

## Session “Building Applications”

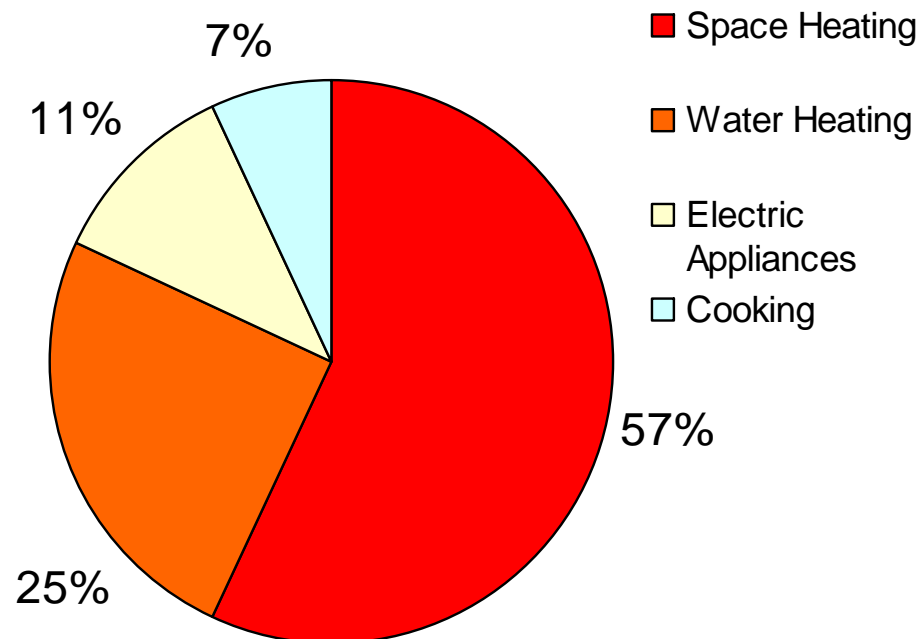
IEA/ECBCS Annex 39

- Introduction “Why VIP in Buildings”
- Technical presentations
  - Aging and Service Life of VIP in Buildings
  - Influence of Water on the Total Heat Transfer in ‘Evacuated’ Insulations
  - Coffee break (11.00)
  - Monitoring of Vacuum Insulation Panels in Building Applications
  - Applications of Vacuum Insulation in the Building Sector
- Outlook

## Why VIP in buildings - EU energy use

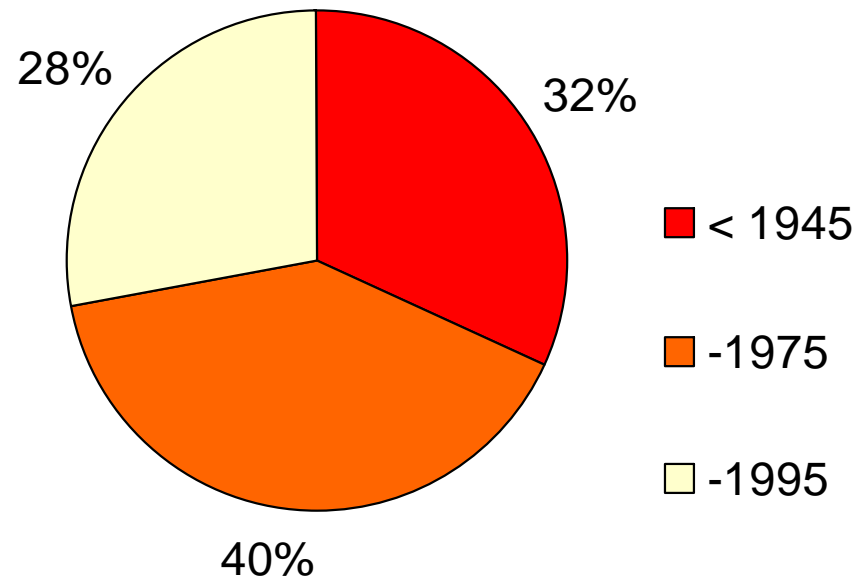
Total EU consumption: Buildings 40%, Space Heating 25%

### Residential Sector



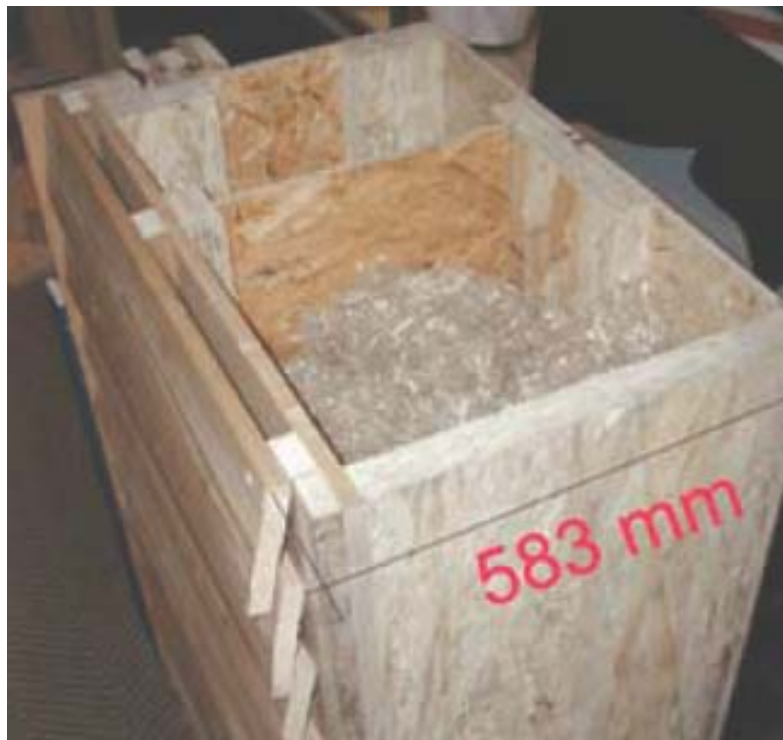
## Why VIP in buildings - Refurbishment

### EU building stock



about 50% of EU building stock is not insulated at all (1997)

## Why VIP in buildings - Low energy buildings



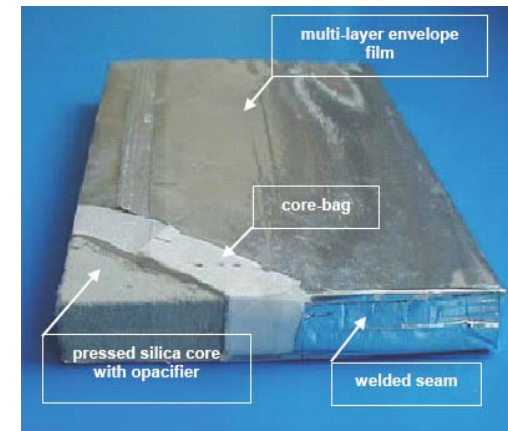
target: slim constructions - more aesthetic & lower cost

## History of VIP for buildings

- **National activities:**
  - Germany (ZAE-Bayern) started some 20 years ago to work on evacuated insulation systems (batteries). The building application of VIP was first tested in 1998.
  - Switzerland (FHBB and E+P) started in 1996 with a preliminary study on VIP and its potential applications in buildings.
- **Annex 39 “High Performance Thermal Insulation”**
  - Initiated by Switzerland in 2000
  - Duration: 2001 – 2005 (final reports just printed: [www.vip-bau.ch](http://www.vip-bau.ch))
  - Targets: coordinate national activities, involve more countries in research and development of VIP and VIP-systems, produce and communicate independent information for the building industry.

## Activities in Annex 39

- **Subtask A: Panels**
  - Analyse VIP components (core & envelope materials)
  - Studies on whole Panels (aging of VIP for service life modelling, quality management and product declaration)
- **Subtask B: Building Applications**
  - Initiate and support the development and application of VIP in buildings
  - Economical and ecological analysis of VIP
  - Recommendations for interested companies





## Participants of Annex 39

- **CAN:** National Research Council (NRC)
- **FRA:** Scientific and Technical Centre for Construction (CSTB)
- **GER:** - Bavarian Centre for Applied Energy Research (ZAE-Bayern),  
- Fraunhofer Institute (IVV: Process Engineering and Packaging)
- **NED:** Technical University of Delft (TU Delft)
- **SWE:** Royal Institute of Technology (KTH)
- **SWI:** - Federal Laboratories for Materials Testing (EMPA)  
- Dr.Eicher+Pauli AG (E+P)  
- University of Applied Sciences Basel (FHBB)

## Participants of Annex 39

