

# Expert Session 1 – Workshop1

Commercialisation Roadmap

Perspectives and Gaps for Hydrogen Storage

C-H<sub>2</sub> Session: Vessel manufacturing & mass  
production scale-up

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STORHY  
FINAL EVENT

June 3-4, 2008  
Poissy, France

# COST PERSPECTIVE



- **The DOE target price established in 2004 of 120€/kg H<sub>2</sub> is not at all realistic**
- **In meantime, all raw materials increased of 50% or more.**
- **What would be the cost of the materials in 2012 ?**

# ULLIT's Development



## PERFORMANCES OF CYLINDER FULLFILLED THE STORHY SPECIFICATION

- Permeation : 0,05 cm<sup>3</sup>/litre/hour < 1 cm<sup>3</sup>/l/h
- Cycling : 20-875 ; 15.000 cycling without failure
- Burst test > 1645 bar

### Parameters in Evolution

To reduce weight and cost : burst factor to be reduced with the same life time (15.000 cycles minimum)

### Parameter unchanged

For safety reasons : permeation must be kept at 1 cm<sup>3</sup>/l/h maximum

# ULLIT's Development



- **Industrial scale of the process**
- **Automatization of production**
- **Optimization on process / materials/ machines means large investments**

**Now question :**

**- Which market and when ?**

**ULLIT production capacity**

**Variable and adaptable to the market needs**