

From smart buildings to smart cities

Isabella Zwerger
26.03.2012

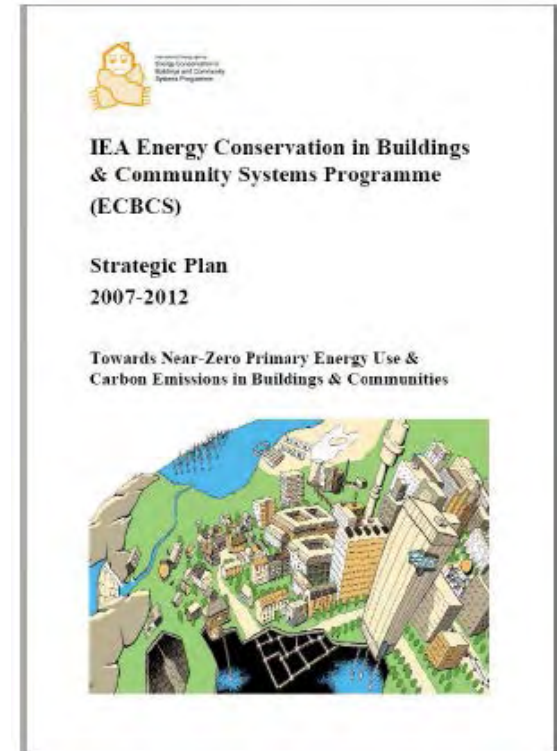
International cooperation

- Austria
 - Building of tomorrow
 - ACTP
- International
 - IEA ECBCS
 - IEA SHC
 - ERA-Nets (Erabuild, Eracobuild,..)
 - ECTP

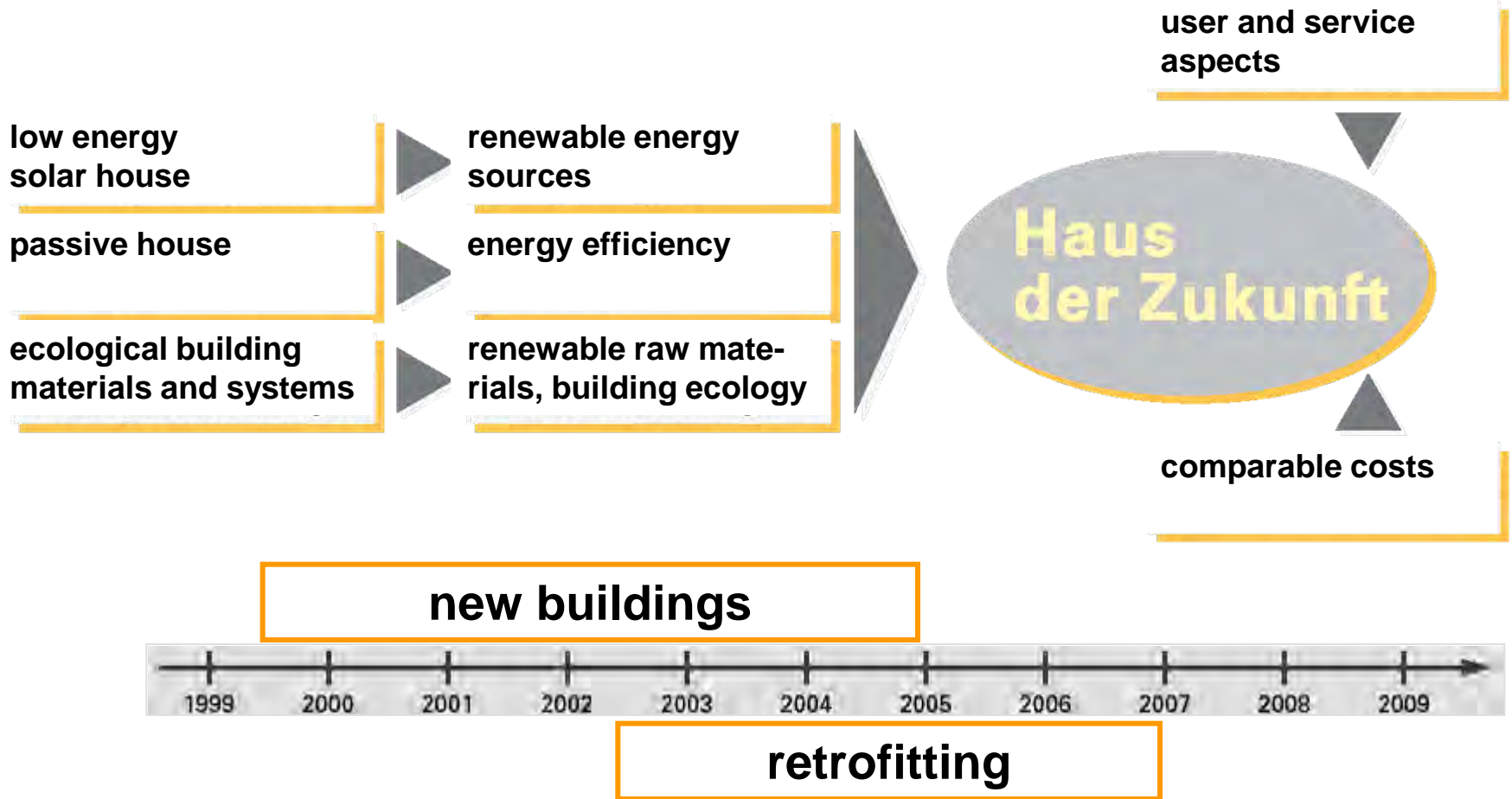


Mission of ECBCS

*“...to develop and facilitate the integration of **technologies and processes for energy efficiency and conservation** into healthy, low emission, and sustainable buildings and communities, through innovation and research...”*



Building of Tomorrow - Aims



Building of Tomorrow - Results

1999 – 2007:

- More than 250 research projects:
 - Basic research on socio-economic issues
 - Applied research, technology and components
 - > 25 demonstration projects
- 25 Mio EUR project funding
- Austria has the highest density of passive houses



The next steps:

PLUS strengthening technological leadership

PLUS buildings as generators of energy

PLUS from the building to the settlement

PLUS from single to series manufacturing

PLUS visible demonstration projects

PLUS intensified international networking

PLUS know-how transfer and education

Budget: 35 Mio Euro (2008 – 2012)

LifeCycleTower

Hybrid Wooden House < 20 floors

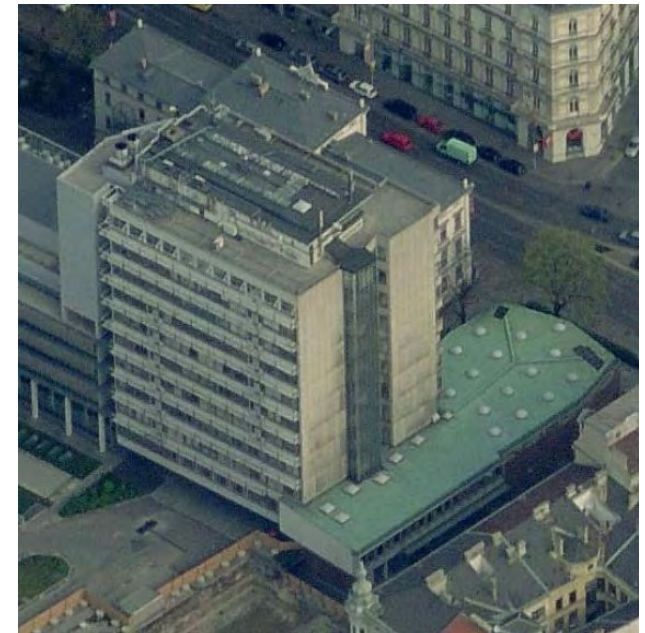


Project Manager:
Michael Zangerl; michael.zangerl@rhomborgbau.at

Plus Energy Office

Refurbishment to plus energy standard of the Technical University Vienna

- Biggest facade integrated PV facility in Austria

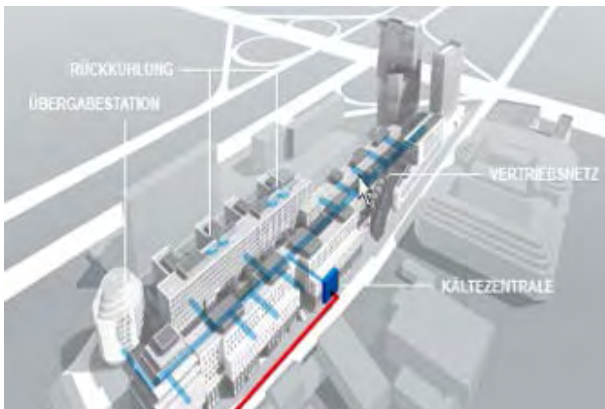


Project Manager:
Helmut Schöberl
helmut.schoeberl@schoeberlpoell.at

From smart buildings to smart cities



- Buildings / Solar orientation and energy efficiency
- Traffic reduction / E-mobility
- Smart grids / district heating and cooling
- New spatial concepts and communities



aspersn+ „The Seestadt“ of Vienna



Entwicklungsziele für World-Vitality-Index

Umwelt	100	100
Wirtschaft	100	100
Sozial	100	100
Politik	100	100
Lebensqualität	100	100

WELTWEITER WELTWEITEN INDEX (WELTWEITEN INDEX)

A++	100
A+	90
A	80
B	70
C	60
D	50
E	40
F	30
G	20
H	10
I	0



Project Manager:
Christoph Pollak; christoph.pollak@researchtub.at

Technology centre „aspersn IQ“

- **Maximum efficiency**
extremely low energy need for conditioning (heating, cooling, ventilation, lighting, hot water)
- **Plus energy balance**
more energy gains than energy use seen on annually basis (primary energy)



Project Manager:

Gregor Rauhs; rauhs@wirtschaftsagentur.at



- ENERGY CITY Graz Reininghaus
- Energy concept for the district – RPE_ECR (‘Rahmenplan Energie Energy City Graz-Reininghaus‘)
- +ERS – Plus Energy Network ‘Reininghaus Süd’



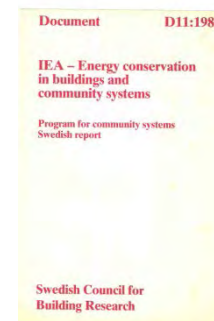
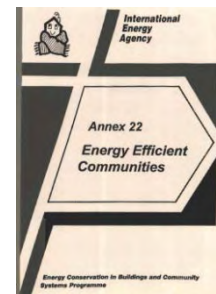
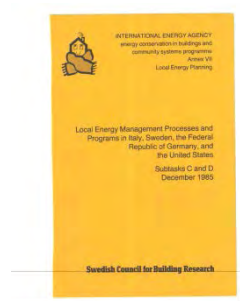
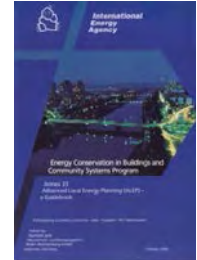
Project Manager:
Ernst Rainer;
ecr@tugraz.at

Urban Restructuring Lehen (Salzburg)



Project Manager:
Inge Strassl; inge.strassl@salzburg.gv.at

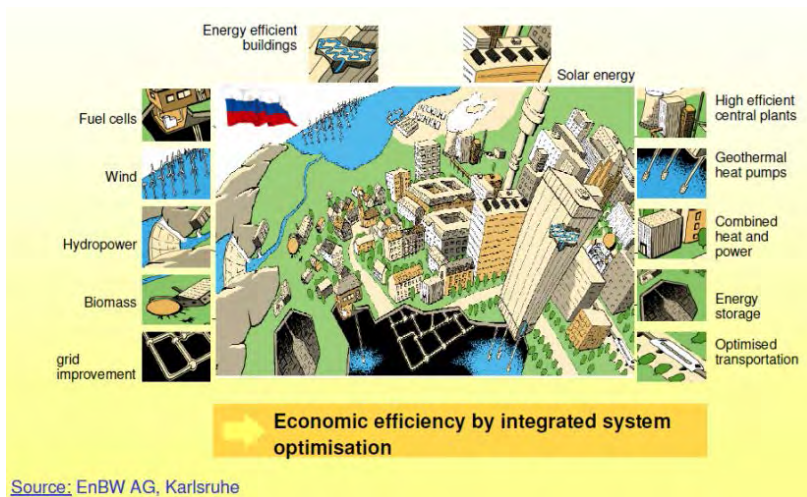
- 59 Annexes in total - 10 ongoing Annexes
- Community related Annexes:
 - Energy Efficient Communities (Annex **51**, 22)
 - Advanced Local Energy Planning (Annex 33)
 - Local Government Energy Planning (Annex 7)
 - Energy Systems and Design of Communities (Annex 6)
 - Ekistics and Advanced Community Energy Systems (Annex 2)



Annex 51

Energy Efficient Communities

- Case Studies and Strategic Guidance for Urban Decision Makers
- 11 participating countries
- → Guidebook to Successful Urban Energy Planning
- → District Energy Concept Adviser



Operating Agent:

Reinhard Jank,

reinhard.jank@volkswohnung.com

Websites



www.HAUSderZUKUNFT.at

The screenshot shows the homepage of 'HAUS der Zukunft' (House of Tomorrow). The header includes the logo and navigation links like 'SITEMAP', 'NEWSLETTER', and 'KONTAKT'. A main section titled 'Building of Tomorrow' describes the program as one of the Federal Ministry of Transport, Innovation and Technology's research and technology programs. It highlights the focus on low-energy solar building and environmentally friendly materials. A sidebar on the right lists 'Inhaltsverzeichnis' (Table of Contents) and 'Links'. The footer mentions that by the beginning of 2010, six successive calls for tenders had been carried out, with over 700 projects submitted and around 300 receiving funding.

The screenshot shows the homepage of 'IEA Energy Conservation in Buildings & Community Systems' (ECBCS). The header features the IEA logo and the site title. A navigation menu on the left includes 'News', 'About ECBCS', 'Strategy', 'Projects', 'Research Findings', 'Publications', 'Contacts', 'Meetings', and 'Links'. The main content area is titled 'The ECBCS Research Programme' and describes the IEA's mission to develop and facilitate the integration of technologies and processes for energy efficiency. It lists various research areas such as community scale energy systems, performance benchmarking, integrated system design, renovation and retrofit, construction technologies, electric lighting and daylighting, energy measurement, management & auditing, environmental assessment, thermal simulation, and ventilation. A sidebar on the right shows a vertical image of a building facade.

www.ecbcs.org

**Thank you very much
for your attention!**

Isabella Zwerger

BMVIT

1010 Vienna, Austria

Isabella.zwerger@bmvit.gv.at