

# System Integration: from Materials Research to Tank System

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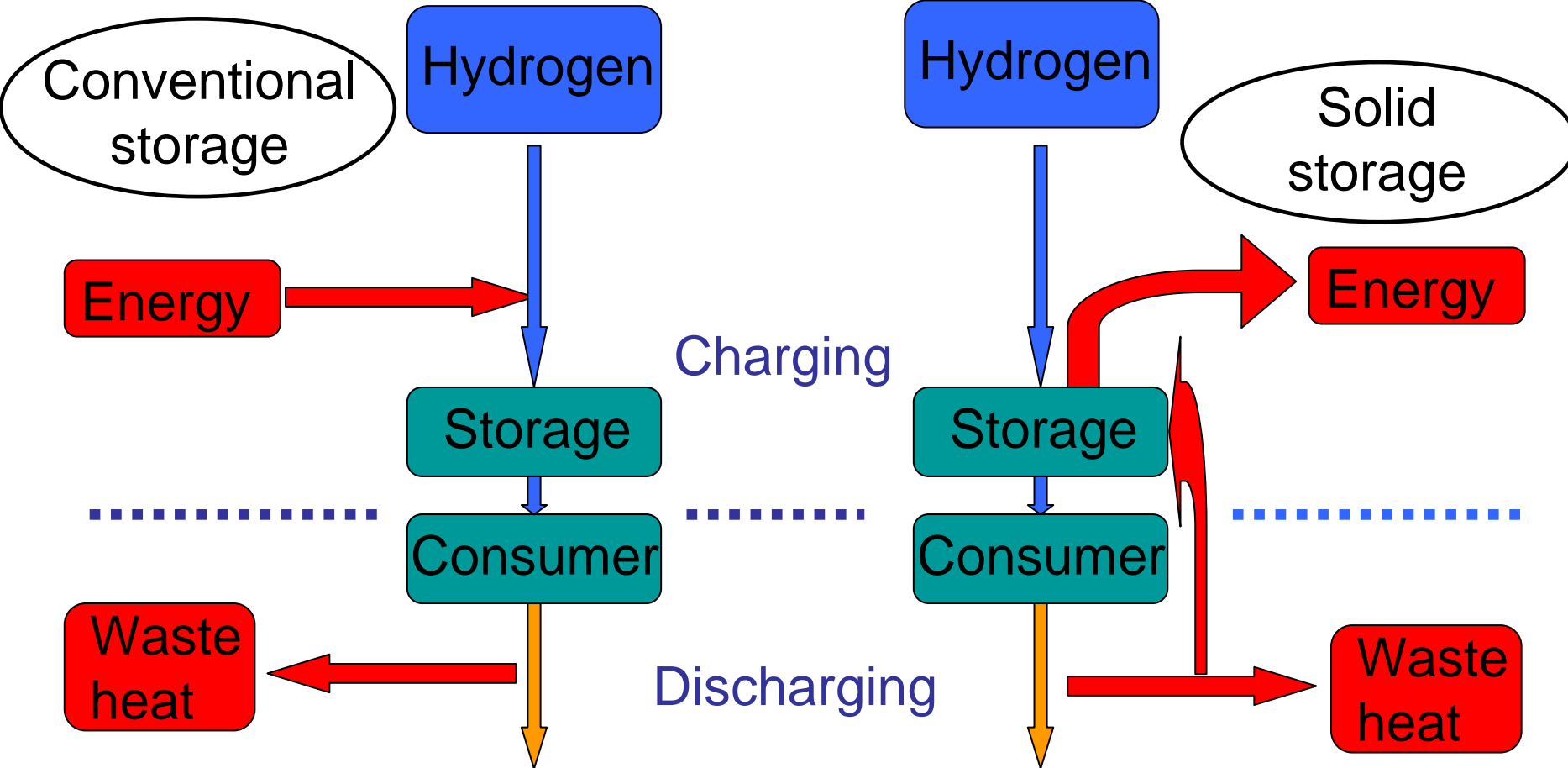
## Introduction

- Concept
- Importance of heat transfer issues

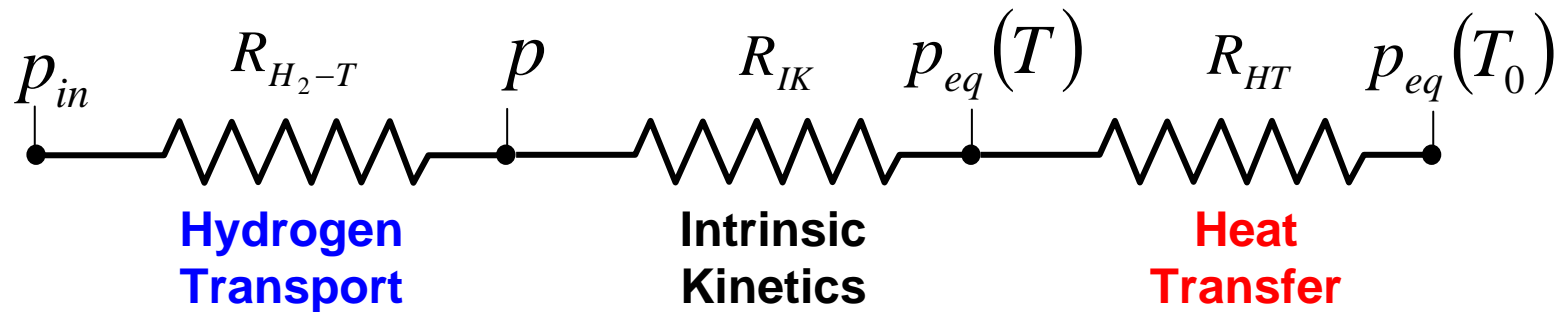
## Tank-relevant parameters

- Heat conductivity
- Volumetric capacity
- Safety
- Lifecycle cost
- Modelling

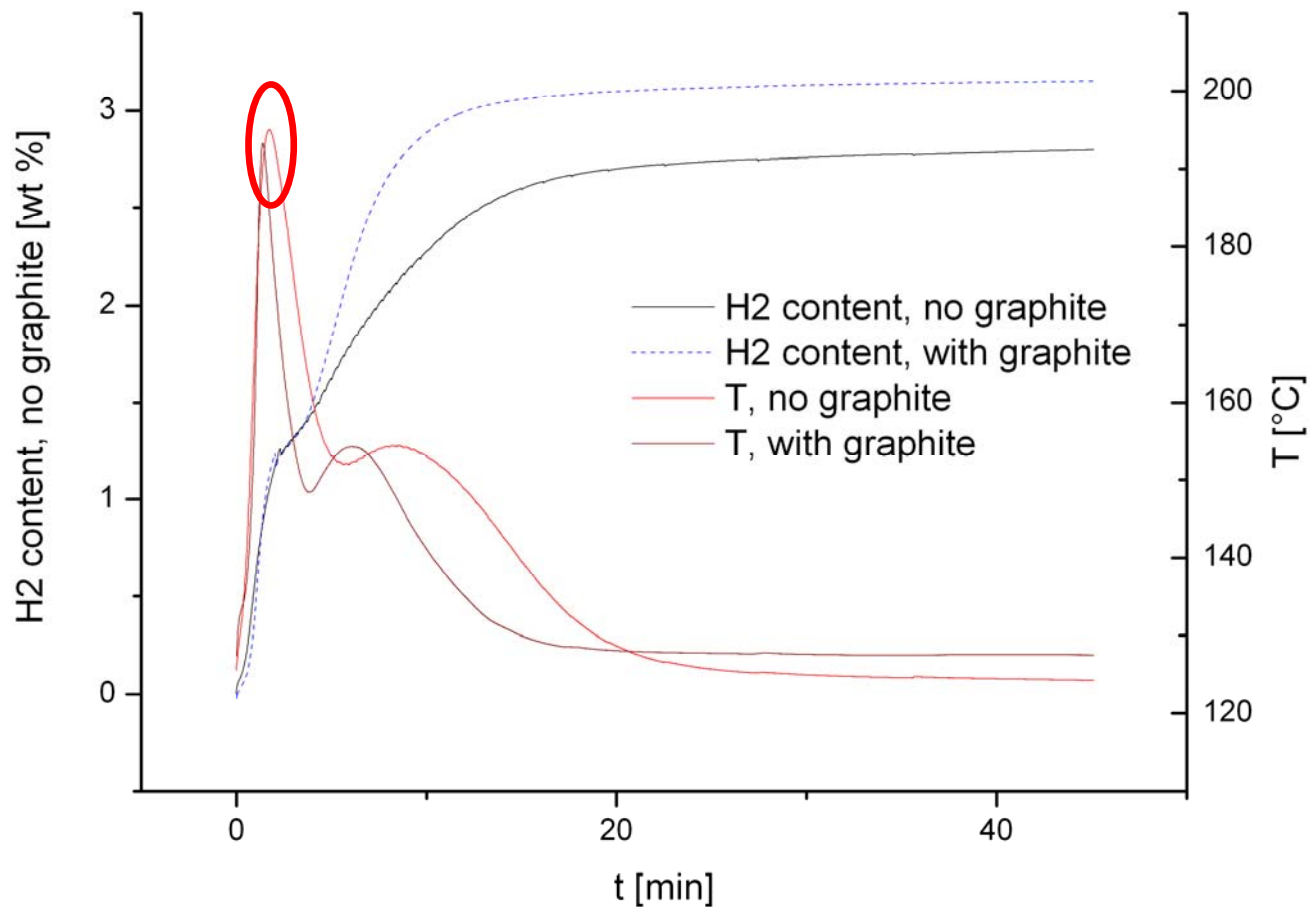
## Summary and Outlook

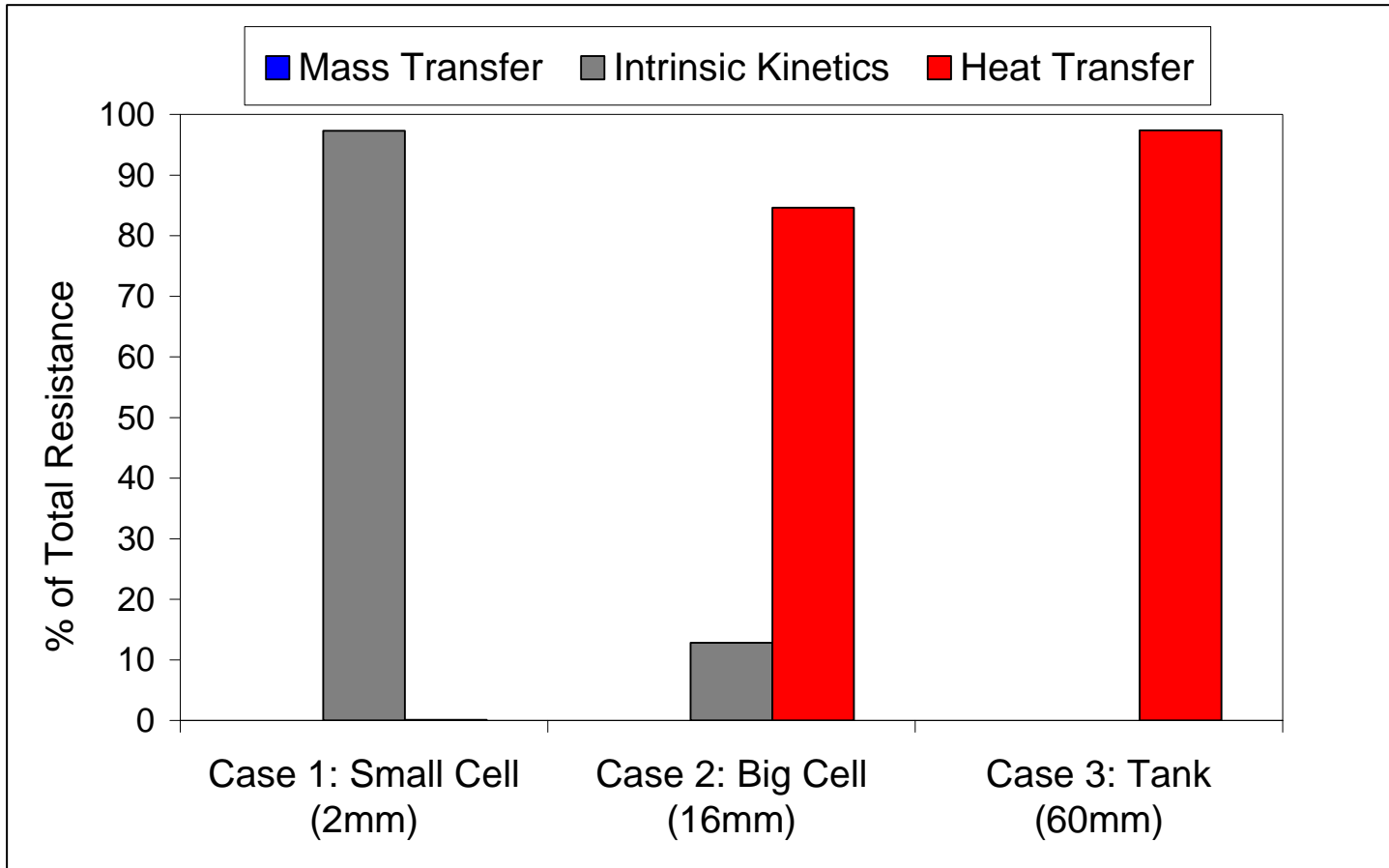


**High efficiency!**  
HELMHOLTZ  
ASSOCIATION



 The largest resistance identifies the rate limiting sub-process





Heat Transfer: Rate limiting sub-process for practical geometries

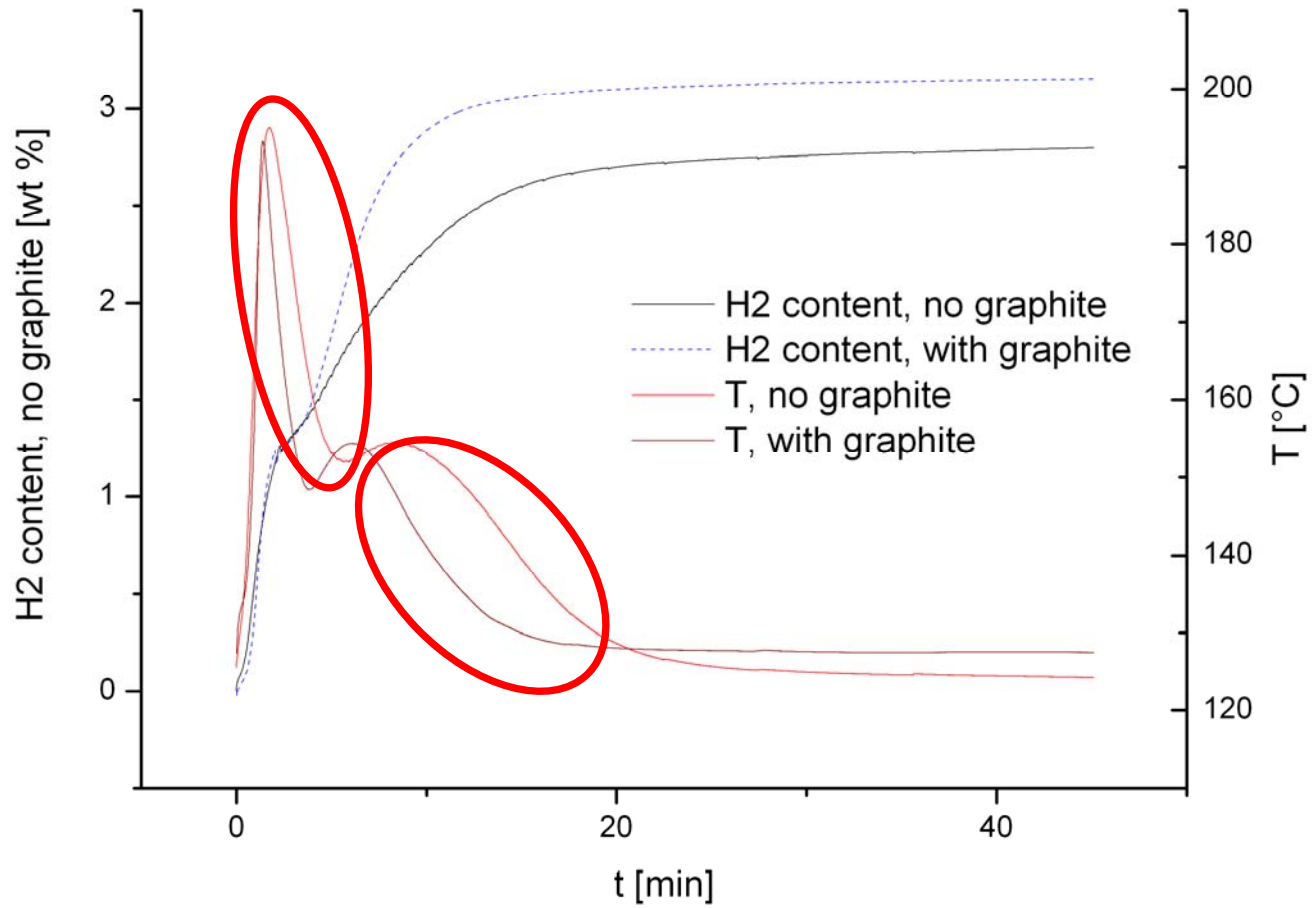
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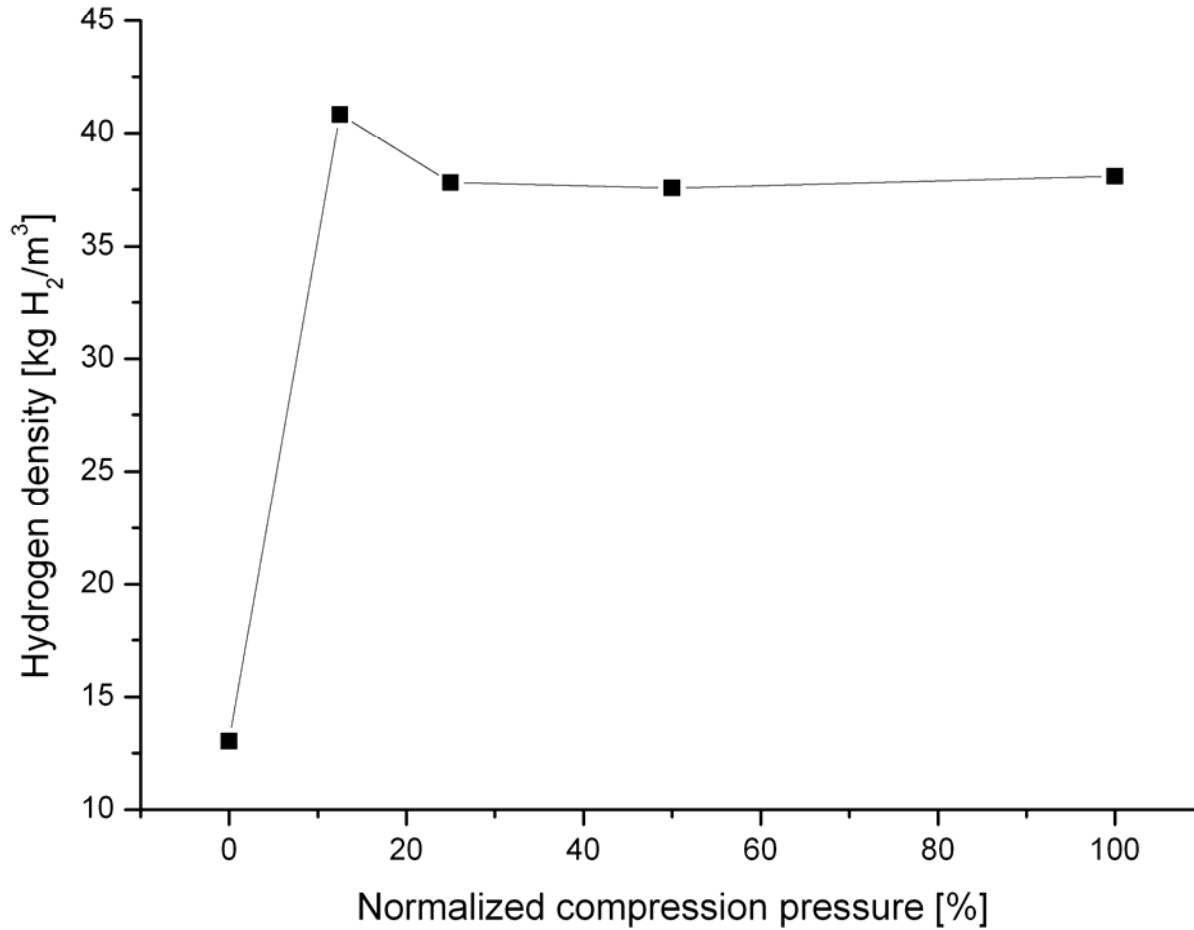
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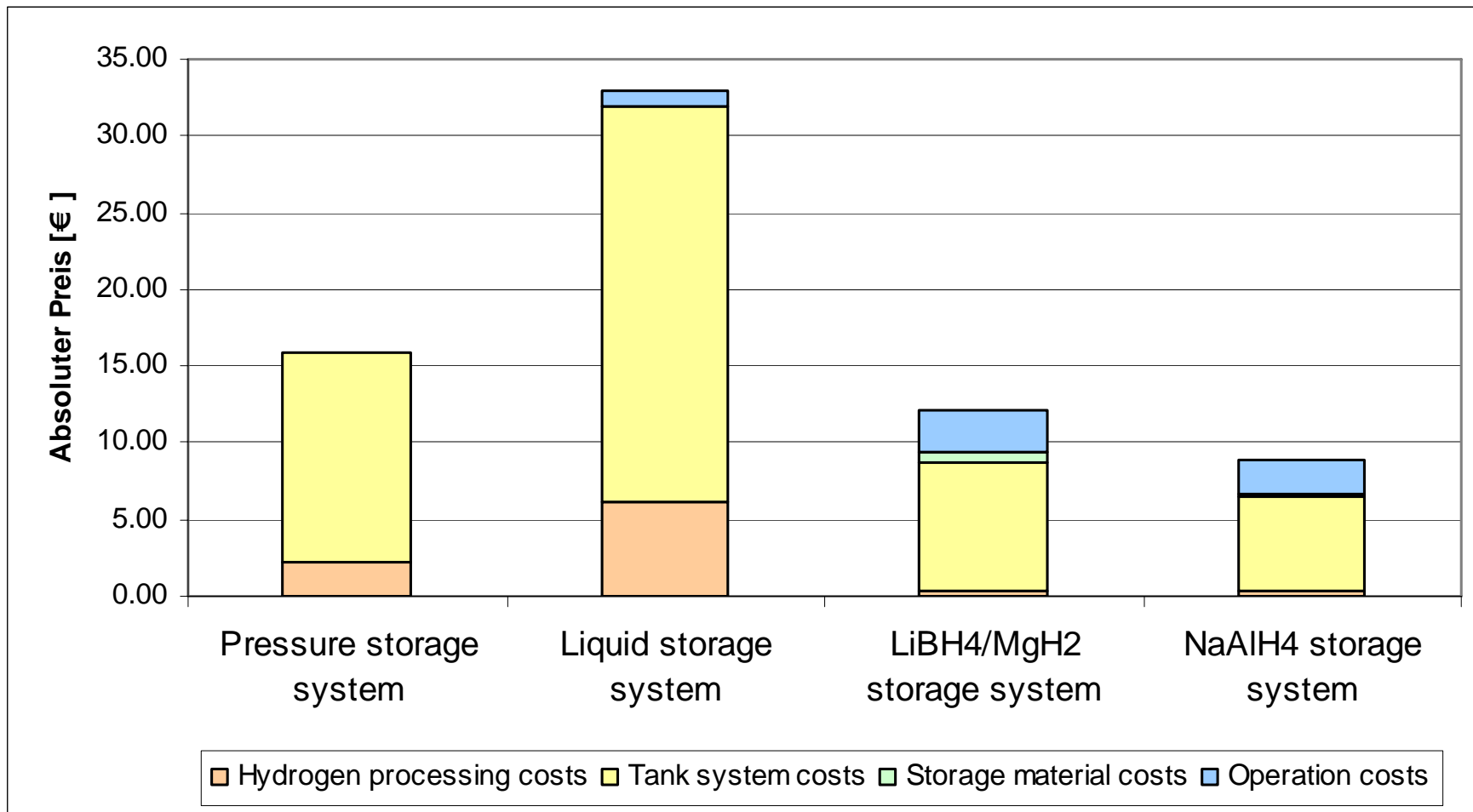


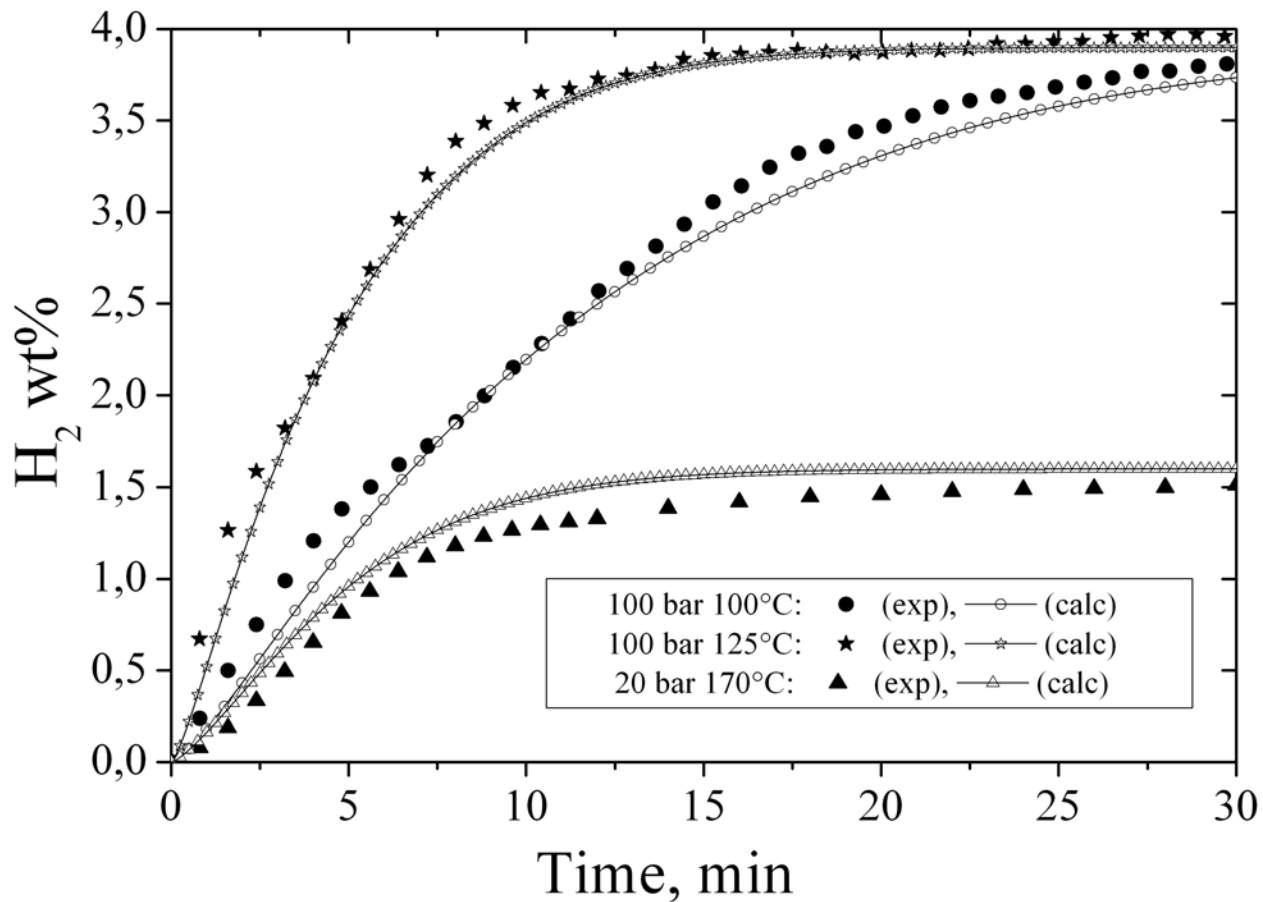








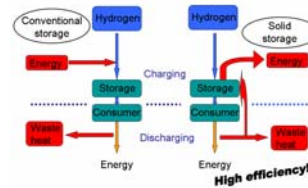




G. Lozano, submitted to Int. J. Hyd. Mater.

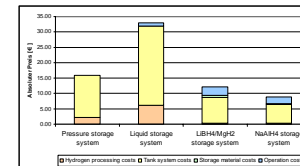
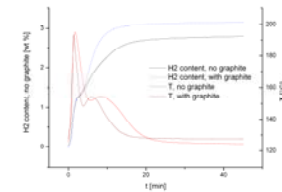
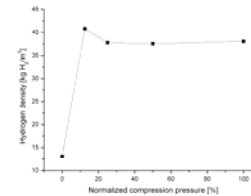
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Outlook: Focus activities on tank-environment integration

Jobst Hapke, Hamburg University of Technology

Chakkrit Na Ranong, Hamburg University of Technology

HGF, FuncHy Project

EC, NESSHY Project

EC, STORHY Project

**Thank you very much for your attention**