

# Swedish context and brief overview of projects, experiences and lessons learnt

**The future of social housing:  
environmental and social challenges and the way forward  
Approaches and examples Feb 4-5 2014**

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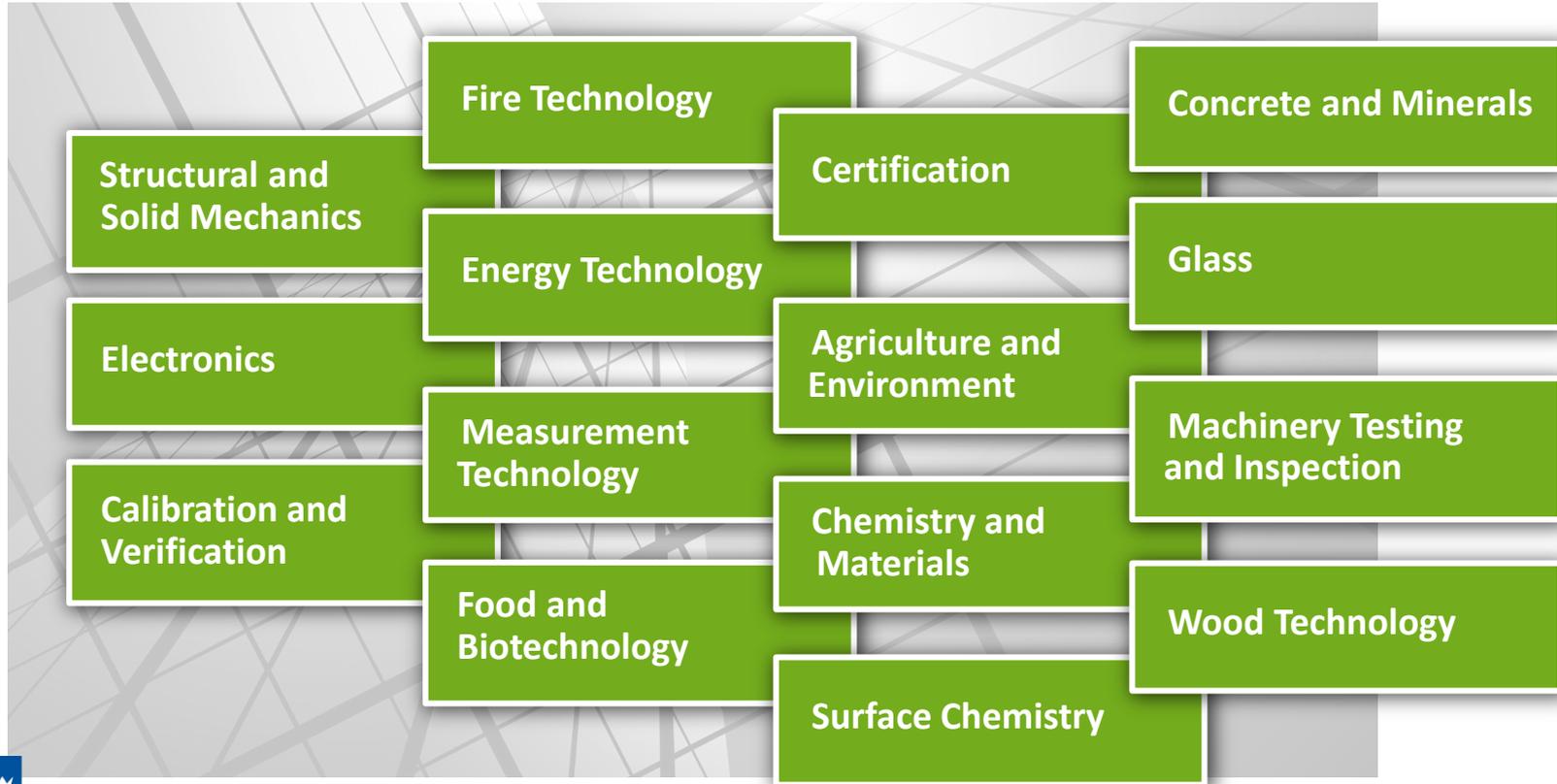


## THE INNOVATION PROCESS

- Cutting edge competence
- Experimental resources
- Broad technical scope
- Interdisciplinary working method



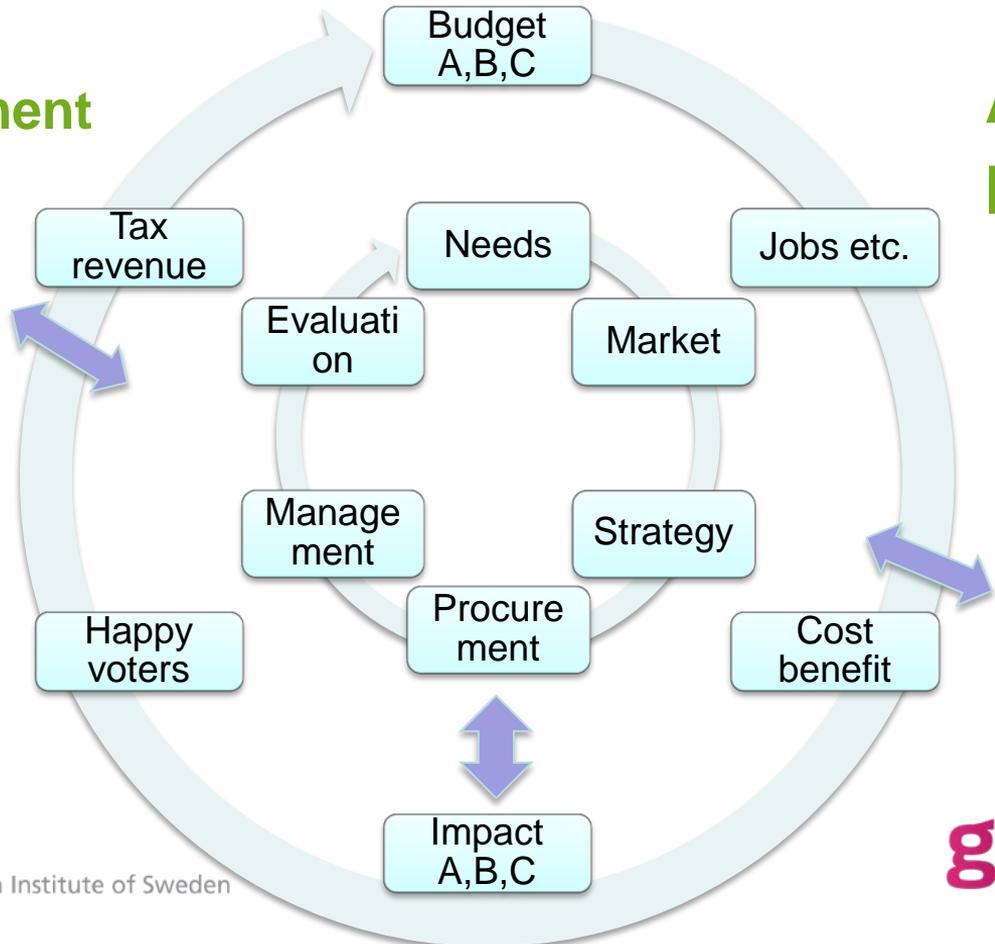
# TECHNICAL AREAS



# Policy tool to drive change:

## Public Procurement of Innovations

A societal perspective



**PROBIS**  
Procurement  
Of Buildings  
Innovative  
solutions



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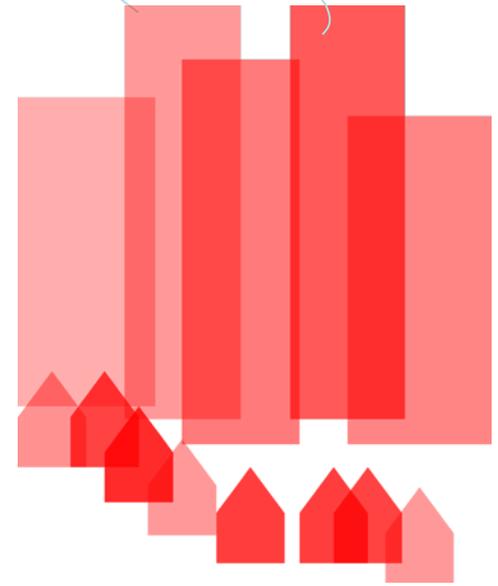
# Policy targets in Sweden and the EU

- **20-20-20 Target** EU-directive decided to reduce energy use, particularly of energy from fossil sources.
- **2020 Sweden** will reduce the total energy use by 20 percent compared to 2008
- **50/50-target** -the building's energy use must be halved by 2050 compared 1995.



# Cost for renovation and energy efficiency in the existing building stock, and particularly in the so-called Million Program areas

- The real estate sector accounts for about 30 percent of energy use in Sweden.
- There are 50 000 dwellings in apartment buildings rebuilt each year, which represents an investment of between 25 and 50 billion per year.
- Each residence cost between 500,000 and 1 million SEK to build whether at the level required to meet future requirements, including the additional costs of energy efficiency.
- These additional costs expected to be between 20 and 40 percent of the total cost of the renovation.



## Public housing in Sweden

- The Swedish public housing is called 'Allmännyttigt bostadsföretag', which is mostly made out of flats owned by the local council.
- The Swedish Public Housing has never had any income restrictions
- Million program – with state funding 1 million homes were build 1965-1975

Public housing was about quality of construction, develop new technologies to save energy, offering tenants participation, build recreational activities for children, create safe environments, offering help to job, tackling homelessness, and work to improve integration!

# Public Housing Challenges in Sweden today

- 3 out of 4 buildings need extensive renovation til 2050
- Need to invest in energy efficiency measures as well
- Social exclusion found in many of these residentials and need to be countered
- Harder than ever to build affordable homes!



# One chance to reach the goal 50%

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Within the residential sector it is a real opportunity to improve energy efficiency by using the upcoming renovation opportunities to also energy efficient. Much of apartment buildings built before 1975 need to be renovated before 2050.





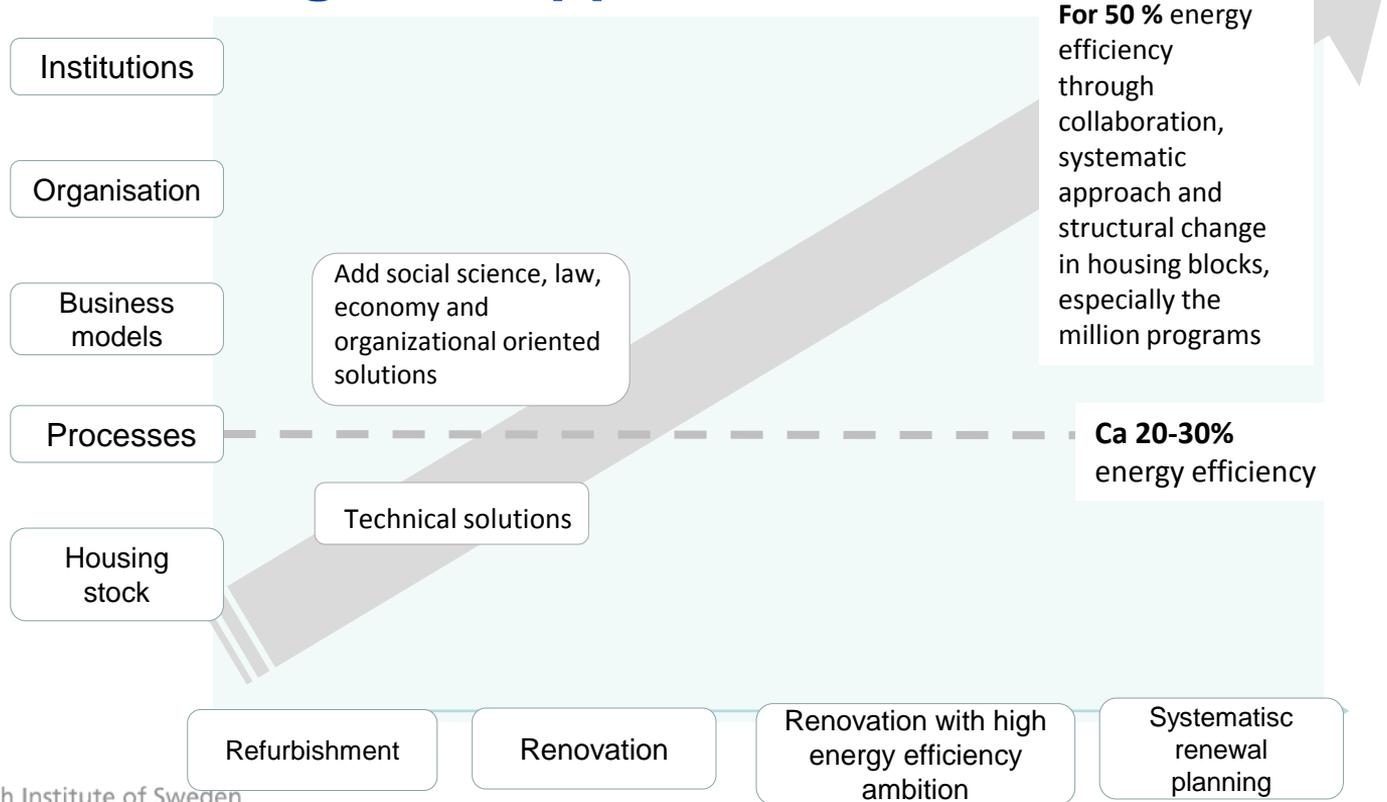
# Reduce 50 til 2050

## New perspective in energy efficiency of public housing

Collaborative Learning for Energy  
Efficiency in Urban  
Residential Areas

**ClueW**

# Broadening strategy work by adding more perspectives to an integrated approach!



# Experience from Solar buildings in Gårdsten and Brogården



# Solar buildings in Gårdsten

- Build 1969-1972, million program
- 1996 one of the most troubled suburbs in Sweden, high unemployment and unhealthy living conditions
- 1997 mission to develop the neighborhood, socially and for residential purposes.
- a clear objective: a holistic, integrated approach to community development and engage residents to participate
- The company board comprised mainly by the residents
- Job agency created and now the Agency has mediated more than 900 new jobs to Gårdstens residents.



# Solar buildings in Gårdsten 2000

- Conversion to exhaust air ventilation in the balcony access buildings and the installation of heat recovery on ventilation in the slab blocks
- The glazing-in of balconies in connection with renovation (damaged concrete elements)
- Replacement of the inner windowpane by low emission glass in the existing double-glazed windows
- Solar collectors integrated into the roof in connection with roof renovation
- Additional roof insulation in connection with roof renovation
- Additional insulation of the gables in connection with facade renovation
- Insulation of the bases in connection with renovation of the drainage system
- New washing machines and drying room equipment connected to the hot water system
- New energy-labelled white goods as part of the refurbishment of the apartments
- Installation of presence-controlled lighting in the common areas
- Installation of a central control and supervisory system
- Introduction of individual meters for electricity, heating, hot and cold water



# Conclusion Gårdsten

- Socio economical profitable in terms of positive spillover effects they had on the field in terms of reduced crime, reduced unemployment etc.
- Purely economically, the major efforts including the rehabilitation of the run down houses have not been profitable.



# Brogården

Energy savings of 60 %  
after normal correction



# Planned renewal Brogården –

- Defects, qualities and measures



## This is what they worked with-

- Easily resolved obstacles
- Flats with high accessibility
- Larger variation
- The need for larger flats
- Installation of lifts
- Improving laundry rooms
- Shared premises
- Complementary buildings
- Car parks
- Design issues
- Planning for passive houses
- Simplicity, repetition, rationality, effective building
- Redress the technical defects
- *Evacuation of all tenants*

## Technical defects

- Thermal bridges by indented balconies
- Crumbling bricks
- Draughty flats
- High energy consumption
- Poor sound proofing

## Good things

- Cultural historical value
- No social problems in the area
- Happy tenants
- Good location
- A well-planned area

# Brogården conclusion

A direct but often overlooked impact of a refurbishment like this is that property taxes will be decreased for a period of time.

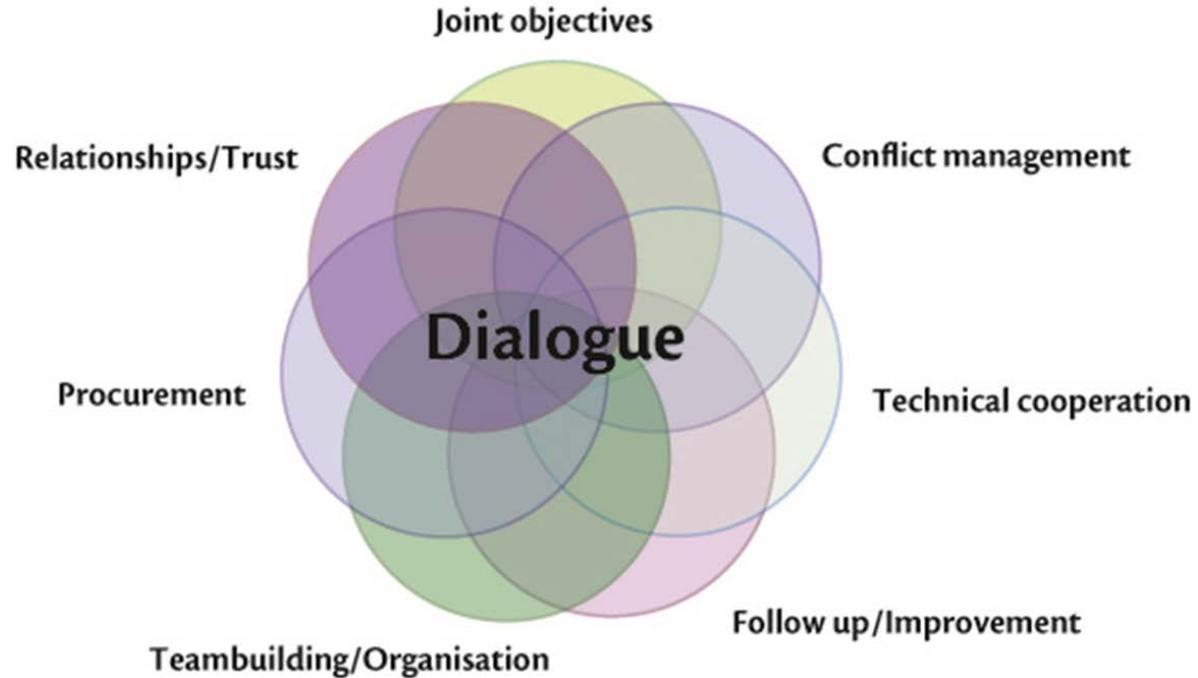
In Brogården's case this generates a saving of approx. 400,000 SEK/ year for the first 5 years. In years 6-10, the savings are approx. 200 000 SEK /year.

The renovation and work with shared premises and complementary buildings of Brogården have motivated the costly energy efficiency measures to availability adapt the apartments so that older tenants can stay at home for longer. The municipality saves money in the long run, because it is very expensive for service accommodation.



# Common approach but different starting point

-using dialouge as instrument



**Thank you for the attention!**



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