



ince



## PEM Fuel Cells for Residential CHP Applications The Vaillant Fuel Cell Heating Appliance

Wien, 01-Apr-2004



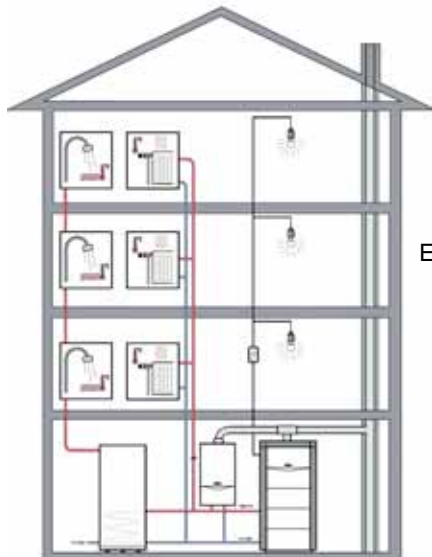
DomesticCHP Vaillant FCHA Klinder 15Jan2004 1

Kai Klinder  
Head of Marketing, Sales and Service Fuel Cells  
Vaillant GmbH Remscheid



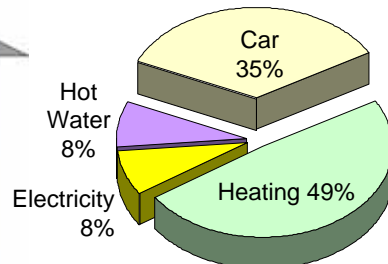
Fuel Cell Heating Appliance

Domestic Fuel Cell Application for Europe



DomesticCHP Vaillant FCHA Klinder 15Jan2004 2

**Domestic Energy Use: 2/3 in-house**



### mCHP Key Elements

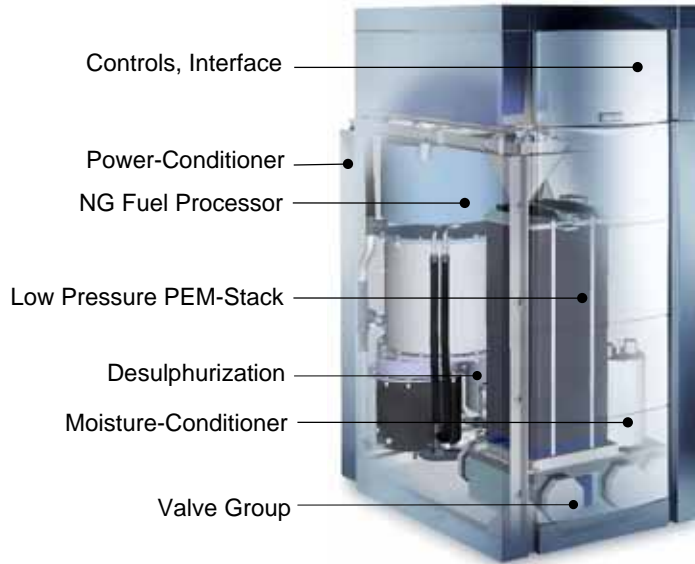
- Huge, but still not used potential for energy and CO<sub>2</sub> savings
- Combination with intelligent energy management, hot water storage and condensing peak heater



### Fuel Cell Heating Appliance



### Vaillant FCHA for Multiple Family Houses



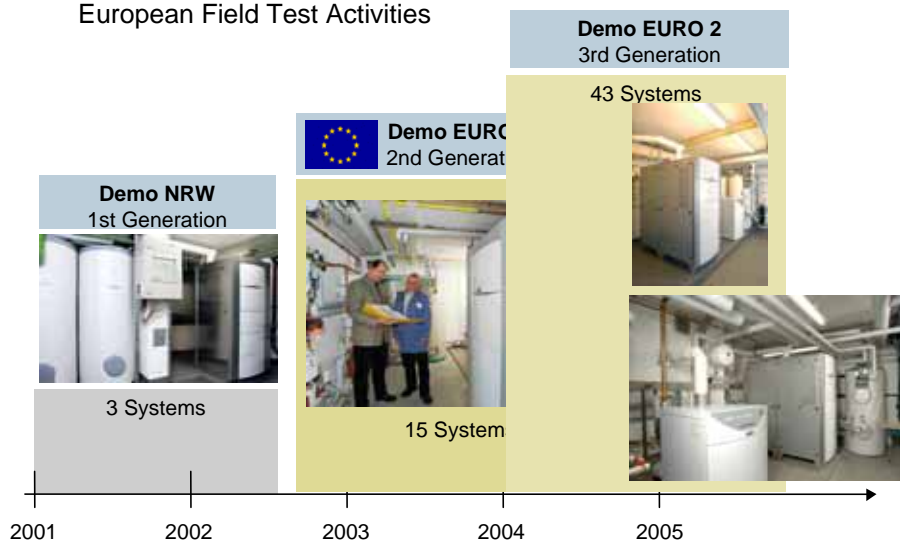
DomesticCHP Vaillant FCHA Kinder 15Jan2004 3



### Fuel Cell Heating Appliance



### European Field Test Activities



DomesticCHP Vaillant FCHA Kinder 15Jan2004 4

The domestic fuel cell conception is now in phase 3 of a long track of field trials

Fuel Cell Heating Appliance



EURO Installations

- 13 EURO1 installed
- 16 EURO2 4.Qu 03
- 27 EURO2 1.Qu 04
- 56 EURO



Aurich, Europahaus

**Stationary fuel cells are successfully demonstrated.  
Continued R&D, development and investment are needed.**