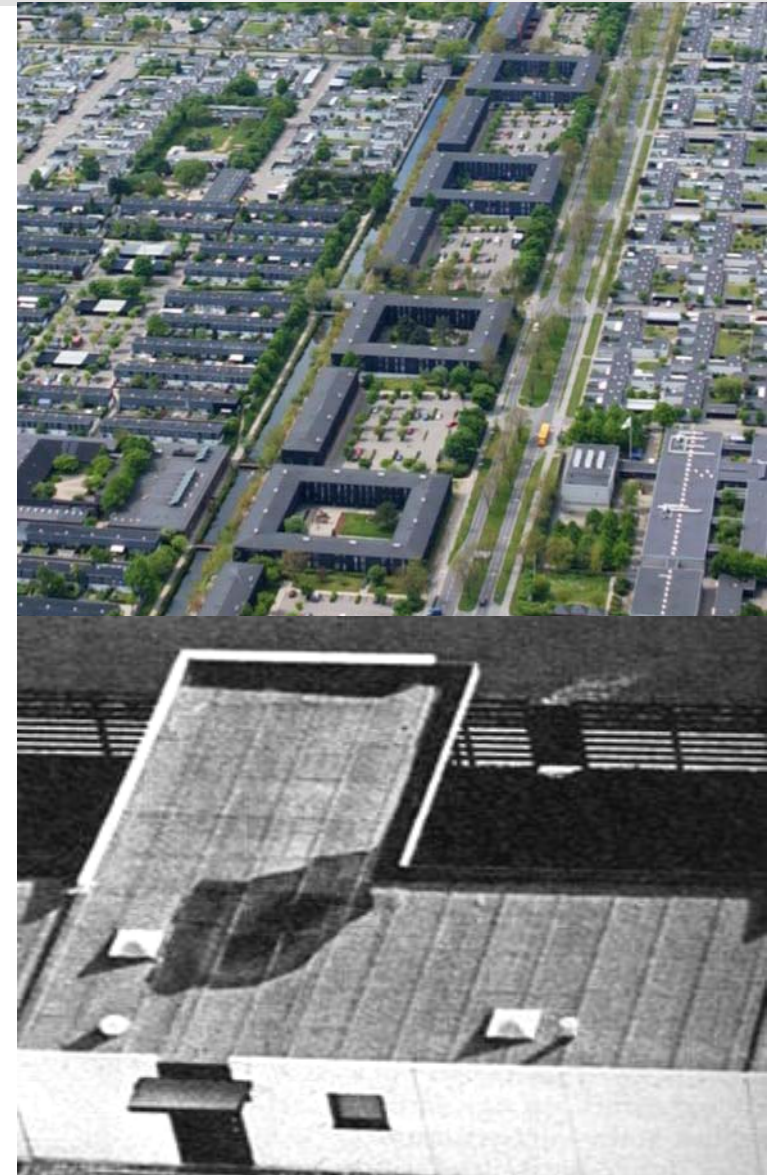
Climate change – opportunity for Albertslund

The young City of Albertslund is facing thorough modernisation in the 21st century.

A unique chance of developing the city and of doing so in a climate-friendly manner.

The Climate Plan is a local climate initiative of global outlook.

Albertslund as a climate laboratory developing and demonstrating new climate solutions and forms of cooperation.





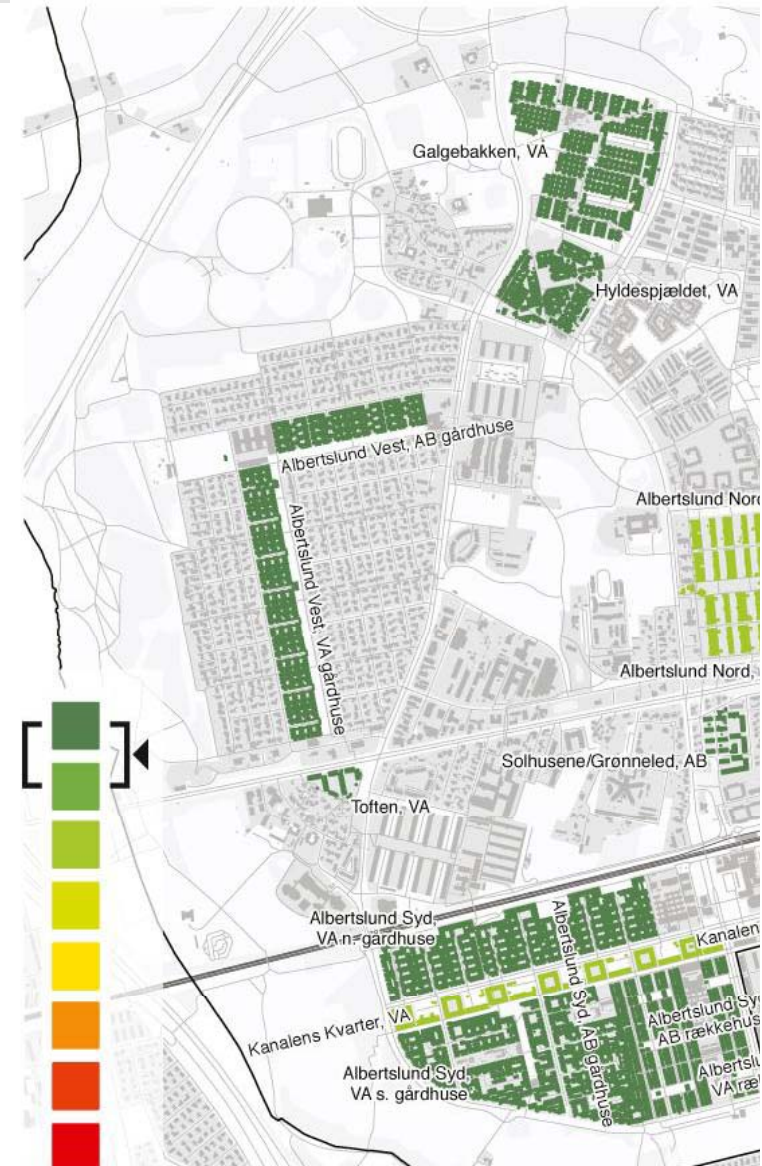
Climate Plan – visions and targets

Visions

1. Albertslund in a new and climate-friendly version.
2. The energy-correct choice.
3. A benchmark for climate-ambitious cities.

Targets

1. Launching activities reducing CO2 emissions in the City by 25% by 2015.
2. Introducing new areas for effort and visualising climate changes.
3. Supporting development of Albertslund as a sustainable city.





Green innovation – GATE21

How it started

2007: New stringent CO2 targets must be met and the City must be developed, modernised and rendered energy-efficient.

The idea of the GATE21 was born as part of the need for a new and holistic Climate Plan.

The City gets a new role: initiator of cross-cutting new development projects and new cooperation with a large number of partners.



GATE 21
SUSTAINABLE FUTURE FORUM



Green innovation – GATE21

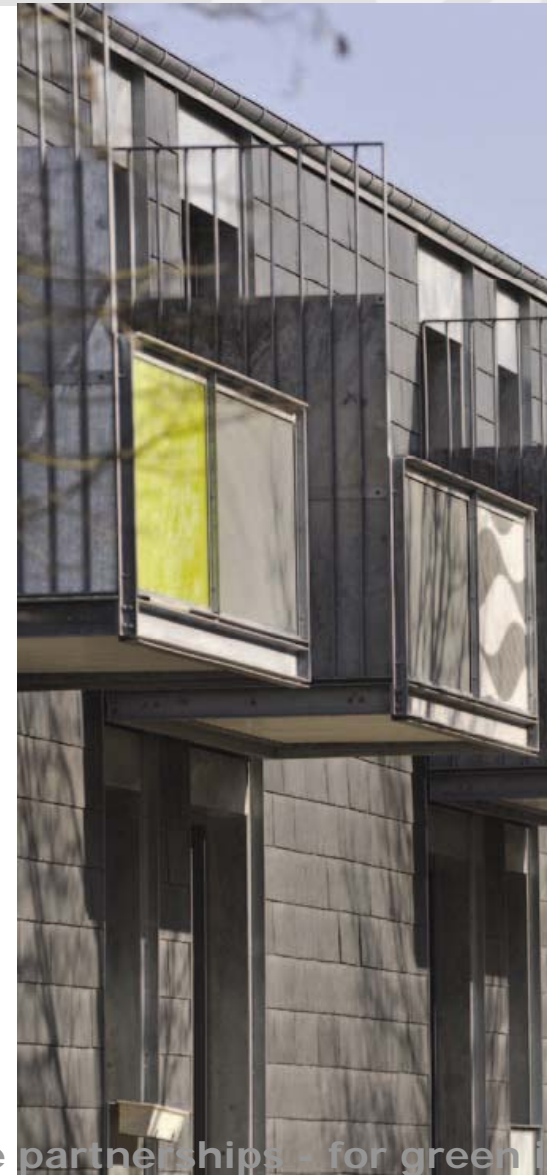
Here we are...

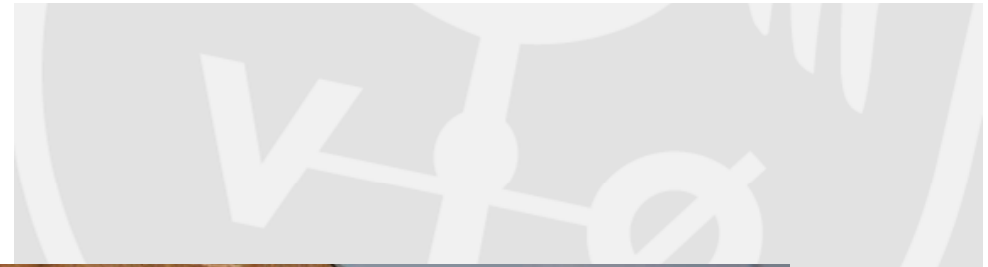
The Centre opened on 1 September with own staff and premises in Albertslund.

Forum for: Local authorities, housing associations, universities, consultants, contractors, energy companies and producers.

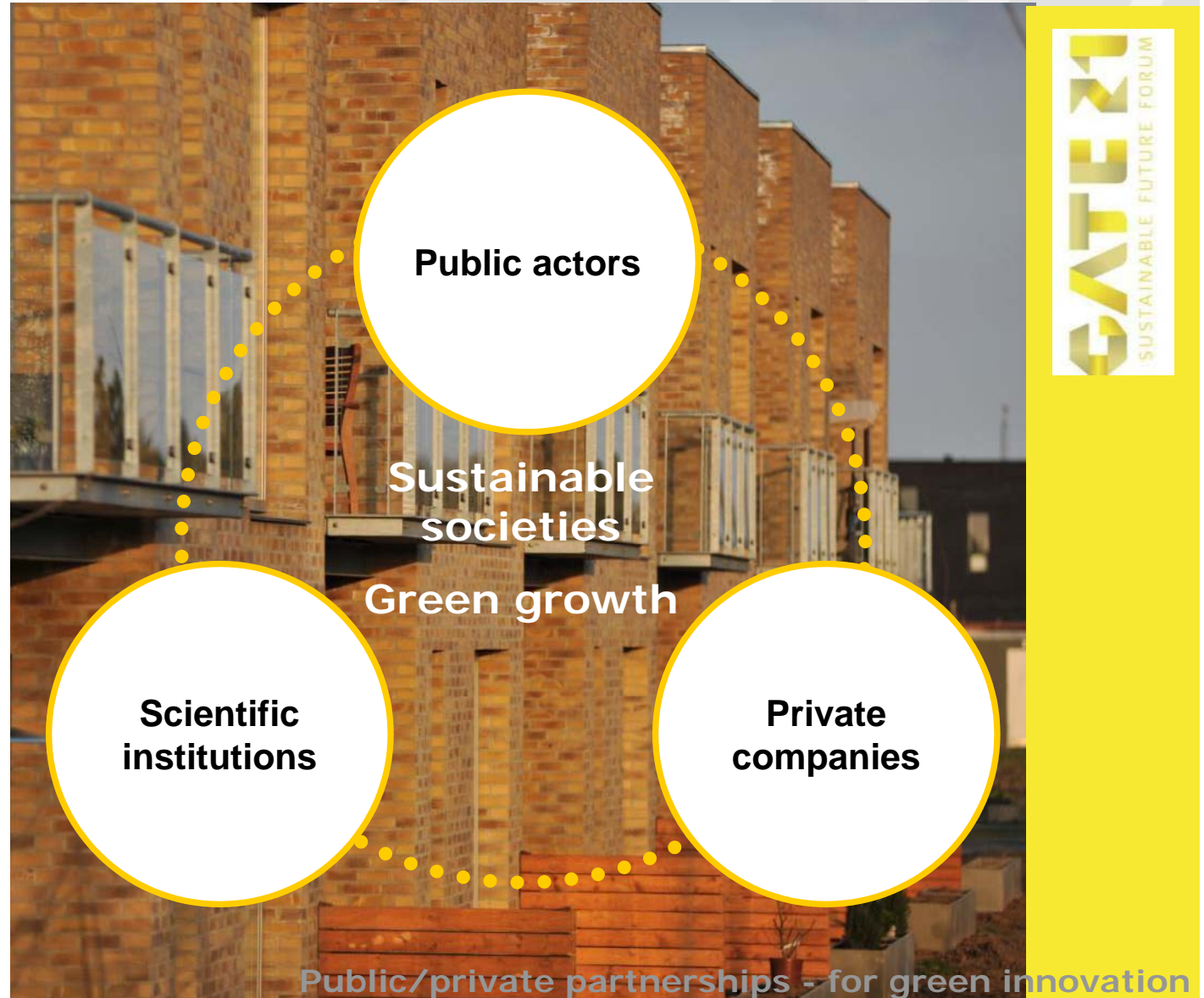
Focus: Green growth, sustainable solutions and strategic partnerships of the future.

Focus sectors: construction, transport and resource use.

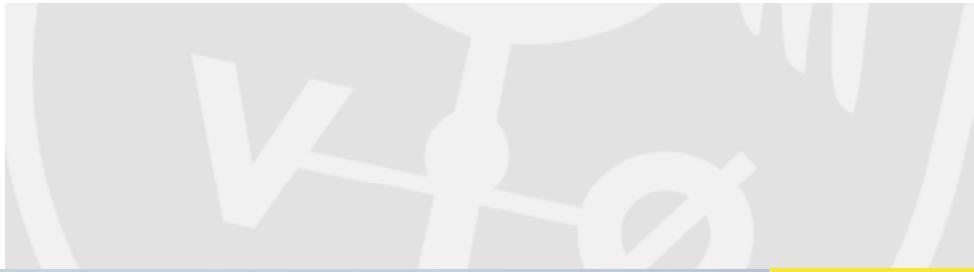




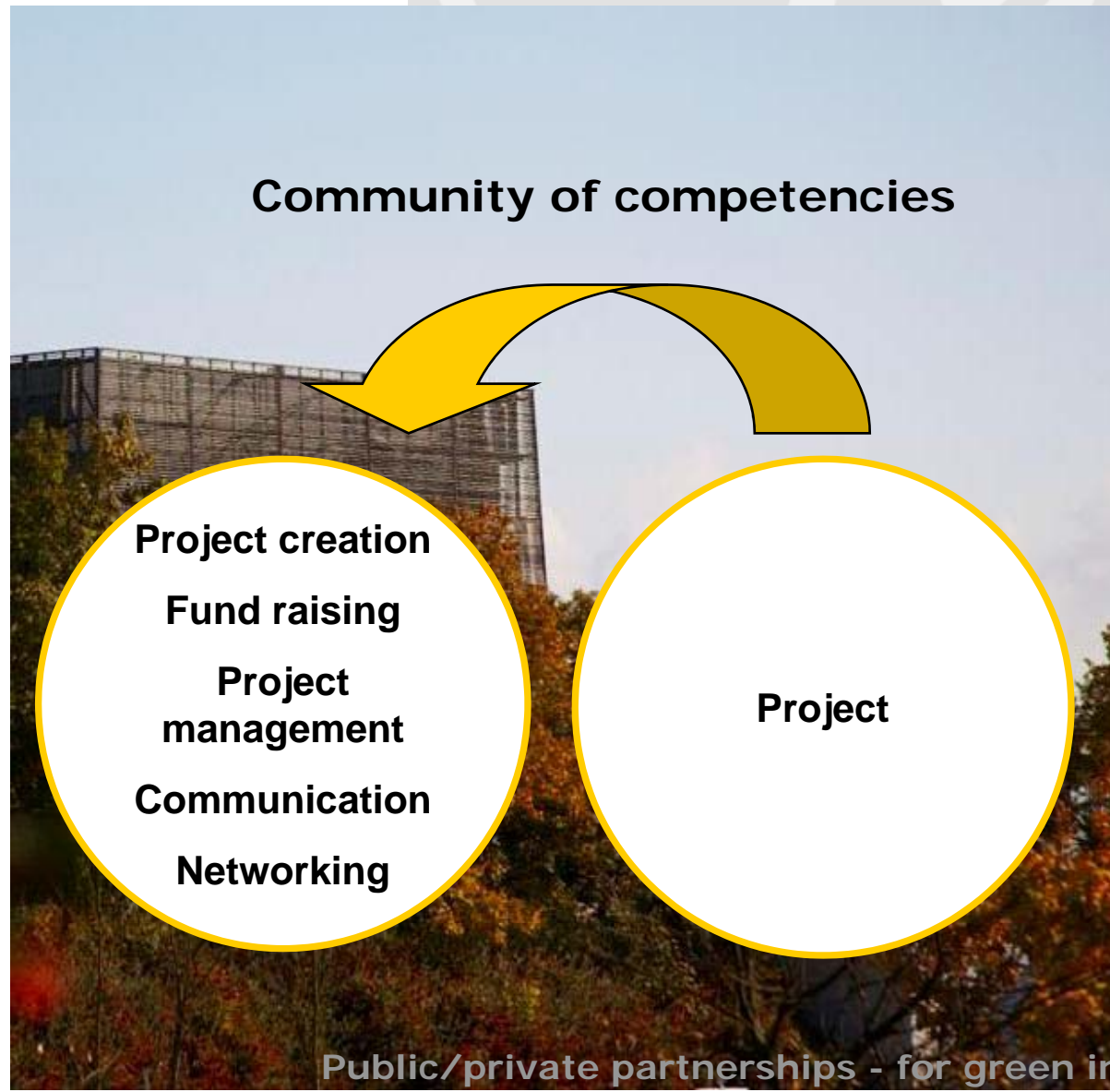
**Climate
Energy
Environment**



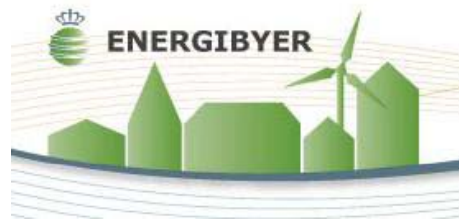
Public/private partnerships - for green innovation



Develop
Test
Demonstrate



Public/private partnerships - for green innovation



What GATE21 is doing

GATE21 is facing the climate challenge, bringing all competences and actors into play in a cross-cutting manner.

GATE21 is creating market and demand for sustainable solutions.

GATE21 is providing external financing for projects developed jointly among the partners.

GATE21 is developing and testing innovative green solutions.





GATE21

– energy-correct renovation

Plan C

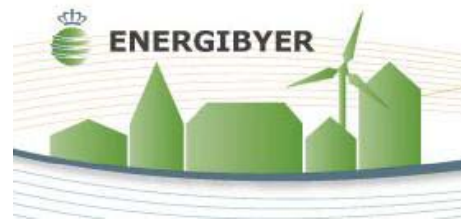
From summer 2009 GATE21 gives shelter to the Plan C Project.

In the next years, 37 partners will develop, test and demonstrate new and innovative solutions within energy-correct renovation.

The project, having a total budget of DKK 37 million (approx. EUR 5 million), is primarily supported by Growth Forum for the Capital Region of Denmark.



Public/private partnerships - for green innovation



GATE21

– energy-correct renovation

Plan C

Uniting strong-points of the region within construction and cleantech.

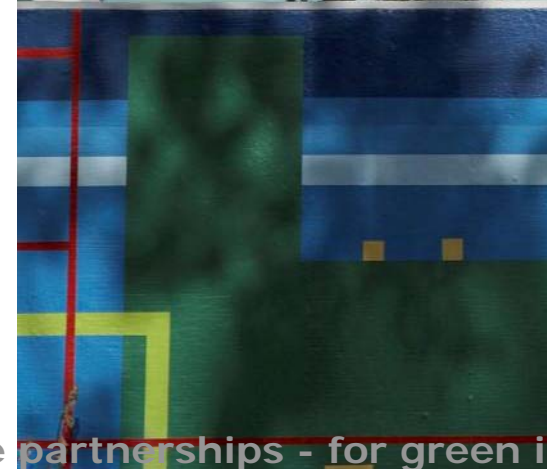
Partnership among private and public actors, breaking down barriers within energy renovation.

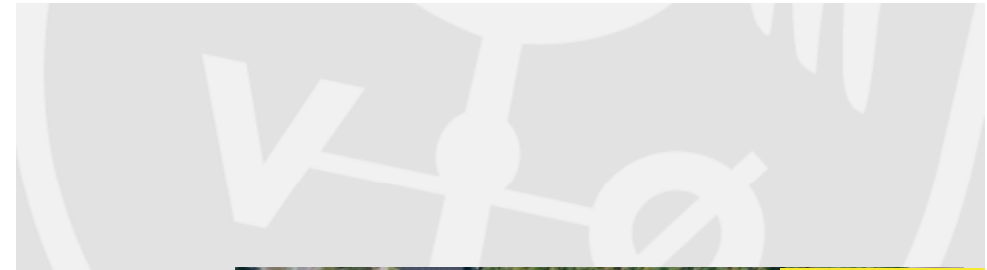
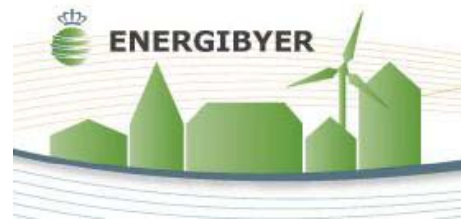
Large-scale activities producing applicable concepts, processes, materials, and technology.

Plan C provides competitiveness and growth on the global market for the Danish construction sector.



GATE21
SUSTAINABLE FUTURE FORUM





GATE21

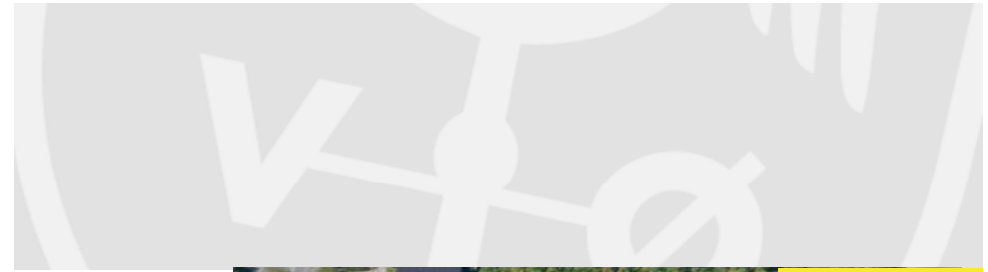
– concrete results

Plan C

1. Digital tool for assessment of renovation projects.
2. Tool for innovative organisation of building processes, energy-efficient supply, optimisation of behaviour and monitoring.
3. Demonstration projects within energy-efficient renovation.
4. Development of competences and know-how.
5. Comprehensive communication using novel media.



Public/private partnerships - for green innovation



HENNING LARSEN ARCHITECTS



GATE 21
SUSTAINABLE FUTURE FORUM



Green innovation – new forms of cooperation

Modernisation and renovation of 16 housing areas covering 35% the City's dwellings.

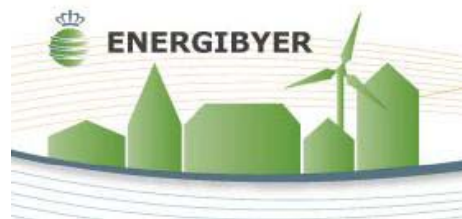
A unique chance of renovating and modernising the City in a climate-friendly manner.

Need for solutions being:

- Green.
- Cost-effective.
- Market-oriented.
- Architecturally aware.
- An asset in urban conversion.
- Holistic in terms of know-how.
- Generator of expertise.



Public/private partnerships - for green innovation



Green innovation – Albertslund Concept

In Albertslund South alone 2,200 dwellings are being renovated. They house almost 6,000 people.

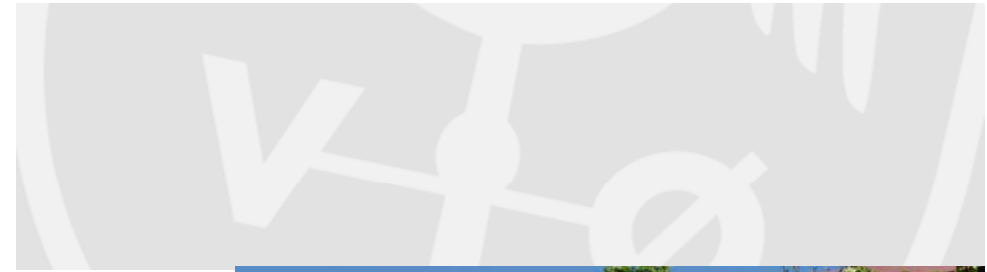
Additional financing is raised to attain attractive energy classes.

Development project:

Supported by the Energy Technology Development and Demonstration Programme (EUDP)

Gathering all relevant actors and knowledge within energy and construction – for new and effective solutions for energy renovation.





Albertslund Concept – climate friendly renovation

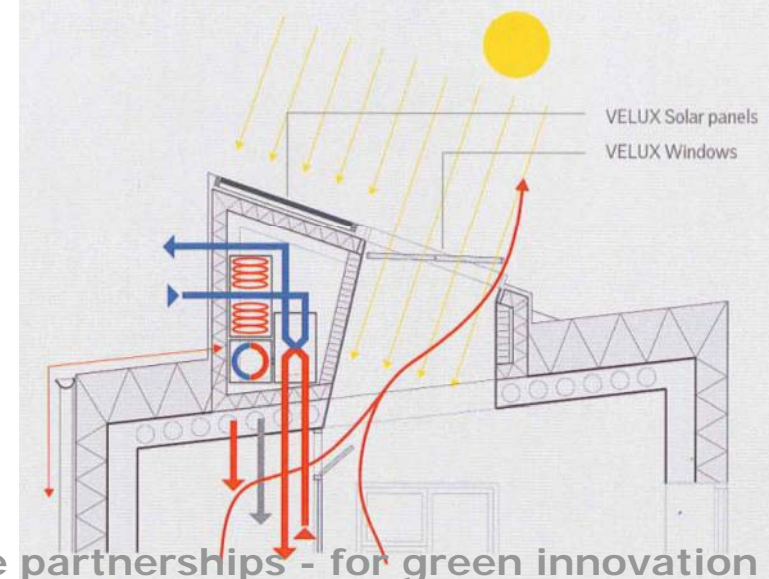
Housing area with around 650 residents, established in 1976 of reddish brown concrete elements in the form of 1-3 storey attached dwellings.

Development of building design

Balance between the need for lighting, heat control, and ventilation.

A positive response to the global environmental challenge:

- Zero-carbon renovation.
- Reinvention of the roof function.
- Simplicity in energy renovation.





The Solar Prism – new climate product

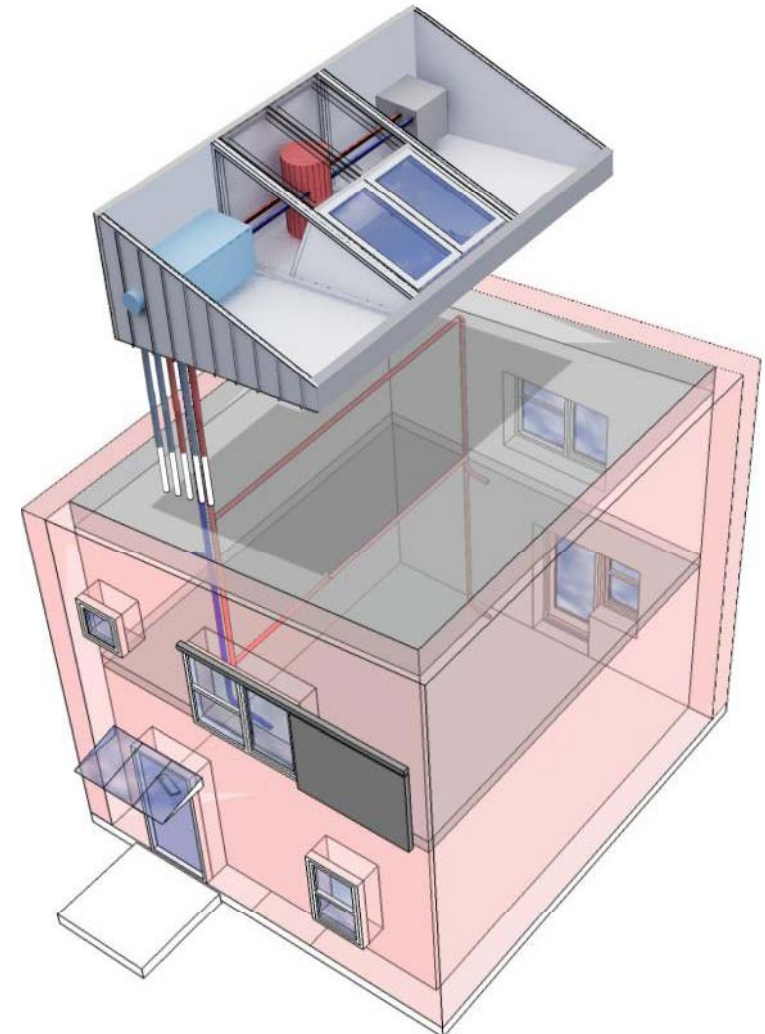
Prefab product developed by VELUX as part of the overall renovation solution.

Three main elements:

Surface – Roof windows, solar thermal collectors, and solar photovoltaic collectors.

Technology – Heat pump, solar hot water, and heat recovery ventilation.

Interface – Insulated prism construction.



Public/private partnerships - for green innovation



Green innovation – A Lamp

The Albertslund Lamp is a design classic, designed for the new city in the 1960s.

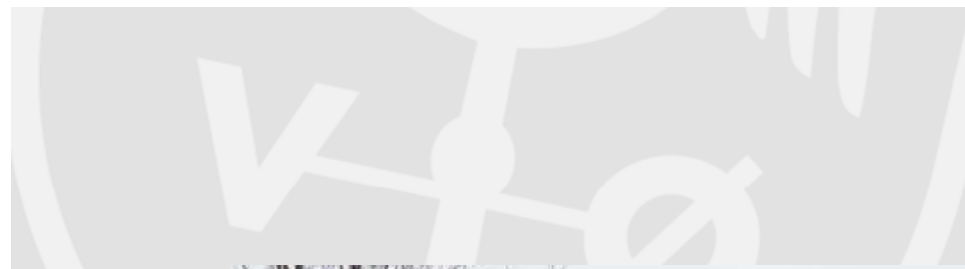
The A Lamp has been designed for the new renovated city of the 21st century.

Cooperation between the Municipality of Albertslund, ark-unika, Odgård design, Philips Lighting, DTU Fotonik, and DONG Energy.

Awarded with the Elforsk research award 2009.



Public/private partnerships - for green innovation



A Lamp – for the renovated city

The A Lamp is eco-friendly, energy-efficient and modern. It complies with all requirements for light quality, light effect, and energy efficiency.

Lower cost of maintenance, vandalism and less need for service.

During 2009, 50 A Lamps will be installed in the City centre.

60 A Lamps replace 80 Albertslund Lamps. Climate savings amount to 3 tonnes of CO₂ yearly, the City saves DKK 8,500 (approx. EUR 1,150), and payback time is 7 years.

