

Passive houses in Austria

The role of intermediary organisations for the successful transformation of a socio-technical system

eceee 2009 Summer Study

La Colle sur Loup, France, 3 June 2009

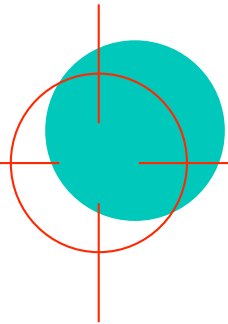
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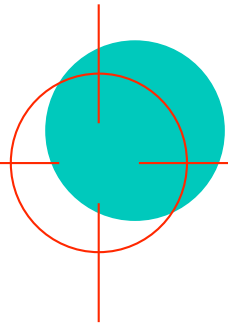




Introduction

- The building sector offers an enormous potential to reduce the energy consumption
- Case study on passive houses in Austria
 - Dissemination of PH: A success story
 - Socio-technical change in the building sector
 - Focus on the role of intermediation
- Policy relevant question: How to support and facilitate socio-technical change towards more energy efficiency?

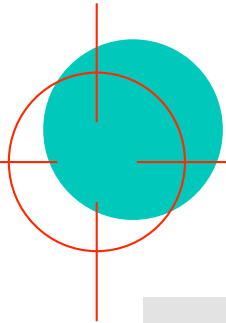




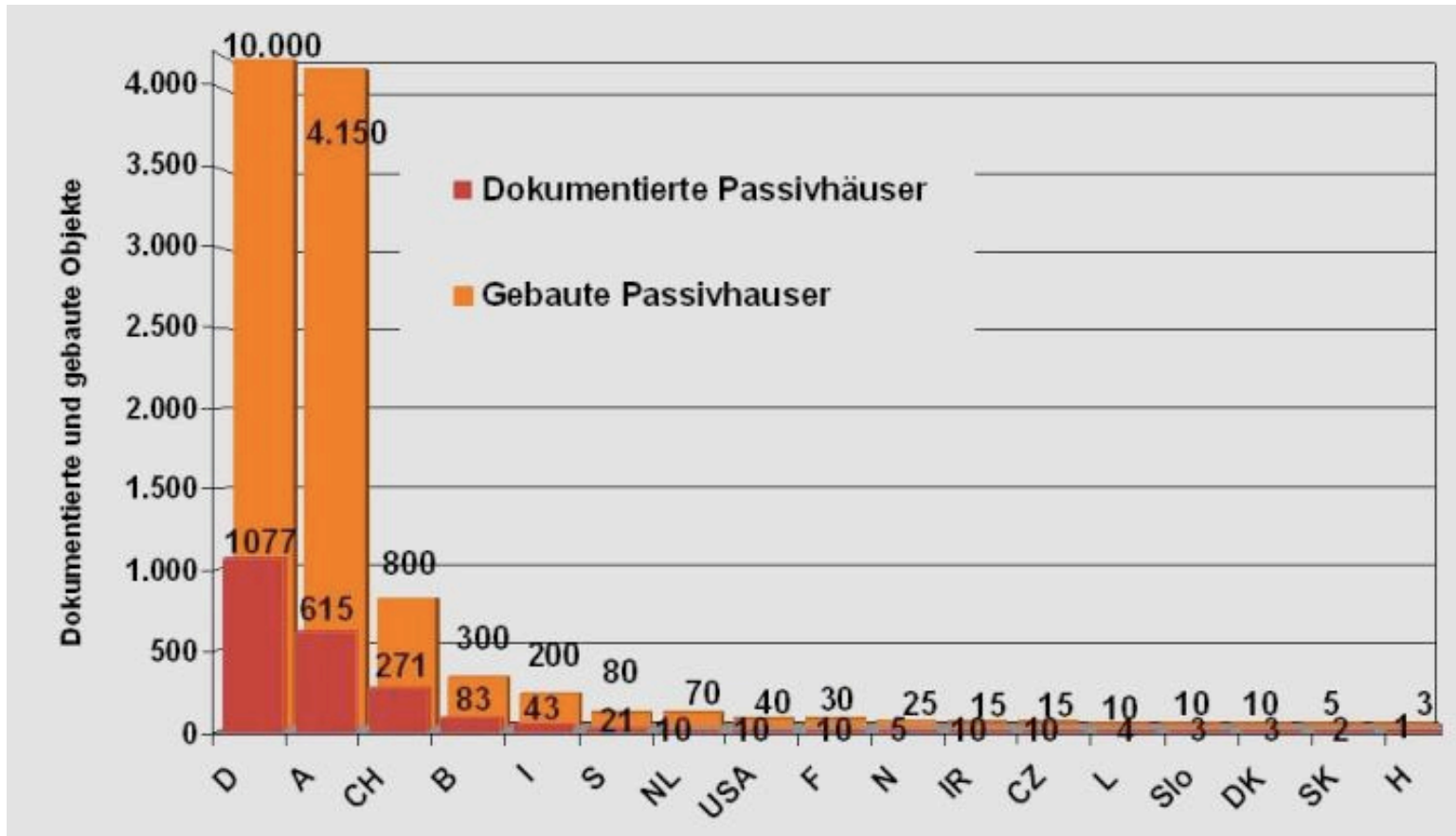
Intermediation

- Intermediation means to connect, translate and facilitate flows of knowledge
- Intermediary actors: work in-between, make connections, enable relationships etc.
- Intermediation plays an important role in processes aiming at the transition of socio-technical systems toward sustainability
 - Multiplicity of actors
 - Distributed Innovation
 - Technology, social practices and institutions



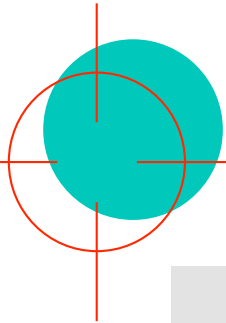


Dissemination of PH (worldwide)

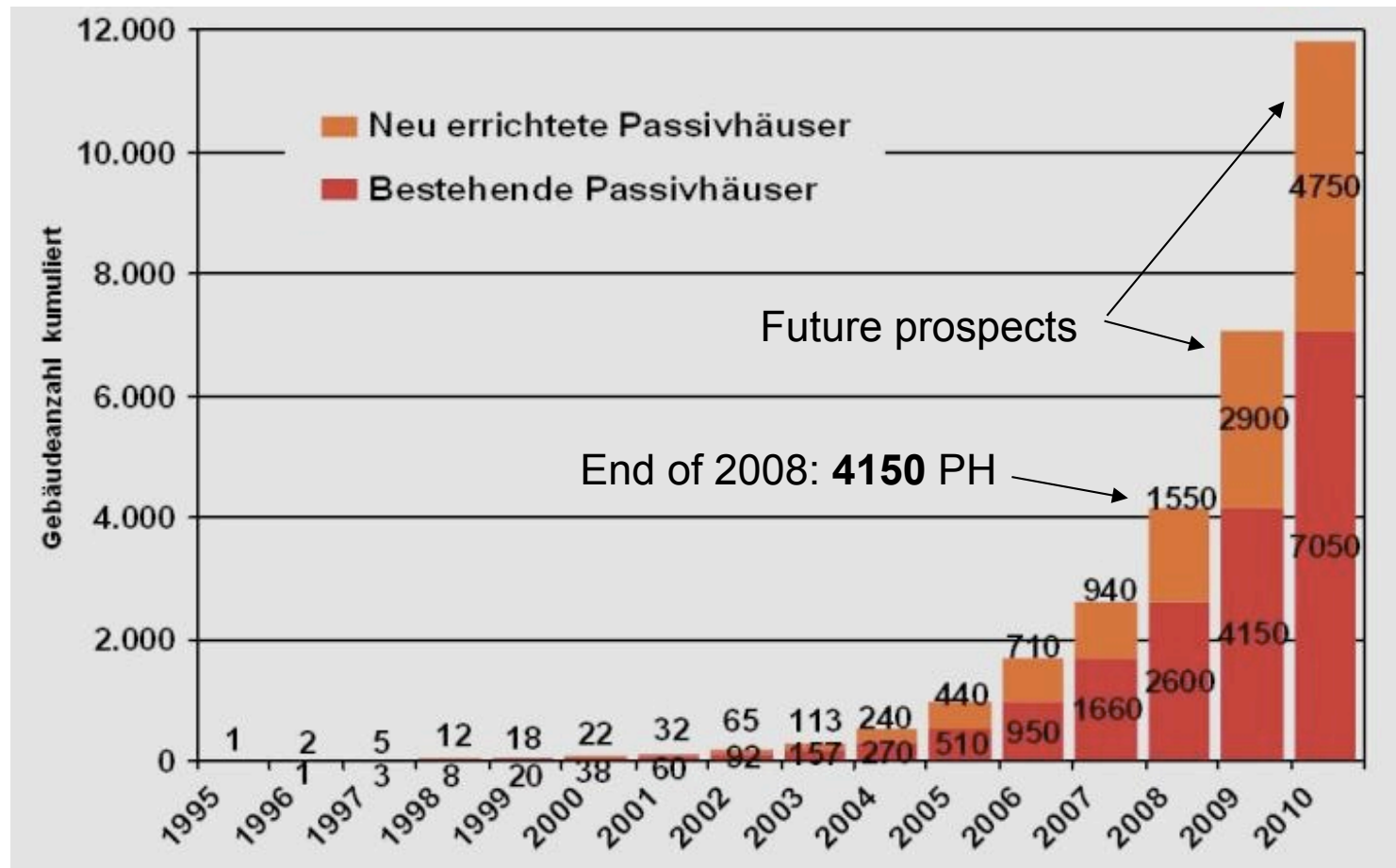


Source: IG Passivhaus 2009



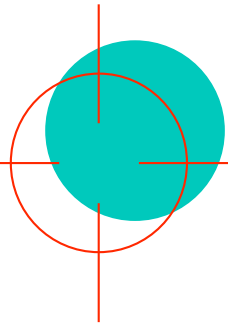


Dissemination of PH in Austria



Source: IG Passivhaus



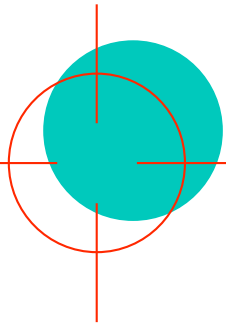


Passive houses in Austria



Source: Lang 2004

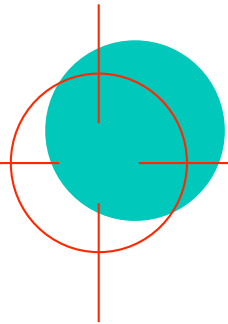




Development of the PH as socio-technical system

- Early set-up phase (1988-1996)
 - Development of the socio-technical core
 - First demonstration building in Germany in 1990
 - Establishment of the Passivhaus Institut in Darmstadt (Germany)
- Regional niche growth (1993-1999)
 - Transfer of the concept to Austria (Province of Vorarlberg)
 - Energy Institute Vorarlberg as central change agent (e.g. summer school, training programmes)
 - First building in 1996, growing number of buildings, learning, practical experiences and feedback

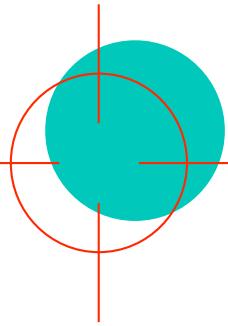




4 overlapping phases

- Outgrowing the niche (1998-2005)
 - First EU-project on passive houses (CEPHEUS)
 - National R&D programme 'Building of Tomorrow'
 - More buildings (pilot-projects), new networks, new intermediary actors
- Institutionalisation and stabilisation (since 2001)
 - New interest organisations focussing on PH
 - PH linked to climate change, dissemination programme
 - Growing influence on subsidy guidelines, building regulations, academic courses, vocational training...

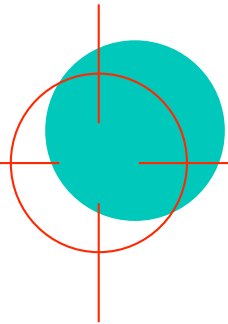




Intermediation in the PH case

- Bottom-up process without central steering, high demand for intermediation
- Different types of intermediation activities
- Intermediation requirements change over time
- Intermediary functions taken over by different types of actors
- Already existing organisations & especially set up PH intermediaries
- Most of the intermediary activities were publicly funded

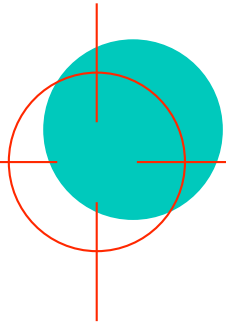




Discussion

- Intermediation (alone) does not explain the success of the socio-technical system
- Intermediation is relevant as entry point for public policy
 - Funding: existing organisations
 - Finding: intermediation gaps
 - “Public governance through intermediation”
- What else?





Thank you for your attention!

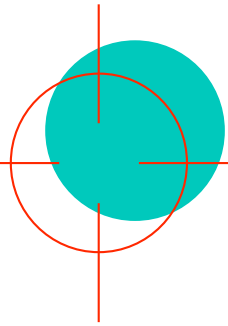
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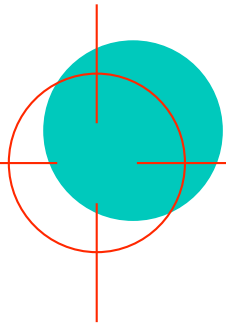




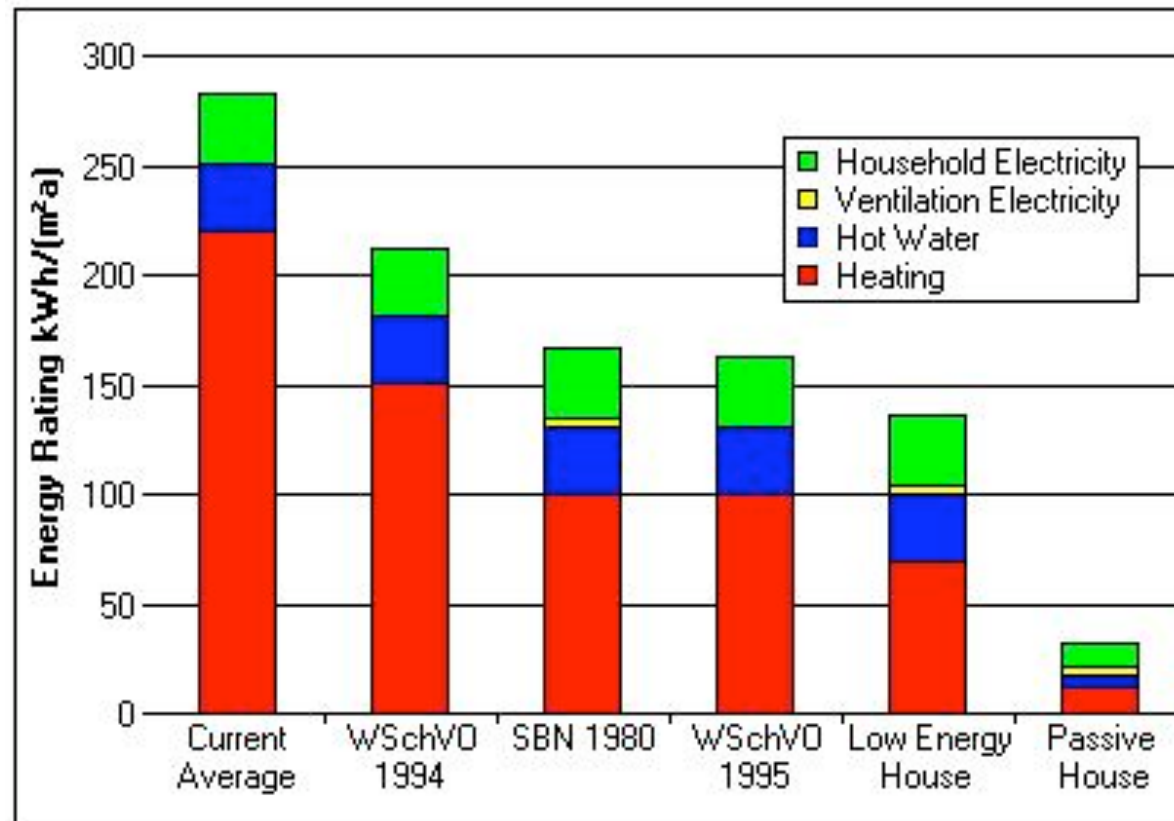
What is a Passive House?

- Passive House: a building that meets a specific energy standard
- Ultra-low energy building: Factor 4 compared to European building standards
- Construction principles:
 - Maximizing (passive) solar gains
 - Minimizing losses: super-insulation, air tightness
 - Combining efficient heat recovery with supplementing air heating ⇒ no conventional heating system



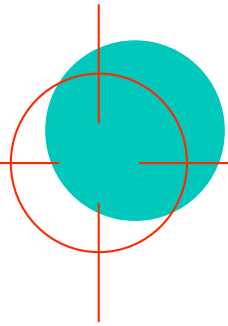


Comparison of Energy Ratings



Source: Passivhausinstitut 2008

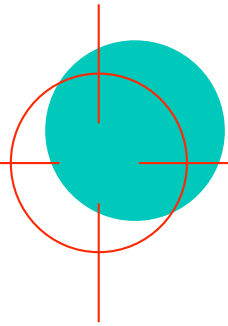




Forms of intermediation (1)

- Early set-up phase
 - Science and science ⇒ informal exchange, conferences
- Regional niche growth
 - Science and practice ⇒ informal meetings, summer schools, training seminars
 - Demand and supply ⇒ demand articulation, new products
 - Science/practice and use ⇒ direct contact, monitoring
 - Science and science

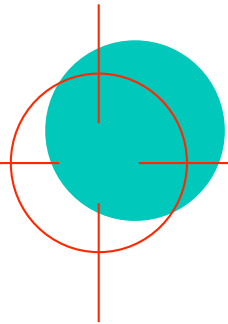




Forms of intermediation (2)

- Outgrowing the niche
 - Region A and region B \Rightarrow EU demo project
 - Passive house and solar house concept \Rightarrow R&D programme
 - Science and practice
 - Demand and supply
 - Science/practice and use
 - Science and science

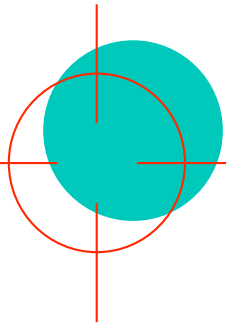




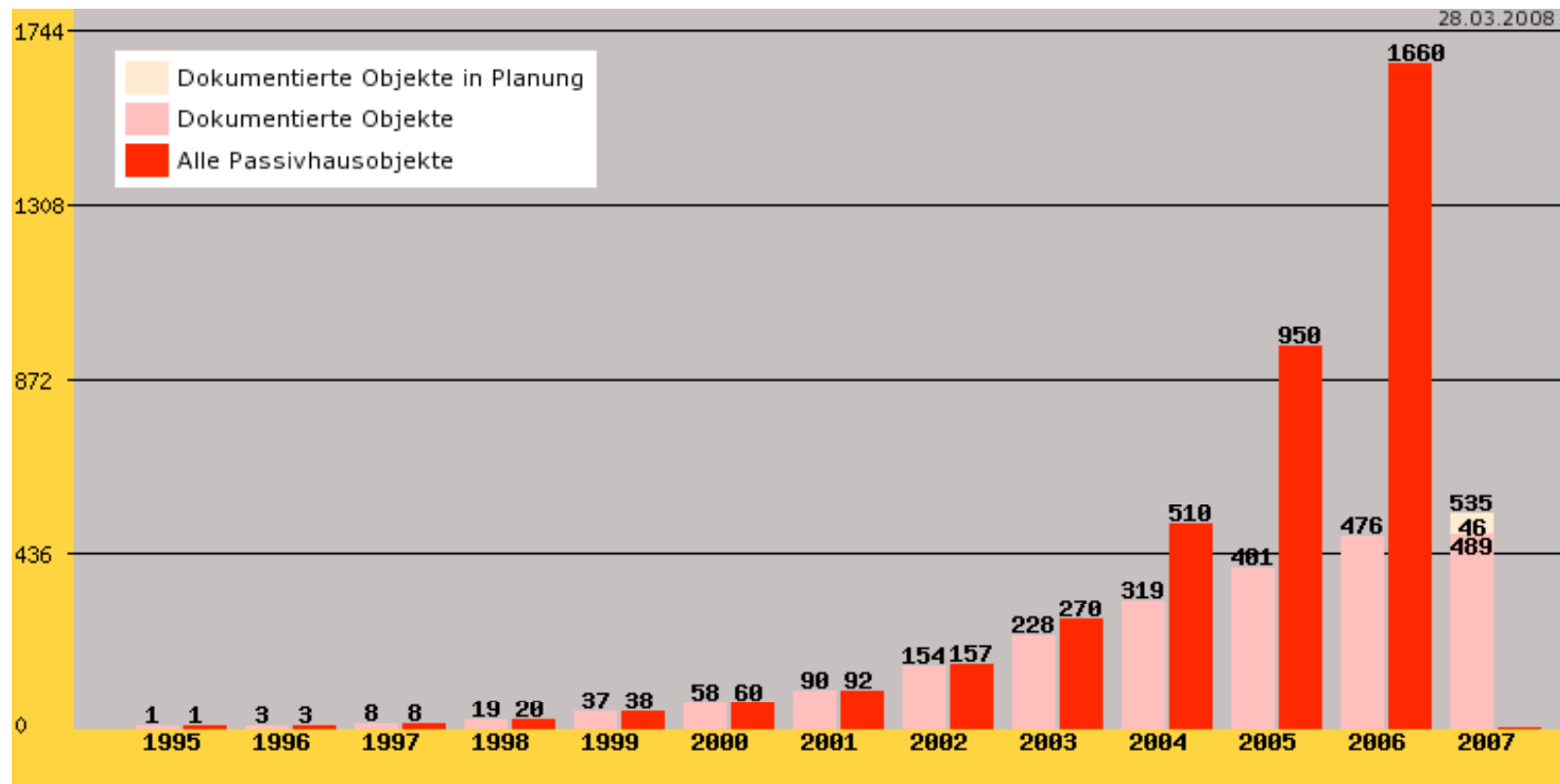
Forms of intermediation (3)

- Institutionalisation and stabilisation
 - Passive house community and public policy ⇒ lobbying by new interest groups
 - General public and passive house ⇒ ‘open houses’, public relations
 - PH users and PH users ⇒ internet forums
 - Experts and students ⇒ academic courses
 - Region A and region B
 - Passive house and solar house concept
 - Science and practice
 - Demand and supply
 - Science/practice and use
 - Science and science





Dissemination in Austria



Source: IG Passivhaus

