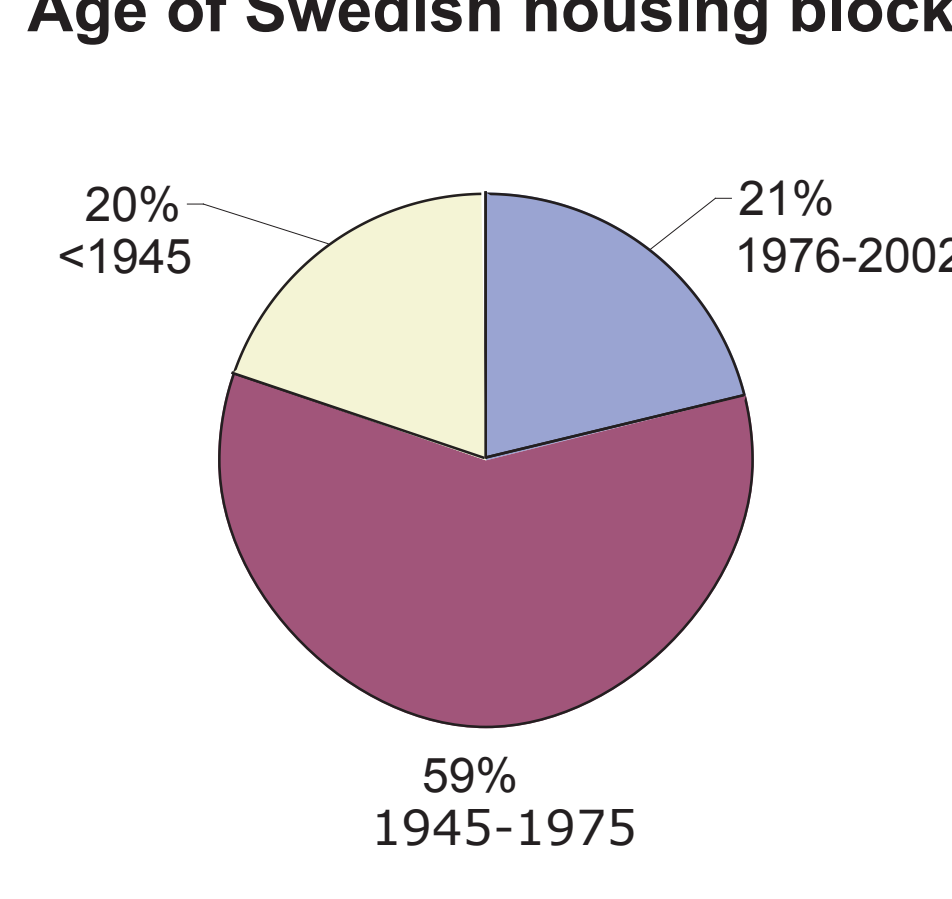


Swedish housing
Total n.of dwellings: 500 000 apart. < 1945
4,35 millions: 1,4 millions apart. 1945-1975
46% single-family 470 000 apart. 1976-2002
54% housing blocks

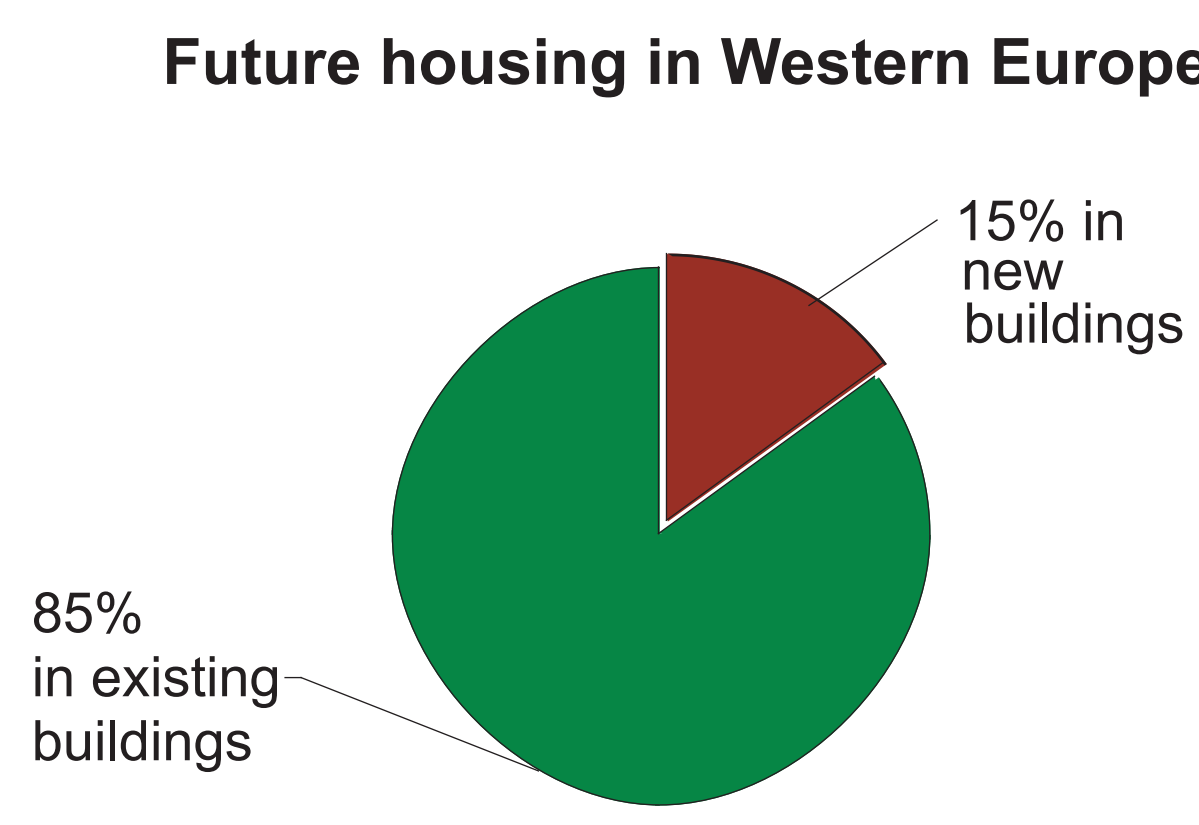


Addition of photovoltaic panels to the facade
Kristianstad

THE CHALLENGE OF RENOVATION

Need of renovation in Sweden:
ca 65 000 apartments per year, 2005-2025

Future housing need in Western Europe, 2002-2020:
15% new buildings, in new expansion or urban renewal areas
85% in existing building



Addition of solar panels to the roof, of glazed balconies to the facade, etc Norrköping

SUSTAINABLE RENOVATION

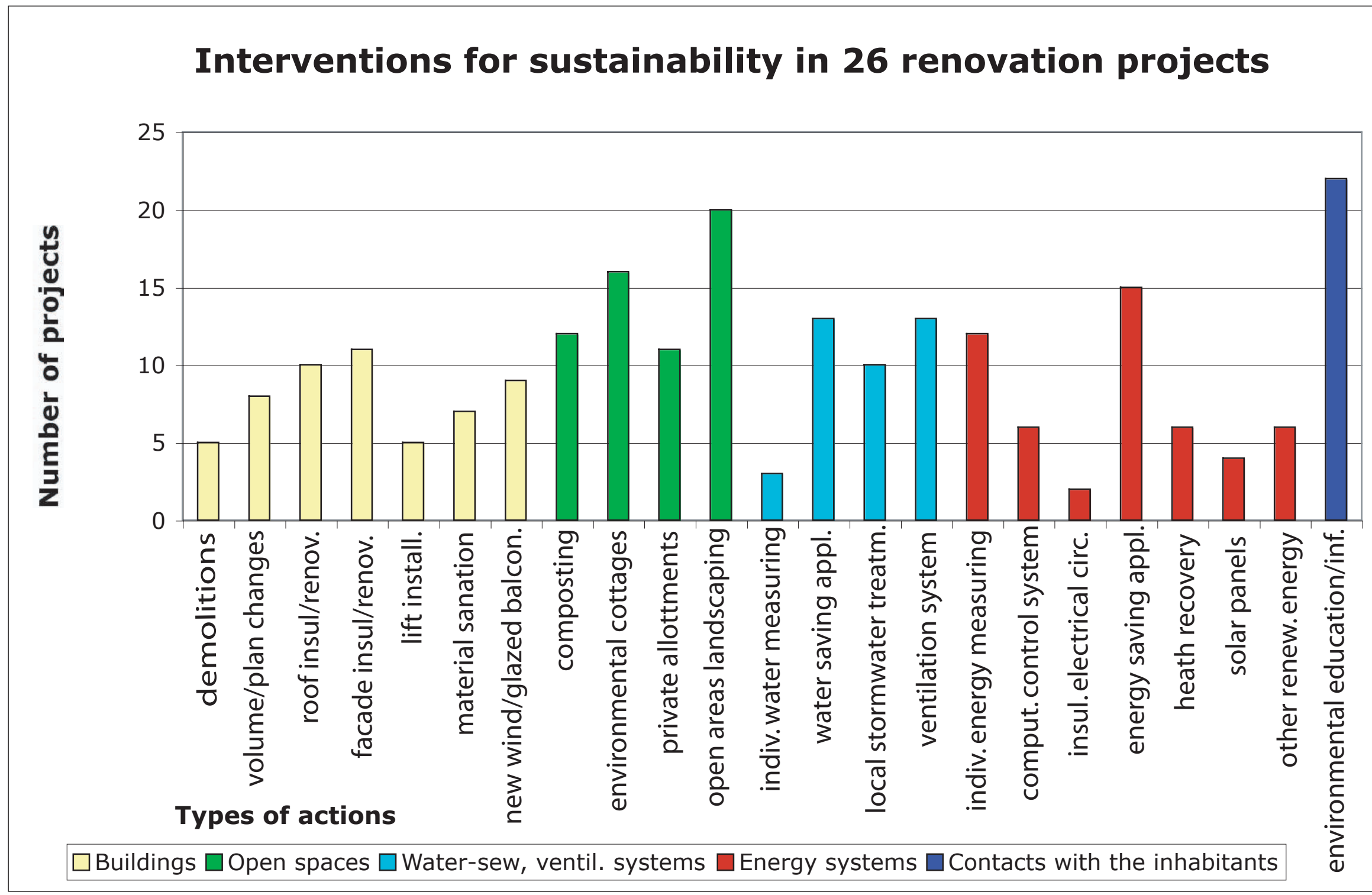
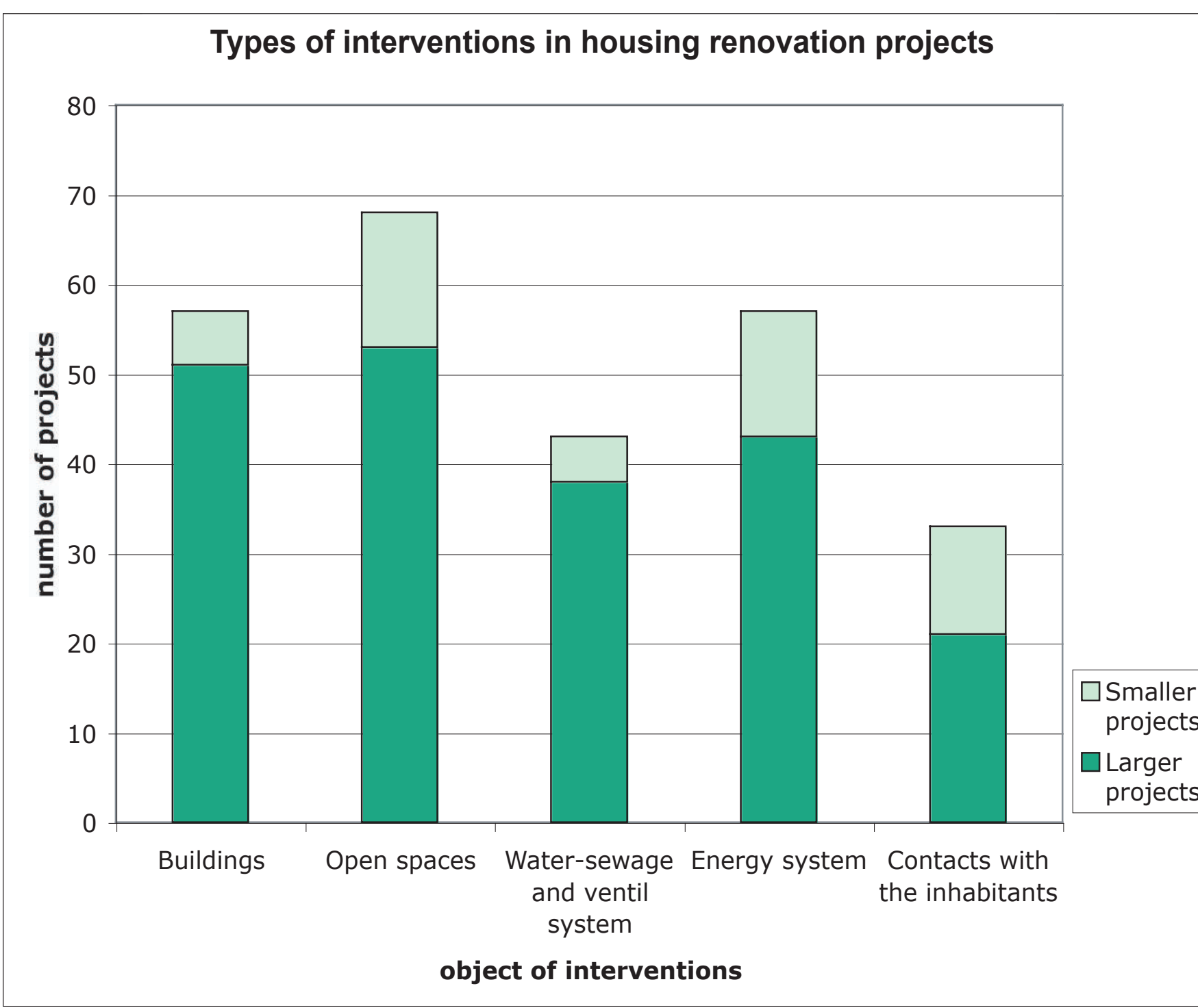
ASPECTS	GOALS
environmental	To decrease the environmental impact of buildings To limit the need and the use of energy, natural resources and land To support an environmentally conscious way of dwelling
social	To provide good, healthy dwellings To facilitate social stability, integration To raise awareness about the own living place To promote a sustainable behaviour
cultural	To preserve and transmit cultural objects and historical and cultural values To upgrade buildings and places with respect for their character
economic	To prolong the use of existing resources To maintain values To safeguard the affordability of dwellings
institutional	To promote participation and involvement of the inhabitants To provide good management and maintenance



Solar panels integrated into the roof
Kalmar

ACTIONS FOR SUSTAINABLE RENOVATION IN LIP* PROJECTS

* Swedish Local Investment Program 1998-2004:
A State investment of 6,2 billions SEK = 30% of the total project costs, to stimulate actions for sustainable development.



Addition of elevators and glazing of galleries
Karlstad

Some results, experiences and reflections from LIP housing renovation projects:

- :-/ Necessity of a multidisciplinary approach to renovation
- :-/ Conflicts among different goals: no general rules on priorities
- :-) Decreasing of the environmental impact of buildings, mainly regarding: energy efficiency, water use, household and building waste, choice of healthy and renewable materials
- :-) Improved care of the open spaces
- :-) Increased environmental awareness
- :-) Improved communication managers-inhabitants
- :-(Lack of consciousness and care for architectural and cultural aspects
- :-(Need of competence and creativity for careful and attractive solutions



Change of previous insulation on the facades and local treatment of storm water
Malmö

